



Northwest Territories Defensive Firefighter Training

FACILITATION GUIDE

Government of the Northwest Territories
Municipal and Community Affairs

First Edition (2025)



Facilitation Overview

NWT Defensive Fire Training (NWT-DFT) is a competency-based learning program designed for community fire departments. The program helps firefighters build the knowledge, attitude, skills and habits needed to safely respond to exterior fire scenes.

When firefighters successfully complete all 34 skill assessments, they meet the basic requirements for defensive-level firefighting. These assessments follow National Fire Protection Association (NFPA) standards.

For assessment details or scheduling, contact your Regional Assistant Fire Marshal at your local Municipal and Community Affairs (MACA) office.

Facilitation Schedule

The NWT-DFT program includes nine training sessions, which you can schedule to fit your department's routine. Bi-weekly or monthly sessions are common and recommended. All members must complete every session to meet the training requirements set by the Workers' Safety and Compensation Commission (WSCC) for the Northwest Territories and Nunavut. There are attendance sheets in Appendix 4 of this guide.

Before each session, make sure to:

- Read the facilitator guide and understand the activities.
- Review the matching participant workbook for the session.
- Gather all required materials and supplies.
- Set up the learning space before participants arrive.

Each session in this guide includes:

- The purpose of the session
- The approximate time required
- A list of materials and supplies

Although photos of workbook pages are provided for reference, it's best to prepare using both the facilitator guide and the participant workbook. Reviewing both will help you understand the session flow and what participants will be learning.

Facilitation Approach

This guide is designed for new facilitators and is meant to be used alongside the participant workbooks to ensure all program materials are covered. Because adults learn best together—through discussion and hands-on practice—it's recommended that each session include time to review the workbook content as a group, rather than assigning it as individual reading.

Tip: Set up a speaker so the group can listen to the workbook content using the QR codes (audiobook format). Participants can follow along with the images and diagrams. This helps everyone learn together before discussing and practicing the skills.

Building KASH

The facilitation approach outlined sets up the NWT -DFT program to automatically incorporate a learning and performance development model called KASH. Each session has two main parts that work together to build Knowledge, Attitude, Skills, and Habits (KASH):

Content Review – Building Knowledge and Attitude

The first parts of each session take place in a group setting, where everyone learns together by reviewing the workbook content, listening to the audio through the QR codes, and sharing experiences or examples. This group learning builds knowledge—what firefighters need to know. It also strengthens attitude—why the information matters and how it applies in real situations. Discussions and activities help participants connect new information to their own experiences, which strengthens understanding and motivation to learn.

Skills Drills – Building Skills and Habits

The second part of the sessions shift to more active and hands-on environments, where firefighters are up and moving, practicing what they’ve just learned. Here, the focus is on building skills—the ability to perform specific tasks. These skills ultimately develop into habits—skills practiced so often that they become second nature. Facilitators guide this part using the TELL–SHOW–DO method: explain what to do, demonstrate how to do it, then have participants perform the task themselves.

Tip: Encourage teamwork and conversation during the content review, then switch to a faster, action-focused pace for skills drills. This rhythm—learning together first, then practicing—helps build the full range of KASH outcomes and prepares participants to perform confidently in real fire situations.

Before each session

To be fully prepared, make sure to:

- Read the facilitator guide in advance.
- Have enough participant workbooks (plus one for yourself).
- Gather all required materials and equipment.
- Set up the learning space.
- Provide each participant with a workbook and writing materials.
- Show participants how to use the QR codes for audio learning.
- Remind participants they can use the glossary for unfamiliar terms.
- Take attendance at the end of the session. Participants must attend the full session to receive credit.



Resources and Supports

The NWT-DFT program is designed to be delivered locally by your community fire department. Student workbooks can be downloaded from the:

- NWT Community Learning Portal: <https://communitylearning.learnworlds.com/defensive-fire>
- Or by visiting the GNWT Municipal and Community Affairs (MACA) website.

For additional support, contact your Learning and Development Advisor or Assistant Fire Marshal at your regional MACA office.

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SESSION 1

FIREFIGHTER

SAFETY



Session Overview

This session introduces defensive firefighters to the key ways to keep themselves and others safe before, during, and after arriving at a fire scene.

This session focuses on learning via knowledge and attitude.

There are no skill drills associated with this module.

Learning Outcomes

After this training session, learners should be able to:

- Explain the main areas of firefighter deaths and injuries
- Recognize key safety habits
- Explain how the five elements of good firefighter safety culture work together
- Explain why firefighters need to be healthy
- Recognize where to find mental health tools and resources
- Recognize the right/obligation to refuse unsafe work

Session Time

The estimated time for this training session is: **2.5-3 hours**

Session Materials

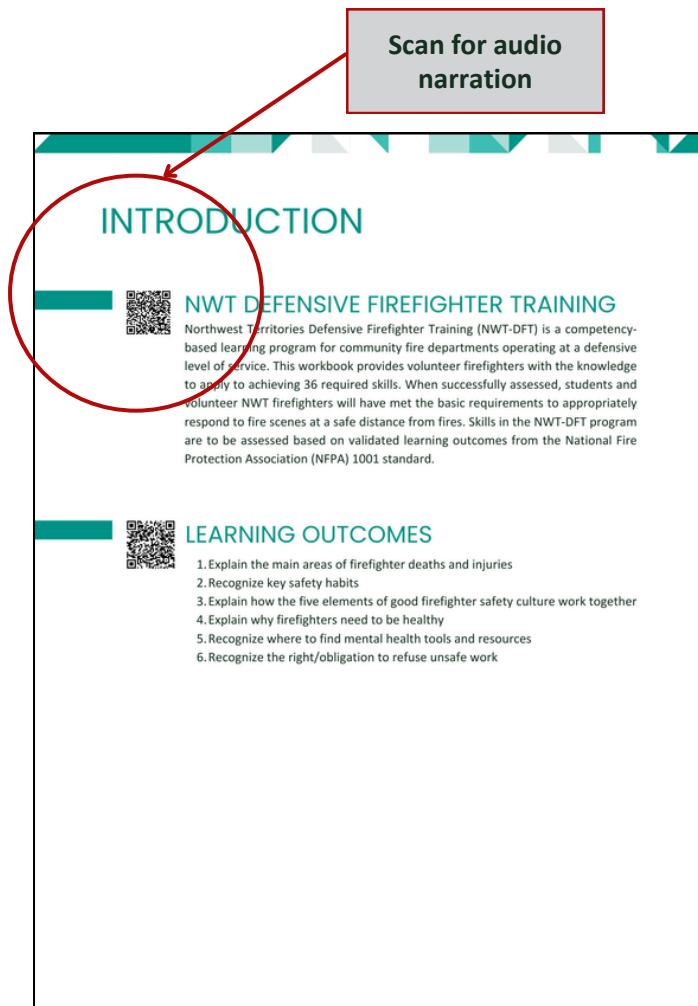
- Facilitation guide with attendance record
- Student workbooks (Session 1)
- Personal cell phones to watch videos (or have a screen in the room connected to internet, or download videos to play on screen if poor connection)
- Speaker (for QR-code audio)
- Pens/pencils for each participant
- Timer for discussions
- Two 35-pound (15.88 kg) saws or other tools (adapt if necessary)
- Cones (or adapt using something to mark a course on the floor)
- Rehabilitation Supplies (water, snacks)
- Optional: Whiteboard or flipchart with markers
- Optional printed scenario sheets

INTRODUCE THE SESSION

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones ◦ Videos can be downloaded from the NWT-DFT online toolkit if necessary (ie: no data or wifi where you are located) • Timer for discussions (good to have on hand)

Facilitation Instructions

1	Start by telling participants what this module is about <i>Example: "Today, we'll do activities to learn about firefighter safety at the defensive level. We'll finish with a discussion so you can share your experiences and learn from each other."</i>
2	Tell participants to follow along in their workbook on page 4: Let them know they can use the QR code
3	Go over learning outcomes: <i>After this session, you should be able to:</i> • Explain the main causes of firefighter deaths and injuries. • Recognize important safety habits. • Explain how the five parts of good firefighter safety culture work together. • Explain why firefighters need to stay healthy. • Recognize where to find mental health tools and resources. • Recognize the right and obligation to refuse unsafe work.



FIREFIGHTER SAFETY OVERVIEW

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 5: Let them know they can use the QR code
2	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep it on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



FIREFIGHTER SAFETY OVERVIEW

Firefighting can be dangerous work, even at the defensive level. Defensive firefighting means working from a safe distance, outside of buildings, to stop a fire from spreading and to protect people and property. You do not enter burning structures, but you still face risks.



Most firefighter injuries and deaths come from four main areas: driving to and from calls, unsafe or not enough training, health and fitness problems, and not staying alert on scene. This session will help you learn how to stay safe in all of these areas.



A strong safety culture is the best way to prevent injuries. Safety culture means following standard operating procedures (SOPs), training the right way, working as a team, keeping equipment in good shape, and staying aware of your surroundings. Freelancing—doing things your own way—is never safe. In the Northwest Territories, you also have the right and duty to refuse unsafe work.



Good health and fitness are just as important as safe habits on scene. Firefighters are at higher risk of heart disease, cancer, and stress. Proper rest, hydration, and fitness can save your life. Taking breaks and mental health supports also help you and your team stay strong.



FIREFIGHTER RISK

Estimated time	• 25-30 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones
Learning Outcomes	• Explain the main areas of firefighter deaths and injuries • Recognize key safety habits

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 6 Let them know they can use the QR code
2	Point out the bullet points next to the hazard areas. They explain how to reduce danger of these hazards. You'll discuss this more on the next page.
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep it on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



FIREFIGHTER DEATHS AND INJURIES

Most firefighter deaths and injuries relate to:

Transportation

Many firefighter deaths and injuries happen on the way to, or returning from, an emergency scene. Traffic accidents often result from being too rushed to arrive on scene, and not following safe driving procedures. Proper procedures must be followed regardless of the vehicle and the situation, including wearing seatbelts, driving according to weather and road conditions, and abiding by all rules of the road.

Training

Training is how firefighters learn to apply safe work practices and procedures. Many training drills can still be dangerous and carry risk no matter what safety measures are taken. Equipment used in training must be used as it was intended and be properly maintained. It is important to follow the same steps and procedures during training that you would in a real event. Don't take shortcuts in training as you are more likely to take those same shortcuts on an emergency scene.

Health and fitness

Firefighters are at higher risk of heart disease than other members of the population. This is due to exposure to heat and the exertion involved in firefighting activities. They are also at a higher risk of contracting various types of cancer. Firefighters are exposed to various carcinogens (cancer-causing agents) that come from smoke particles and gases in burning building materials, and even from the residue left on firefighting gear. They are also exposed to diesel engine exhaust. Firefighters are vulnerable to stressors that can affect mental health and well-being.

Scene safety

Defensive firefighters are not able to enter structures. This is not uncommon in many small town fire departments. However, the hazards on scene may also include traffic, debris, indirect emergencies resulting from a fire or other emergencies. People at the emergency scene can often create hazards either by accident, or sometimes intentionally. A lack of situational awareness of what is happening on scene can lead to poor decisions or actions that put firefighters at risk.

- Wear PPE
- Wear Seatbelt
- Drive safely
- Secure equipment
- Communicate clearly
- Stay Alert
- Brace for Stops

- Wear Proper PPE
- Follow instructions
- Inspect equipment
- Maintain situational awareness
- Communicate clearly
- Use safe techniques

- Warm up and cool down
- Use proper form
- Hydrate regularly
- Listen to Your Body: stop if you feel pain.
- Eat healthy
- Get enough sleep
- Monitor mental health

- Stay focused
- Communicate clearly
- Assess Surroundings
- Follow Procedures
- Anticipate Risks
- Ask for Clarification
- Work as a team

bullet points next to the hazard areas with safety habits

Hazard areas

FIREFIGHTER RISK

Facilitation Instructions (Continued from previous page)

4	Explain to participants: “Firefighters work on key safety habits to prevent deaths and injuries. These habits match the four hazard areas we just talked about.”
5	Tell participants to follow along in their workbook on page 7 Let them know they can use the QR code
6	Ask the group questions and wait for participants to answer. • Share the answers below if needed. • Have participants circle the correct numbers on page 7 in their workbook.

Questions and Answers

What four main hazards are related to riding in the vehicle?

- *Transport (this may be obvious)*
- *Training (remind them training also applies; if they are not trained to ride in a fire truck in the safest way they will not know how)*

What four main hazards are related to safe driving?

- *Transport (this may be obvious)*
- *Training (remind them training also applies; if they are not trained to drive in the safest way they will not know how)*

What four main hazards are related to traffic safety on scene?

- *Transport (when it comes to fire member vehicles)*
- *On scene safety (when it comes to other vehicles)*
- *Training (remind them training also applies; if they are not trained on SOPs parking, what to wear etc. they will not know)*

What four main hazards are related to weather?

- *Transport (when it comes to driving)*
- *On scene safety (when it comes to things like frostbite or terrain)*
- *Training (remind them if they are not trained they will not know)*

What four main hazards are related to personal accountability?

- *On scene safety (people need to know where you are, that you are fulfilling your duties as assigned)*
- *Health and fitness (if you are injured or sick your team can't rely on you)*
- *Training (remind them if they are not trained they will not know)*

What four main hazards are related to lifting and moving?

- *On scene safety (lifting and moving objects at a fire scene can be very dangerous)*
- *Health and fitness (dealing with heavy objects can be very difficult if you have any health conditions)*
- *Training (remind them if they are not trained they will not know)*

What four main hazards are related to rest and recovery?

- *On scene safety (firefighters need to make sure they are as good as they can be by getting rest and rehab to do the best job)*
- *Health and fitness (can be damaged if you do not take care of yourself)*
- *Training (remind them if they are not trained they will not know)*



FIREFIGHTER DEATHS AND INJURY

Key safety habits

What risk area do the safety habits fall under? 1) Transport; 2) Training; 3) Health/fitness; 4) On scene

Column that lists key safety habits

RIDING THE APPARATUS (VEHICLE) 1 2 3 4	• Walk, don't run, to the apparatus • Don (put on) PPE before entering the apparatus • Seat belts must be properly fastened before the apparatus moves • Secure all equipment properly • Wear hearing protection • Always check for traffic before exiting the apparatus • Use three points of contact (2 hands-1 foot or 2-feet-1 hand) in contact with apparatus when entering or exiting
SAFE DRIVING 1 2 3 4	• Never drive impaired • Ensure you have a valid driver's licence • Abide by all traffic regulations • Drive according to road and weather conditions • Watch for other emergency vehicles • Ensure regular vehicle maintenance
TRAFFIC SAFETY ON SCENE 1 2 3 4	• Follow standard operating procedures • Park in a safe area • Wear high-visibility safety gear • Comply with all applicable traffic laws • Position apparatus to protect the scene
WEATHER 1 2 3 4	• Account for weather conditions during transport (driving) • Dress appropriately for the conditions • Watch your footing on slippery or uneven surfaces
PERSONAL ACCOUNTABILITY 1 2 3 4	• Ensure you provide an up-to-date account of what you are doing and where you are working during an incident
TEAMWORK 1 2 3 4	• Never work alone • Maintain visual or vocal contact with others at all times
REST AND RECOVERY 1 2 3 4	• Get adequate rest and recovery (see Appendix 1)

As you go over these ask learners what risk area these key safety habits apply to. Ask them to circle it in their books. The action of checking them off assists with information retention.

ESTABLISHING A SAFETY CULTURE

Estimated time	• 25-30 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain how the five elements of good firefighter safety culture work together • Recognize the right/obligation to refuse unsafe work

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 8 Let them know they can use the QR code
2	Tell participants that there are five main areas that work together and overlap to ensure a good safety culture. • Having SOPs • Doing regular training • Having reliable personnel • Taking care of equipment • Having good situational awareness on scene



ESTABLISHING A SAFETY CULTURE

Five components of firefighter safety culture

1. STANDARD OPERATING PROCEDURES Know what to do	Every fire department must develop and follow procedures or guidelines. Standard Operating Procedures (SOPs) are put in place by your local fire department. They should incorporate safety programs, regulations, and best practice. All new firefighters must review and be familiar with SOPs. There is a higher likelihood of firefighter freelancing without SOPs in place.	
2. TRAINING Practice how to do it	Training is essential to bring safe practices all together. During training you will learn about your own department's safety procedures, take part in skills development that outline the steps to achieve each skill consistently so they become habit. Training also helps you to experience why these safety procedures are necessary.	
3. RELIABLE PERSONNEL & TEAMWORK Ability to depend on one another	Most firefighter personnel in small NWT communities are volunteers. Volunteers need to be trained, and willing to work as part of a team which includes following a chain of command. It is the responsibility of each firefighter to be fit to work because your team members rely on you.	
4. EQUIPMENT Maintenance and Usage	Firefighters need to be properly trained to operate all equipment they use and keep it maintained according to manufacturer instructions.	
5. SITUATIONAL AWARENESS Evaluating risk	Firefighters need to be aware of what's happening around them by paying attention to the environment, noticing any changes, and understanding how those changes might affect what is being done. In firefighting, this could include watching for hazards like smoke, fire direction, or unsafe conditions. It's important to stay alert, so you can make quick decisions to stay safe and respond to the situation correctly.	

Five key safety culture areas

ESTABLISHING A SAFETY CULTURE

Facilitation Instructions (Continued from previous page)

3	Tell participants to follow along in their workbook on page 9 Let them know they can use the QR code
4	Say: Good situational awareness is directly tied to knowing when to refuse unsafe work. Because firefighters need to assess the situation first to know it is not safe.
5	Say: following SOPs is directly tied to ensuring freelancing does not take place. Because standard operating procedures do not allow for freelancing.



ESTABLISHING A SAFETY CULTURE

How to maintain situational awareness

Situational awareness means knowing what is happening around you, understanding the dangers, and planning the safest actions. It is key to staying safe and doing your job well.

Situational awareness for firefighters means always paying attention to what is happening around you, knowing where dangers might be, and thinking ahead to stay safe and handle emergencies well.

- Survey the scene first for situational awareness, report safety concerns to a superior officer.
- Operate within established scene boundaries and protected work areas
- Always pay attention to changing fire conditions
- Wait for your superior officer to give orders before taking action, then:
 - Follow instructions
 - Work in assigned teams
 - Do not freelance
- If there are hazards like violence, weapons, gas leaks, chemicals, or anything unknown — do not enter the scene. Wait until the right people, like the police or utility providers, say it is safe.
- If you see or feel that something is not safe, tell your supervisor. They will decide if you should stay, move back, or help keep the area safe.



Remember training, right to refuse, watch fire behaviour, wear PPE, apply teamwork, adapt to changes...

Point this out to underscore the importance of not freelancing

WHAT IS FREELANCING?

- Freelancing means doing things your own way even when instructed to do something different.
- Freelancing can never happen under any circumstance.
- Freelancing can be extremely dangerous. It has a negative effect on operations and teamwork.

Point this out to underscore the importance of knowing they can refuse unsafe work

KNOW YOUR RIGHTS

According to NWT Occupational Health and Safety Regulations, workers have the right to refuse work if they have reasonable grounds to believe the work presents a danger to themselves or others. See Appendix 2: UNACCEPTABLE RISK

ESTABLISHING A SAFETY CULTURE

Facilitation Instructions (Continued from previous page)

6	Tell participants to follow along in their workbook on page 10 Let them know they can use the QR code
7	Say: The first diagram shows how all key areas of the safety culture work together.
8	Say: The second diagram shows how safety culture and good habits protect against death and injury
9	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep it on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



ESTABLISHING A SAFETY CULTURE

Firefighter deaths and injuries can be significantly reduced when a strong and consistent safety culture is introduced.

There are five key safety practices that create a continuous safety culture when practiced together at all times.

When they overlap, it means key safety habits are being followed.

When a good safety culture is in place, firefighters are best protected against the risks that cause most firefighter deaths and injury.



All key safety habits

+

Standard Operating Procedures
Situational Awareness
Training
Equipment
Accountability/Teamwork

=



GOOD SAFETY CULTURE



→

- INADEQUATE TRAINING RISKS
- SCENE SAFETY RISKS
- HEALTH & FITNESS RISKS
- TRANSPORTATION RISKS

Safety culture exists when all these overlap

Firefighters are protected from the main causes of death and injury...

...when they are following all the key safety habits...

...and the five areas of a good safety culture are applied...

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FIRE SAFETY SCENARIOS

Estimated time	• 25-30 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain how the five elements of good firefighter safety culture work together

Facilitation Instructions

ACTIVITY	
1	• Organize participants into groups or pairs. • If the group is very small, participants can do the activity on their own.
2	Ask participants to go to page 11 and scan QR code to see a scenario video on phones. (NOTE: If you have data/connection issues in your learning space, these videos can be downloaded beforehand from the online NWT-DFT Toolkit)
3	Say: Write down or circle the safety areas that could have helped prevent the situation. They can take notes on page 13 in their workbook
4	Let participants know that you will review the answers with them after the activity.
5	Give them about 20 minutes to work on their own or in their groups/pairs.
6	After the activity, go over the responses with the whole group. Encourage discussion and conversation as you review the answers.

Answers

Scenario 1

- SOPs: not being followed
- Accountability/teamwork: Not following SOPs
- Training: Could be not trained on those particular SOPs because they do not exist
- Equipment: Not using reflective gear appropriately
- Situational Awareness: Did not consider the safety issues from being so close to the road.

Scenario 2

- SOPs: not being followed
- Accountability/teamwork: Not adequately trained
- Training: Not adequately trained
- Equipment: Not donning PPE appropriately
- Situational Awareness: Icy area.

Scenario 3

- SOPs: n/a
- Accountability/teamwork: Not in good health
- Training: includes physical fitness training
- Equipment: n/a
- Situational Awareness: n/a

FIRE SAFETY SCENARIOS

Answers (Continued from previous page)

Scenario 4

- SOPs: there were none
- Accountability/teamwork: not adequately trained, and did not know to check SOPs
- Training: Not adequately trained
- Equipment: Not being properly used
- Situational Awareness: Use of equipment with no training or SOPs creates a dangerous situation

Scenario 5

- SOPs: n/a
- Accountability/teamwork: Not working as a supportive team
- Training: training in human resources policy including discrimination, bullying, etc
- Equipment: n/a
- Situational Awareness: In this case the member was fully aware that the situation was not healthy for her. She was aware but recognized the safety issue to her and her team caused by other safety factors.

Scenario 6

- SOPs: did not account for firefighter travel safety
- Accountability/teamwork: n/a
- Training: unknown; although not written in SOPs, use of seatbelts is a best practice in all driving situations
- Equipment: was not in use (seatbelts and could have been other apparatus safety principles not in place)
- Situational Awareness: Roadway was wet

FIRE SAFETY SCENARIOS

Read these fire safety scenarios or watch the video on your phone by scanning the QR code.
Answer the following:

- What area(s) of safety does this case study fall under? Why? (may be more than one answer)
- How could the following safety considerations have been adjusted to prevent the injury?

Scenario 1

A 51-year-old volunteer firefighter was injured when a car struck him as he was refilling a water truck. He was parked on the edge of the road. The incident occurred at approximately 7:30 P.M. The truck's lights blinded the driver of the car. The firefighter was not wearing any reflective PPE, which was outlined in standard operating procedures.

- SOPs
- Personnel (teamwork, fitness)
- Training
- Equipment
- Situational Awareness

Scenario 2

A new 26-year-old volunteer firefighter was injured getting into a fire truck responding to an emergency. As he tried to climb into the truck, while carrying his helmet, he slipped and suffered a concussion. The firefighter missed some training so did not know to hold the safety bars (using three points of contact at all times) as he mounted the vehicle while wearing his helmet. The department's standard operating procedures prevent anyone with incomplete training from taking part in a response.

- SOPs
- Personnel (teamwork, fitness)
- Training
- Equipment
- Situational Awareness

Scenario 3

A firefighter died while attending a house fire. The 55-year-old had allowed his health habits to slide over the past few years. He was now overweight and a heavy smoker. The firefighter suffered a heart attack on scene due to heat and exhaustion. Another medically trained firefighter initiated CPR to the team member in distress. Everyone in this situation had been trained and all followed standard operating procedures.

- SOPs
- Personnel (teamwork, fitness)
- Training
- Equipment
- Situational Awareness

FIRE SAFETY SCENARIOS

Scenario 4

A 44-year-old firefighter was injured when a hose malfunctioned during a training exercise. A different station member setting up the hose was a new volunteer. He thought he was following the correct protocol after confirming all the steps with a superior officer. New SOPs had not yet been established for this piece of equipment.

- SOPs
- Personnel (teamwork, fitness)
- Training
- Equipment
- Situational Awareness

Scenario 5

A 40-year-old female firefighter suffered a mental health crisis while working as a volunteer. The culture of the station was not friendly to female firefighters. During a training exercise, the female firefighter found herself in a situation where she needed to trust members of her team but felt she could not. As a result, she felt she would be unable to perform her duties very well in an actual response. She has since quit the department.

- SOPs
- Personnel (teamwork, fitness)
- Training
- Equipment
- Situational Awareness

Scenario 6

A pump truck/engine was involved in a crash on a wet roadway. The firefighters were not wearing seatbelts. This was a violation of the station's SOPs.

- SOPs
- Personnel (teamwork, fitness)
- Training
- Equipment
- Situational Awareness

Scan to see videos on phones

IMPORTANCE OF HEALTH AND FITNESS

Estimated time	• 45 mins - 1 hour
Materials needed	• Workbooks • Pens/pencils • Personal cell phones (the videos can be downloaded from the NWT-DFT online toolkit if necessary (ie: no data or wifi where you are located)) • Two 35-pound (15.88 kg) saws or other tools (adapt if necessary) • Cones (or adapt using something to mark a course on the floor) • Water, snacks, or any other supplies for rehab station (see Resource – Firefighter Rehabilitation Station Setup) • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain why firefighters need to be healthy • Recognize where to find mental health tools and resources

Facilitation Instructions

1	Introduce the ACTIVITY by saying: “Some fire departments have regular physical fitness programs to help firefighters stay healthy and reduce the risk of illness. Now, we are going to understand why they need to be in good shape.”
2	Ask participants to read or listen to page 14 in their workbook. Tip: Use a speaker so one phone can scan the QR code, and everyone can listen together.
3	Share the following information with the group: • Firefighter fitness is an individual responsibility. • It includes regular exercise, healthy eating, good sleep • Heart disease is a leading cause of death in Canada, especially among firefighters. • Cancer is the result of breathing in smoke and exhaust.
4	Tell group you are going to do an activity that shows why health and fitness is so important.
5	Do Equipment Carry Challenge (see Appendix 1) If you don't have the access or space to this challenge as outlined, adapt it. Have participants climb several flights of stairs, for example.
6	Have a few of the items available that are listed in the Appendix 2: Firefighter Rehabilitation Station Setup. Underscores the need for rehabilitation items after taking part in the physical exertion involved in this activity.
	Have a short debrief after the activity while participants are tired. This is a good time for them to understand better the importance of physical health, mental well-being and teamwork and support. Ask them simply: • Has this activity helped you understand the importance of firefighter health and fitness? How? Why?



IMPORTANCE OF HEALTH AND FITNESS

Firefighters are at a higher risk of developing some medical conditions than the general public. Heart illnesses can be aggravated from heat and exertion efforts involved in firefighting. Firefighters are also at a higher risk of developing illness (such as heart disease and cancer) due to working around carcinogens (cancer-causing agents) that can come from fire smoke and vehicle exhaust. Some fire departments implement regular physical fitness training programs to increase firefighter resistance to these illnesses.

CANCER RISK

In Canada, cancer causes 50 fatalities per 100,000 firefighters. Sometimes only one exposure to a harmful product can have a negative effect on your health. Wearing personal protective equipment (PPE) properly and staying out of the smoke and other products present at a fire is important.

The Northwest Territories (NWT) Workers' Safety and Compensation Commission (WSCC) provides coverage and compensation for firefighters diagnosed with some cancers. This can include:

- Medical and treatment costs.
- Wage replacement benefits.
- Rehabilitation services.
- Survivor benefits for dependents if the firefighter passes away due to cancer.

Firefighters should contact their local WSCC office for assistance with claims or information.

- Phone: 1-800-661-0792
- Search: WSCC NWT

FIREFIGHTER FITNESS PROGRAMS

Firefighter fitness programs often focus on four areas:

Cardiovascular to handle long periods of exertion, such as climbing stairs or working in intense heat.

Strength Training to lift heavy objects like hoses, tools, and injured individuals.

Flexibility and Mobility to navigate tight spaces and prevent injuries.

Functional Training to simulate real-life firefighting tasks.

- Pulling weighted sleds to mimic dragging
- Climbing stairs with weighted vests to simulate carrying equipment.
- Swinging sledgehammers or flipping tires to develop practical strength.

Some fire departments may even conduct regular fitness assessments to ensure that firefighters meet the physical demands of their roles.

The equipment carry challenge will engage learners by having them experience first-hand the need for fitness.

ON SCENE REST AND REHABILITATION

On-scene rehab stations are areas where firefighters can take breaks during emergencies. They provide water, snacks, and a place to cool down or warm up, depending on the weather. Firefighters can rest and get checked by medical staff to stay safe and healthy while working. These stations help keep firefighters safe and ready to do their job. For more information, see *Appendix 1: Unacceptable Risk*.

Having rehabilitation supports on hand during and after the challenge will engage learners first-hand so they know why rehab is important for health and safety.



IMPORTANCE OF HEALTH AND FITNESS

Facilitation Instructions

1	Introduce by saying: "This part of the section focuses on mental health. Firefighters are vulnerable to stress, which can affect their mental well-being. Mental health issues are also a cause of death and injury."
2	Tell participants to follow along in their workbook on page 15 Let them know they can use the QR code
3	Share the following information with the group: CRITICAL INCIDENT STRESS MANAGEMENT (CISM) • Counselling and CISM are important parts of overall health. • Firefighting stressors include: • Seeing firsthand the devastating effect of fire • Providing emergency medical care, especially to people you may know • Life disruptions like interrupted sleep and mealtimes • Critical incidents involve events like death, suicide, serious injury, terrorism, etc. • CISM helps reduce the negative impact of emotional reactions, both short- and long-term. • CISM teams respond immediately after a crisis, and peer support teams provide ongoing support. • Critical Incident Stress Debriefing (CISD) or defusing happens as soon as possible after a traumatic event. • In 2016, 99 firefighter suicides were reported in the United States. • A fire department is three times more likely to face a suicide than a line-of-duty death. • While firefighters are trained, they may not always be ready for a traumatic situation. • It's important to recognize signs of stress or depression in others and help them get support before it gets worse. TEAM SUPPORT • New firefighters need time to build the resources needed to cope with tough situations. • Respect each team member—bullying or discrimination should never be allowed. • If you notice signs of stress, talk to the person, seek help from someone to assist.
4	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep it on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



IMPORTANCE OF HEALTH AND FITNESS

MENTAL HEALTH CONTINUUM MODEL

This tool helps you understand your mental health and what steps to take to stay healthy. Your mental health can change over time, moving between these stages.



Healthy (Green): You feel good, focused, and in control of things.

Reacting (Yellow): You feel stressed, tired, or upset, but you can still manage.

Injured (Orange): You have trouble sleeping, and constantly feel anxious.

Ill (Red): You may feel very sad, panicked, or unable to function in everyday tasks.

CRITICAL INCIDENT STRESS MANAGEMENT (CISM)

Firefighters are susceptible to critical incident stressors that can affect mental health and well-being. Critical Incident Stress Management (CISM) is a way of dealing with effects from traumatic critical incidents. It is a structured program designed to help personnel cope with the psychological aftermath of traumatic events encountered on the job. In small communities without established CISM programs, the most realistic ways for firefighters to access support includes:

Telehealth Services provided by regional health authorities or private providers for access to remote counseling and mental health support.

Regional Health and Social Services make referrals to mental health professionals who can offer support.

Online Resources and Training can be accessed from organizations such as the International Critical Incident Stress Foundation (ICISF).

Fire Department Collaboration with the NWT Fire Chiefs Association can help to find support.

SUPPORTING YOUR TEAM

Firefighting is a team effort.

- **Check In:** Ask teammates how they're doing, especially after tough calls.
- **Watch for Signs:** Look for changes like mood swings, tiredness, or pulling away from the group.
- **Talk It Out:** Let your teammates know it's okay to share their struggles. Keep confidential.
- **Help Them Get Support:** If someone needs help, guide them to a counselor or resource.



- **811 Helpline:** Call 811 or 1-844-259-1793
- **Hope for Wellness Helpline:** Talk to a counsellor 24 hours/day, 7 days/week. Call 1-855-242-3310
- **Indian Residential Schools Resolution Health Support Program:** 24-Hours. Call 1-866-925-4419
- **9-8-8 Suicide Crisis Helpline:** Available 24 hours/day, 7 days/week. Text 988

LEARNING DEBRIEF

Estimated time	• 20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain the main areas of firefighter deaths and injuries • Explain how the five elements of good firefighter safety culture work together • Explain why firefighters need to be healthy

Facilitation Instructions

1	Ask participants to turn to page 16 in their workbook
2	Let participants know they can write down ideas in their workbooks.
3	Use Appendix 3 in this guide for helpful tips on facilitating discussions.
	Ask participants to share stories or experiences related to this question: "What do you think are the biggest risks firefighters in your community face during a fire response, and how can you work to avoid them?"
	Ask participants to share stories or experiences related to this question: "How can personal health and well-being help you stay safe and effective as a firefighter?"
	Ask participants to share stories or experiences related to this question: "Why is having a good safety culture important?"



LEARNING DEBRIEF

REMEMBER

- Developing the proper work habits during training in this course helps ensure safety later
- Do not attempt anything you feel is beyond your ability or knowledge
- Tell someone if you see something that you feel is an unsafe practice
- Continue to learn teamwork and practice working as a team
- A firefighter injured during training should not return until medically cleared for duty

What would you say are the biggest risks firefighters in your community face during a fire response, and how can you work to avoid them?	
How can personal health and well-being help you stay safe and effective as a firefighter?	
Why is having a good safety culture important?	

Participants can use the spaces provided to write or sketch out their thoughts.

AFTER THE SESSION

- Ask participants for feedback about the session. If they enjoyed it, encourage them to share with others if you are trying to increase participation in your department.
- If participants mention anything they didn't enjoy or found too difficult, try to adjust the training in the future. Also, let your MACA regional AFM know about their feedback.
- Fill out the attendance sheet.
- Share details about the next training session, if possible.
- Encourage participants by telling them they did a great job if they were engaged and participated.
- Give yourself credit as the trainer—you did a great job too!

Consider reflecting on your job as a facilitator:

What went well and why?	
What areas can you improve on and how?	
Do you have questions to ask your regional MACA-CGLD Learning and Development Advisor?	

SESSION 2

PERSONAL PROTECTIVE EQUIPMENT



Session Overview

This module helps learners understand the key parts and safety features of defensive firefighting gear. It also covers how to care for, maintain, and store PPE properly. By the end, learners should be able to put on and take off their gear quickly and correctly.

Learning Outcomes

After this training session, learners should be able to:

- Discuss the purposes and limitations of PPE items
- Discuss the care and maintenance of PPE
- Discuss the necessary criteria of the following items in defensive firefighting: fire helmet; protective coat; protective pants; boots; gloves; and face/eye protection
- Practice the proper storage and arrangement for PPE
- Skill 2-1: Don approved PPE in less than one minute
- Skill 2-2: Doff approved PPE and restore to operational readiness

Session Time

The estimated time for this training session is: **2.5-3 hours**

Session Materials

- Facilitation guide with attendance record
- Student workbook (Session 2)
- Personal cell phones
- Pens/pencils for each participant
- Timer for discussions
- Speaker (for QR-code audio)
- Optional: Whiteboard or flipchart with markers
- Fire helmets with chinstraps
- Visual protection (goggles or safety glasses)
- Fire gloves
- Boots
- Protective coats
- Protective pants

INTRODUCE THE SESSION

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones

Facilitation Instructions

1	Start by telling participants what this module is about “Today we get familiarized defensive firefighting gear. By the end we want you to be able to demonstrate donning and doffing PPE efficiently.”
2	Tell participants to follow along in their workbook on page 4: Let them know they can use the QR code
3	Go over learning outcomes: After this session, you should be able to: • Discuss the purposes and limitations of PPE items • Discuss the care and maintenance of PPE • Discuss the necessary criteria of the following items in defensive firefighting: fire helmet; protective coat; protective pants; boots; gloves; and face/eye protection • Practice the proper storage and arrangement for PPE • Skill 2-1: Don approved PPE in less than one minute • Skill 2-2: Doff approved PPE and restore to operational readiness

Scan for audio narration



SESSION 2 – PERSONAL PROTECTIVE EQUIPMENT

INTRODUCTION

Northwest Territories Defensive Firefighter Training (NWT-DFT) is a competency-based learning program for community fire departments operating at a defensive level of service. This workbook provides volunteer firefighters with the knowledge to apply to achieving 34 required skills. When successfully assessed, students and volunteer NWT firefighters will have met the basic requirements to appropriately respond to fire scenes at a safe distance from structure fires. Skills in the NWT-DFT program are to be assessed based on validated learning outcomes from the National Fire Protection Association (NFPA) 1001 standard.

Defensive firefighters typically wear structural firefighting Personal Protective Equipment (PPE) but is not always required. A hazard assessment should be done to determine PPE requirements based on the job and tasks being conducted.

If you are using structural firefighting gear in a defensive firefighting role, please consult *Appendix 1: Structural Firefighter PPE* for further details.

LEARNING OUTCOMES

1. Discuss the purposes and limitations of PPE items
2. Discuss the care and maintenance of PPE
3. Discuss the necessary criteria of the following items in defensive firefighting: fire helmet; protective coat; protective pants; boots; gloves; and face/eye protection
4. Practice the proper storage and arrangement for PPE
5. Skill 2-1: Don approved PPE in less than one minute
6. Skill 2-2: Doff approved PPE and restoring to operational readiness

4

PPE OVERVIEW

Estimated time	• 20-25 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	Discuss the purposes and limitations of PPE items

Facilitation Instructions

2	Tell participants to follow along in their workbook on page 5: Let them know they can use the QR code
3	After they finish, share these facts: • Defensive-level PPE is designed to protect firefighters in exterior settings, a safe distance from fires where they may still be exposed to heat, smoke, and some hazardous materials. But not to the extreme levels encountered in structural firefighting. • It protects against water, chemicals, and physical debris that might be encountered during defensive operations. It ensures that firefighters are shielded from the risks of exposure to harmful substances. • PPE for defensive firefighting is designed with lightweight materials to maximize mobility, comfort, and ease of movement. • In a defensive level situation firefighters should never be close enough to heat for what they are wearing underneath PPE to get hot. But what happens if there is an accident or situation that puts them in harm's way? That is why wearing natural fibres underneath PPE is important.
4	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep it on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

PPE OVERVIEW

Purpose of PPE

The overall purpose of firefighting personal protective equipment (PPE) is to provide protection while ensuring mobility and comfort in diverse environments.

For defensive firefighters PPE should:

- Have tough outer layers to protect from cuts and abrasions
- Protect against heat
- Have water repellent properties
- Be high-visibility with fluorescent/reflective trim

Even with PPE, firefighters are not immune to harm and must always stay cautious and aware of dangers. Protective clothing also has limitations that affect the firefighter:

- May be difficult to don (put on) quickly
- Heavy/restrictive, limits ability to move around
- Retains body heat, which can lead to overheating
- Defensive level PPE is not suitable if too close to a fire

As a defensive firefighter, you should never be able to feel excessive heat given off by fire. If you do, you are too close and not in a defensive position.

WHAT TO WEAR UNDER PPE

Wear natural fiber clothing (cotton or wool) or properly rated fire-resistant clothing underneath your PPE. Synthetic fibers (nylon, polyester, spandex, and rayon) should be avoided. They can melt at relatively low temperatures and cause burn injuries if the firefighter is accidentally exposed to fire, even when worn under PPE.

Synthetic fiber clothing is made from man-made fibers, usually derived from petrochemicals:

- Polyester
- Nylon
- Acrylic
- Spandex
- Rayon

Natural fiber clothing is made from materials that come from plants, animals, or minerals:

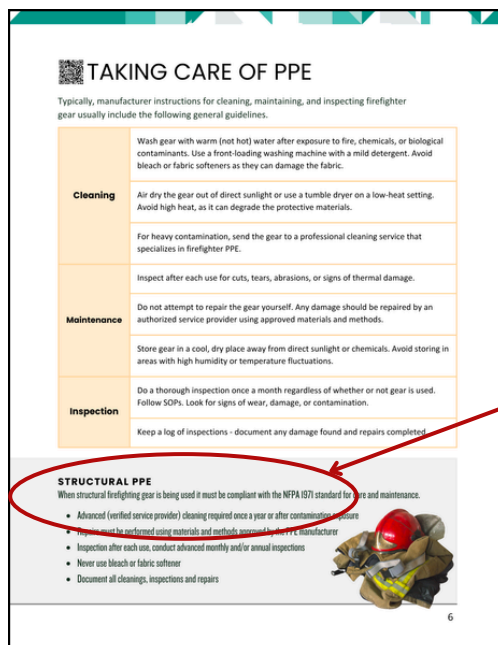
- Cotton
- Wool
- Silk
- Linen
- Hemp
- Bamboo

TAKING CARE OF PPE

Estimated time	• 20-25 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand) • One of each: Helmet, Eye Protection, Gloves, Coat, Pants, Boots
Learning Outcome(s)	• Discuss the purposes and limitations of PPE items

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 6: Let them know they can use the QR code
2	After they finish, share these facts: • Taking care of PPE ensures it remains effective. If PPE does not function as intended, it poses a serious risk to firefighter safety and health. Proper care, cleaning, maintenance, and inspection are critical to ensure that gear performs as designed and provides the necessary protection against the physical, chemical, and environmental hazards faced during firefighting operations. • We need to inspect it on a regular basis • We need to clean it because we learned in session 1 that hazardous chemicals or carcinogens (even on clothing) increase the risk of long-term health effects like cancer.
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep it on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



Point out the different requirements here if you use structural gear: The care and maintenance of both levels of PPE are similar. But, it is especially important for structural PPE because of the cost of the equipment and what it is built for (firefighters to be very close to heat and toxins)

DEFENSIVE-LEVEL PPE REQUIREMENTS

Estimated time	• 20-25 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand) • One of each: Helmet, Eye Protection, Gloves, Coat, Pants, Boots
Learning Outcome(s)	• Discuss the purposes and limitations of PPE items • Explain the necessary criteria of the following items in defensive firefighting: fire helmet; protective coat; protective pants; boots; gloves; and face/eye protection

Facilitation Instructions

1	Tell participants to follow along in their workbook on pages 7 and 8 While the pages do have a QR code for learners to listen if they wish, it might work better in a group situation to do the following:
2	Pass around the PPE items so that learners can hold it and look closely at the item. While this is happening explain the defensive level requirements. Helmet: • Lightweight yet durable • Equipped with chin strap to ensure secure fitting • Brim to shield from debris falling between the helmet and outer gear • Provisions for attaching face/eye protection to protect from smoke, dust, and debris. Eye Protection: • Goggles are a good first choice of eye protection because they create a tight seal, preventing smoke, embers, and debris from getting into the eyes. • Face shields can be used also but only at a safe distance from fire and in low-debris situations. • Designed to provide protection from debris, embers, projectiles, smoke and particulates • Heat resistant • Compatible with other PPE • Recommend anti-fog coating Gloves: • Made from flame- and water-resistant materials • Designed to offer dexterity while protecting from heat, abrasions, and minor cuts Boots: • High-topped (8 inches) to protect the ankles • Made from heat- and slip-resistant materials • Designed to offer support and protection from water, punctures, cuts, and burns Coat and Pants: • Flame-resistant to minimize the risk of ignition and fire spread on the clothing • Has high-visibility reflective trim to ensure firefighters can be seen in low-visibility conditions such as smoke, dim lighting, or poor weather • Designed to allow ease of movement • Designed to shield against abrasions, cuts, and other external hazards • Water-repellent to protect against moisture • Has venting to reduce the risk of heat stress

DEFENSIVE-LEVEL PPE REQUIREMENTS

Facilitation Instructions (Continued from previous page)

3	Tell participants the following even though it is not outlined in the student workbook: - Hearing Protection: should also be considered when needed (around loud sirens, using loud machinery). - Respiratory Protection: Defensive firefighters do not use Self-Contained Breathing Apparatus, but during overhaul or preliminary investigations they may be exposed to toxins and carcinogenic dust. In this case they should use respiratory protection appropriate for the hazards present such as N-95 masks or dust masks, or avoid the hazard entirely.
4	Discussion Ask participants to read or listen to the KNOW YOUR ROLE section on page 8 in their workbook. - Try to connect the PPE requirements for a defensive firefighter with the need to stay in the defensive role (ie: you do not have the training, or the protection to go beyond the defensive firefighting role.) - On the other hand, if you do have higher level PPE try to connect it to the false sense of security that gives a person (ie: you may have the protection but you do not have the training to go outside your role) - Offer this quote if you feel it is suitable: “In defensive firefighting, our goal is not just to fight fire—it’s to fight it wisely. We assess risk, protect what’s valuable, and don’t sacrifice ourselves when there’s nothing left to protect.” — Unknown Firefighter
5	Ask if anyone has questions or comments before moving on. - If discussion starts, let it flow but keep it on topic. - If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

Pass these items around and talk about requirements

DEFENSIVE LEVEL PPE REQUIREMENTS

Firefighters use appropriate PPE as outlined by the Commission (WCC). The WCC's Firefighter Code of Practice should use PPE that includes, but is not limited to:

- High-visibility protective clothing (coveralls) that is heat, water and puncture resistant
- Helmet
- Gloves
- Boots (CSA approved)

PPE	Criteria	Example
Helmet	- Lightweight yet durable - Equipped with chin straps to ensure secure fitting - Must include a brim to shield from sun and rain - Provisions for attaching face/eye protection from smoke, dust, and debris.	
Eye Safety	- Designed to provide protection from debris, embers, projectiles, smoke and particulates - Heat resistant - Compatible with other PPE - Recommended anti-fog coating	
Gloves	- Made from flame- and water-resistant materials - Designed to offer dexterity while protecting from heat, abrasions, and minor cuts	
Boots	- High-topped (8 inches) to protect the ankles - Made from heat- and slip-resistant materials - Designed to offer support and protection from water, punctures, cuts, and burns	

DEFENSIVE LEVEL PPE REQUIREMENTS

PPE	Criteria	Example
Protective Clothing (coat and pants)	- Flame-resistant to minimize the risk of ignition and fire spread on the clothing - High-visibility reflective trim is often included to ensure firefighters can be seen in low-visibility conditions such as smoke, low lighting, or poor weather - Designed to allow ease of movement - Designed to shield against abrasions, cuts, and other external hazards - Water-repellent to protect against moisture - Vented to reduce the risk of heat stress	

If structural firefighting gear is being used it must be compliant with the NFPA 1971 standards that may be more rigorous than the criteria stated above.

Consult APPENDIX 1: Structural Firefighter PPE for more details.

KNOW YOUR ROLE!
Would you go scuba diving without any training?
What if you had all the right gear? Probably not.

Even if you have high-quality structural firefighting gear, you must never take tasks outside the defensive firefighter role without proper training. Defensive firefighters stay at a safe distance from the fire, usually more than 10 metres away. The exact distance depends on factors like wind, fire behaviour, and available resources. In some extreme situations, they may need to stay even further back.

Defensive firefighting focuses on protecting people and property by slowing or stopping the fire. Firefighters take on tasks outside their role. Doing so puts themselves, their team,

ally kept by the firefighter's bunk at the fire station so sometimes referred to as bunker gear

to responding to a call

Make sure participants understand the role of defensive level firefighting even with higher level PPE

PPE STORAGE AND STAGING

Estimated time	• 20-25 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand) • One of each: Helmet, Eye Protection, Gloves, Coat, Pants, Boots
Learning Outcome(s)	• Practice the proper storage and arrangement for PPE

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 9: Let them know they can use the QR code
2	Have participants set up the PPE items they are using in the way described This also ensures everything is set up for the skill drills, see photos in workbook
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep it on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

NOTE: This activity and skill drills can be done using either light defensive gear or structural firefighting gear.



PPE STORAGE AND STAGING

PPE Storage

To ensure the gear remains functional, safe, and free from contamination, firefighter PPE should always be stored in a designated, clean environment, typically at the fire station. Never store dirty or contaminated firefighter PPE at home because of the potential to spread contaminants from dirty PPE. Gear should be stored:

- In easy-to-access areas near the response vehicle or station entrance
- Away from sharp edges or dirty surfaces to prevent damage
- Away from direct sunlight and excessive heat sources to prevent damage
- In ventilated areas free of moisture, reducing the risk of mold or bacterial growth

Never wear damaged or dirty PPE. Damaged PPE may fail. Dirty PPE may be toxic. Contaminated or damaged gear should be cleaned, repaired or replaced.

PPE Staging

PPE should be arranged or staged in a way that allows firefighters to don (put on) quickly when it is being stored. It should also be donned in a way that provides for maximum protection:

- Arrange pants with legs completely over the tops of each boot. Step into each pant leg and boot without disrupting the layers
- Arrange the remaining PPE so that you can quickly don in the following order: coat, followed by helmet, and then the gloves




Make sure all PPE is donned properly. Have your donned PPE checked over by a partner before entering a fire vehicle (apparatus).

9

SKILL DRILLS

Estimated time	• 40-45 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand) • One of each: Helmet, Eye Protection, Gloves, Coat, Pants, Boots
Learning Outcome(s)	• Skill 2-1: Practice donning approved PPE in less than one minute • Skill 2-2: Practice doffing approved PPE and restoring to operational readiness

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 11: Let them know they can use the QR code
2	Remind learners that all steps must be done accurately when they are assessed at the end of the DFT program.
3	TELL Add anything you would like to tell participants after they have gone through the workbook
4	SHOW Show how to don and doff all PPE items in the exact way described in the learner workbooks
5	DO • Have learners work in partners (or groups if large numbers and minimal gear). Each group or partner has a set of gear. • Have partners take turns going through each step to don gear. • Instructor watches and corrects as needed • Highlight that the first step is to do it right and then get faster • Ensure students understand the importance of overlapping gear • Partner 2 checks to make sure partner dons everything correctly 1, instructor oversees and assists partner 2 to recognize any problems
6	Partner 1 now doffs gear according to steps in workbook
7	Have partners switch places and repeat the drill
8	Again but faster: • After both partners have donned and doffed gear correctly once going slowly, repeat Skill Drill 2-A as quickly as possible without making mistakes. • Make sure partner 1 doffs correctly and repeat with partner 2 donning. • Watch to ensure done correctly. Coach to correct • After partner 2 doffs correctly make sure PPE is stored and staged properly.

SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program



SKILL DRILL 2-1: Donning PPE

This skill should be completed in less than one minute when you are assessed on the skill. Don't worry if you go over a minute the first few times you practice. It is better to make sure you don the protective clothing correctly first.

1	Place your equipment in a logical order for donning
2	If using a protective hood, place hood over your head and down around your neck
3	Put on your boots
4	Pull up your protective pants
5	Place the suspenders over your shoulders (if applicable)
6	Secure the front of the pants
7	Put on your protective coat
8	Close the front of the coat
9	Place your helmet on your head and adjust the chin strap securely
10	Turn up your coat collar, and secure it in front
11	Put on your gloves
12	Have your partner check your clothing



SKILL DRILL 2-2: Doffing PPE

Make sure to restore the PPE to operational readiness after the completion of doffing (see page 8).

1	Remove your gloves
2	Open the collar of your protective coat
3	Release the helmet chin strap
4	Remove your helmet
5	Remove your protective coat
6	Remove your protective pants and boots
7	Remove your protective hood



LEARNING DEBRIEF

Estimated time	• 20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Discuss the purposes and limitations of PPE items • Discuss the care and maintenance of PPE • Discuss the necessary criteria of PPE

Facilitation Instructions

1	Ask participants to turn to page 12 in their workbook
2	Let participants know they can write down ideas in their workbooks.
3	Use Appendix 3 in this guide for helpful tips on facilitating discussions.
4	Ask participants to share stories or experiences related to this question: Why is it important to understand both the purposes and limitations of PPE you are using when responding to a fire?
5	Ask participants to share stories or experiences related to this question: How can your learning today impact your safety and effectiveness as a firefighter?
6	Ask participants to share stories or experiences related to this question: Why is it important for a defensive firefighter to stay within their role and avoid taking unnecessary risks, even when wearing full structural PPE? What could happen if they go beyond their training?

LEARNING DEBRIEF

REMEMBER

- Developing the proper work habits during training in this course helps ensure safety later
- Do not attempt anything you feel is beyond your ability or knowledge
- Tell someone if you see something that you feel is an unsafe practice
- Continue to learn teamwork and practice working as a team
- A firefighter injured during training should not return until medically cleared for duty

Reflect on the following questions. Write down notes or sketches in the spaces provided.

Why is it important to understand both the purposes and limitations of PPE you are using when responding to a fire?
How can this knowledge impact your safety and effectiveness?

Participants can use the spaces provided to write or sketch out their thoughts.

Why is it important for a defensive firefighter to stay within their role and avoid taking unnecessary risks, even when wearing full structural PPE? What could happen if they go beyond their training?

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AFTER THE SESSION

- Ask participants for feedback about the session. If they enjoyed it, encourage them to share with others if you are trying to increase participation in your department.
- If participants mention anything they didn't enjoy or found too difficult, try to adjust the training in the future. Also, let your MACA regional AFM know about their feedback.
- Fill out the attendance sheet (Appendix 4).
- Share details about the next training session, if possible.
- Encourage participants by telling them they did a great job if they were engaged and participated.
- Give yourself credit as the trainer—you did a great job too!

Consider reflecting on your job as a facilitator:

What went well and why?	
What areas can you improve on and how?	
Do you have questions to ask your regional MACA-CGLD Learning and Development Advisor?	

SESSION 3

FIRE SERVICE

COMMUNICATIONS



Session Overview

This module helps learners understand the basics of defensive firefighting communications. It covers what firefighters need to know and be able to do when taking emergency calls and using handheld radios to start a response. While there is some focus on knowledge and attitude, the main goal is for learners to build strong communication skills and safe habits through practice.

Learning Outcomes

After this training session, learners should be able to:

- Discuss the purpose of fire service communications
- Discuss the responsibilities of taking emergency calls
- Describe the types of radios that are used in the fire service
- Describe how fire service radios operate
- Discuss common phrasing and terminology used in radio communications
- Skill 3-1: Perform taking an emergency call
- Skill 3-2: Perform using the fire radio to send and receive transmissions
- Skill 3-3: Perform initiating an emergency response over the radio

Session Time

The estimated time for this training session is: **2.5-3 hours**

Session Materials

- Facilitation guide with attendance record
- Student workbook (Session 3)
- Personal cell phones
 - **Also to be used in drills (ensure learners come prepared)**
- Pens/pencils for each participant
- Timer for discussions
- Speaker (for QR-code audio)
- Optional: Whiteboard or flipchart with markers
- Handheld fire radios (charged and ready)
- Additional people as required to assist with drills
- Photocopies of *APPENDIX 5 - Skill Drill Scripts for Facilitator and Assistants*

***NOTE: The skill drills in this session will require space for participants and partners to spread out as best they can to ensure the least amount of background noise (other calls taking place). It would work best to do this session in an area that has several rooms, hallways, or sections of a building.**

The skill drills will also work best if you have helpers who can role play emergency callers.

INTRODUCE THE SESSION

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones

Facilitation Instructions

1	Start by telling participants what this module is about “In this module, you’ll learn the key communication skills every defensive firefighter needs. By the end, you should feel confident taking emergency calls and using a handheld radio to start a response the right way.”
2	Tell participants to follow along in their workbook on page 4: Let them know they can use the QR code
3	Go over learning outcomes: After this session, you should be able to: • Discuss the purpose of fire service communications • Discuss the responsibilities of taking emergency calls • Describe the types of radios that are used in the fire service • Describe how fire service radios operate • Discuss common phrasing and terminology used in radio communications • Skill 3-1: Perform taking an emergency call • Skill 3-2: Perform using the fire radio to send and receive transmissions • Skill 3-3: Perform initiating an emergency response over the radio

Scan for audio narration



INTRODUCTION

Northwest Territories Defensive Firefighter Training (NWT-DFT) is a competency-based learning program for community fire departments operating at a defensive level of service. This workbook provides volunteer firefighters with the knowledge to apply to achieving 34 required skills. When successfully assessed, students and volunteer NWT firefighters will have met the basic requirements to appropriately respond to fire scenes at a safe distance from structure fires. Skills in the NWT-DFT program are to be assessed based on validated learning outcomes from the National Fire Protection Association (NFPA) 1001 standard.



LEARNING OUTCOMES

1. Discuss the purpose of fire service communications
2. Discuss the responsibilities of taking emergency calls
3. Describe the types of radios that are used in the fire service
4. Describe how fire service radios operate
5. Discuss common phrasing and terminology used in radio communications
6. Skill 3-1: Perform taking an emergency call
7. Skill 3-2: Perform using the fire radio to send and receive transmissions
8. Skill 3-3: Perform initiating an emergency response over the radio

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FIRE SERVICE COMMUNICATIONS OVERVIEW

Estimated time	• 25-30 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	Discuss the purpose of fire service communications

Facilitation Instructions

2	Tell participants to follow along in their workbook on page 5: Let them know they can use the QR code
3	ACTIVITY: Telephone Game • After they finish, ask the question: <i>“What might happen in the scenario above if you did not ask the person calling about the fire to confirm the directions they gave you are accurate?”</i> • Take one or two responses and then play the telephone game: Players sit in a line or circle. The first person whispers a message to the next, who passes it on quietly. The last person says the message out loud to see how much it changed. • This is a good way to see how messages can get distorted as they are passed along. Note this may not accomplish the goal of the message getting distorted unless there are about 5 or more people.
4	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



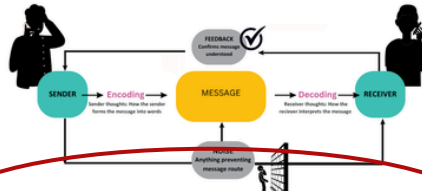
COMMUNICATIONS OVERVIEW

Fire service communications are essential for collecting and sharing important information during emergencies. In small NWT communities, this usually involves using phones and fire radios. The purpose of these communications is to coordinate efforts, send updates, request resources, and keep everyone informed and safe. Clear communication is crucial for taking emergency calls, making quick decisions, directing personnel, and managing resources effectively.

Communications Feedback Loop

To understand the basics of communication, think about information transfer using a feedback loop. If this loop is broken in a fire response context, it can greatly affect fire operations. Look at the image of the feedback loop below:

- Imagine the **sender** as a person calling about a fire across from their house.
- Imagine you are the **receiver**, who asks the caller to give you directions to the fire.
- The sender may be scared and talking very quickly as they deliver the **message** you asked for.
- You are unsure you understood the message because the sender is quite distressed (**noise**).
- So, you ask the sender to confirm if the directions you heard were correct. This is **feedback**.



What might happen in the scenario above if you did not ask the person calling about the fire to confirm the accuracy of the directions they gave you?

CLOSING THE LOOP

Listener feedback confirms that a message is understood. The communications feedback loop is closed once it is confirmed (by the receiver) that the information in the message (that was delivered by the sender) was received accurately.

Ask this question to get the learners to think about why making sure the loop doesn't get interrupted is important.

“What might happen in the scenario above if you did not ask the person calling about the fire to confirm the directions they gave you are accurate?”

Then play telephone game to show them how easily messages can get distorted. This underscores (attitude) the reasons why learning and practicing in this module is necessary.

FIRE SERVICE COMMUNICATIONS OVERVIEW

Facilitation Instructions (Continued from previous page)

5	Tell participants to follow along in their workbook on page 6: Let them know they can use the QR code
6	Make sure to talk about the following: • Clarity: Your voice should be clear. Speak a little slower than normal. Speak in a normal tone, do not shout. • Simplicity: Keep your message simple enough for intended listeners to understand. • Short: Be precise and to the point. • Security: NEVER transmit personal or confidential information unless you know the proper security technology is in place. Remember, frequencies are shared, you do not have exclusive use of the frequency. • Discuss waiting 2 seconds before speaking so the carrier picks up, especially on a repeater because there is often lag. Many people especially in aviation start every transmission with “ya, or um” to take up that period of delay to ensure the actual message is captured.
7	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



COMMUNICATIONS OVERVIEW

We can also think about a feedback loop when firefighters are communicating with each other using fire service radios. Making sure that the message is understood is the most important part of successful fire service communications. After you have a clear message, you are able to take action.

SENDER	The person or system that creates and sends the message	<i>The fire chief is the sender. They radio the station for more resources</i>	
ENCODING	The process of turning thoughts or information into a message	<i>The fire chief decides what to say and how to say it when making the request</i>	
MESSAGE	The actual information being communicated	<i>The message: "We need more water at the fire site"</i>	
NOISE	Any disturbance or interference that can disrupt the message	<i>Example: Poor radio connection, or background noise</i>	
DECODING	The process of interpreting or making sense of the message by the receiver	<i>How the firefighter taking this call understands the fire chief's request. If there is too much "noise" it affects decoding</i>	
RECEIVER	The person or system that receives and interprets the message	<i>The firefighter taking the call/request</i>	
FEEDBACK	The receiver's response or reaction to the message, which is sent back to the sender	<i>Firefighter taking the call sends confirmation back to fire chief (this is what I heard you say, is it correct?)</i>	

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TAKING EMERGENCY CALLS

Estimated time	• 20-25 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	Describe the types of radios that are used in the fire service

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 7: Let them know they can use the QR code
2	Make sure to talk about the following: • Talk about the emergency fire line in your community: how does it work? Who usually is on duty to take calls? Is being on duty to take calls a shared responsibility or is it usually one person? How would you like it to work better (if applicable)? • How often do people in the community call the fire line? How often do they call 911? • 911 calls – dispatch issues in communities without civic addressing – what is the approach? This may help to figure out the best procedures in your community. • Let them know they will be practicing gathering information during the skill drills.
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



TAKING EMERGENCY CALLS

Answering the emergency line

A member of your fire department should always be available to answer calls. When a call comes in, you need to do the following to reduce any "noise" that might get in the way of understanding the message you are receiving:

- Identify yourself: Say your name and that you are with your community fire department
- Talk clearly: Talk slowly, loudly and directly to the caller
- Know how to use the equipment: Be familiar with the phones, radios, or other equipment
- Follow the rules: Stick to the fire department's procedures for answering calls correctly

Any phone number that is listed as the fire department's emergency number MUST always be answered

CALLS FROM COMMUNITY MEMBERS

If you take calls directly from community members, it might be challenging to collect information if the person is distressed or having other problems communicating with you. The advantage is that you are hearing directly from the source. Since you are both familiar with the community, directions to a location may be easier to understand.



CALLS FROM 911 OPERATORS

Sometimes a community member will call 911. If that happens, the 911 operator will relay the information to you. The disadvantage is that this creates an additional feedback loop, which doubles the chance of "noise" and misinterpretation of the message. The advantage is that 911 operators are trained to collect the necessary information on your behalf.



Gathering information

When answering an emergency call, make sure to:

1. Identify yourself and the fire department
2. Always assume the call is for an emergency

You must then gather the following information:

- Incident location: Include street numbers and identifying landmark
- Caller's callback number: In case you get cut off
- Type of incident/situation: Fire, medical, accident, violence, rescue, etc.
- When the incident occurred
- Caller's name
- Location of the caller: If different from the incident location
- Scene safety information: Any details that can impact the safety of the responders or the people involved in the incident

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This will be practiced in Skill Drill 3-1

FIRE SERVICE RADIOS

Estimated time	• 30-35 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand) • Handheld fire radios (charged and ready)
Learning Outcome(s)	Describe how fire service radios operate

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 8: Let them know they can use the QR code
2	Have learners practise saying this phrase out loud with a different address using the phonetic alphabet. This is a good way to get them warmed up for the drills. <i>"Command, this is Rescue 2. We have a downed power line at 14 Smith Road. Repeating, 1-4 Sierra-Mike-India-Tango-Hotel road. Power company has been notified and is en route. Over."</i> • Replace 14 Smith Rd with other names (eg: Water Street, Deline Avenue, or Resolution Way)
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

FIRE SERVICE RADIOS

Radios connect the team of firefighters with each other and link firefighters at the scene of an emergency. For firefighters, radios might be the only way to talk to the team and ask for help if needed, especially when cell phone data is affected.

- It is the responsibility of each firefighter to learn how to operate their assigned radio using its operating manual and your department's Standard Operating Procedures (SOPs).
- Radio transmissions can be recorded, and the public can listen to them using scanners. Do not provide any personal information or anything sensitive in nature over the radio.

Types of radios

Portable radio
Small, hand-held device that firefighters use to talk to each other and ask for help during emergencies.

Mobile radio
Installed in fire apparatus (vehicle) for firefighters to communicate with their team and the fire station while on the move.

Base station radio
A larger radio set-up at fire station, used to communicate with fire trucks and other firefighters.

Radio channels

All radio systems in Canada must be licenced and operated according to the Canadian Radio-television and Telecommunications Commission (CRTC). Radio channels use either one frequency or two frequencies. Frequencies are often programmed into the radio and can be adjusted only by a qualified technician. General fire service frequencies in the NWT are:

- 168.990 MHz
- 169.170 MHz
- 169.770 MHz

PHONETIC ALPHABET

The purpose of knowing the phonetic alphabet is to reduce misunderstandings caused by poor radio transmission quality, background noise, or speaker accents. It ensures critical information (names, locations, or equipment identifiers) are correctly understood quickly when spelling out complex or unfamiliar terms.

- A - Alpha
- B - Bravo
- C - Charlie
- D - Delta
- E - Echo
- F - Foxtrot
- G - Golf
- H - Hotel
- I - India
- J - Juliet
- K - Kilo
- L - Lima
- M - Mike
- N - November
- O - Oscar
- P - Papa
- Q - Quebec
- R - Romeo
- S - Sierra
- T - Tango
- U - Uniform
- V - Victor
- W - Whiskey
- X - X-ray
- Y - Yankee
- Z - Zulu

"Command, this is Rescue 2. We have a downed power line at 14 Smith Road. Repeating, 1-4 Sierra-Mike-India-Tango-Hotel road. Power company has been notified and is en route. Over."

"Command to Rescue 2. Downed power line at Smith Road. Stay clear and secure the area until the power company arrives. Over."

Have learners practice saying this phrase aloud. Substitute a new address for each learner

FIRE SERVICE RADIOS

Facilitation Instructions (Continued from previous page)

4	Tell participants to follow along in their workbook on page 9: Let them know they can use the QR code
5	Let participants get familiar with the fire radios that will be used for the upcoming skill drills. • Provide the user manuals for the radios if you can. • Ask participants to find the same or similar components in the diagram on page 9 on the radios they have in their hands.
6	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



FIRE SERVICE RADIOS

How to use the portable radio

With radio facing you - along the top from left to right:

- 1 First round dial is the on/off and volume control. Turn clockwise to turn on/increase volume, counterclockwise to reduce volume. Turn off by turning counter clockwise until you meet resistance – and hear a click.
- 2 The next smaller dial is the channel selector. Turn to find your channel.
- 3 On the top is a small battery LED Indicator light. The light is green when the power is on and when someone is communicating on your channel. It will continuously flash if your radio is scanning channels instead of on a fixed channel.
- 4 Monitor/Scan Buttons:
 - Monitor: Temporarily disables the squelch (background noise), allowing you to hear weak signals on the current channel (circle).
 - Scan: Cycles through pre-programmed channels (circle crossed out).
- 5 Primary Emergency Button: Typically triggers a loud emergency alarm and sends signal that the user needs immediate help.
- 6 ABC Button: allows user to toggle between different zones of channels.
- 7 Large oval is the push-to-talk (PPT) button. Hold when speaking and release when done talking.
- 8 Additional Monitor/Scan Buttons that allow user feel with fingertips:
 - Monitor: one raised dot
 - Scan: two raised dots
- 9 Backup Emergency Button: Triggers silent alarm when user needs assistance.
- 10 Antenna. Do not bend or remove.



All hand-held radios have similar components but will vary from the model in this image. Make sure to use the instructions and diagram associated with the device(s) used by your fire department.

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It is important for learners to be familiar with their own radios.

RADIO LANGUAGE

Estimated time	15-20 mins
Materials needed	- Workbooks - Pens/pencils - Personal cell phones - Timer for discussions (good to have on hand)
Learning Outcome(s)	Discuss common phrasing and terminology used in radio communications

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 10 and 11: Make sure to use the QR code for this lesson: Hearing the examples will assist learners to be ready for the skill drills by the end of the session. If there are any audio issues with the QR code ensure someone reads these aloud.
2	Let learners know they will be practicing initiating a response in Skill Drill 3-3 using a radio.
3	Ask if anyone has questions or comments before moving on. - If discussion starts, let it flow but keep on topic. - If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

RADIO LANGUAGE

Common phrasing and terminology

Firefighters often use a standard way of speaking over the radio to ensure clarity, brevity, and structure. This structured phrasing and terminology is used to ensure clarity, brevity, and structure.

Incident Type
Describes the nature of the emergency

- "Command, Engine 1 responding to a two-story residential structure fire."

Initiating Response
Indicates a unit is en route

- "Engine 2 en route to scene" or "Rescue 3 responding."

Arrival on Scene
A unit has arrived at incident location

- "Engine 4 on scene. Establishing command."

Size Up
Initial assessment of incident upon arrival

- "Command to all units, single-family home with heavy smoke showing from second floor. All occupants accounted for."

Establishing Command
Indicates who is in charge of the incident and establishes the command structure

- "Firefighter (name) on scene and assuming command"

Scene Safety Information
Details hazards/safety concerns

- "Be advised, downed power lines on the east side of building"

Emergency Traffic
Urgent message that overrides all other communications

- "Emergency traffic, Mayday, firefighter down at..."

Resource Request
Call for more units, equipment, or personnel

- "Engine 1 to Command, requesting additional personnel at..."

Clearing the Scene
Indicates units leaving the scene, available for other calls

- "Engine 2 clearing the scene, available"

PAR (Personnel Accountability Report)
Ensure all personnel are accounted for

- "Command to all units, PAR check in two minutes"

Cancelling Response
Units en-route are no longer needed

- "Engine 3 cancelled. Situation under control"

RADIO LANGUAGE

Sample radio conversation to initiate a response to a community structure fire

CALL RECEIVED	Firefighter 1 (Alex): "Attention all units, this is Alex. We've got a report of a fire at 456 Con Road. That's 4-5-6-Charlie-Oscar-November Road. Caller reports heavy smoke coming from the garage. No occupants reported. Over."
MOBILIZATION	Firefighter 1 (Alex): "Attention all units, I am responding to the fire at 456 Con Road. En route to station to take the truck. Requesting backup Over." Firefighter 2 (Jordan): "Received, Alex. Will meet you at the location. Over."
EN ROUTE	Firefighter 1 (Alex): "All units, Truck 1 is en route to 4-5-6-Charlie-Oscar-November Road. ETA approximately 5 minutes. Over." Firefighter 2 (Jordan): "Truck 1, Jordan here. Also en route to 456 Con Road. Over."
ARRIVAL AT SCENE	Firefighter 1 (Alex): "Truck 1 on scene. Heavy smoke visible from the garage. Awaiting Jordan for backup. Over."
DEFENSIVE OPERATIONS INITIATED	Firefighter 1 (Alex): "Truck 1 is establishing command. Engaging exterior attack to protect nearby structures. Over." Firefighter 2 (Jordan) (arriving on scene): "Jordan on scene. Assisting with exterior attack. Over."

Hearing these examples out loud will help get learners ready to do the upcoming skill drills

The greyed-in sections go beyond the steps involved in initiating a response in Skill Drill 3-3.

SKILL DRILLS

Estimated time	35-40 mins
Materials needed	- Workbooks - Pens/pencils - Personal cell phones - Additional people as required to assist with drills - Photocopies of Appendix 5 –Skill Drill Scripts for Facilitator and Assistants. - Handheld fire radios (charged and ready) - Emergency call intake forms per learner (filled in during skill drill 3-1)
Learning Outcome(s)	- Skill 3-1: Perform taking an emergency call - Skill 3-2: Perform using the fire radio to send and receive transmissions - Skill 3-3: Perform initiating an emergency response over the radio

Facilitation Instructions

Skill 3-1: Perform taking an emergency call

1	TELL - Read out loud the steps for skill drill 2-1 on page page 13: - Let them know they can follow along in their books
2	Hand out Appendix 5 –Skill Drill Scripts for Facilitator and Assistants to any helpers
3	Have each participant either partner with you and other assistants.
4	Ask each participant to share their phone number with their partners.
5	Tell participants that they will be receiving an emergency call from their partners.
6	SHOW Show participants how to use the emergency call intake form found in their books. Show them how to: - Ask the caller the questions outlined - Listen to caller response - Confirm what you heard back to the caller - And then write it down
7	Have all participants and partners spread out as best they can to do this drill with the least amount of background noise (other calls taking place).
9	DO - Have each participant practice the drill - You are using Appendix 5 to act as the caller (or assistants will be) - Watch each participant to ensure ALL steps done correctly. Correct if necessary

SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program

Follow the EMERGENCY CALL INTAKE FORM script on pages 12 and 13. Record the information you collect for this drill.

SKILL DRILL 3-1: Taking emergency calls

A fire station call-taker determines if a call is an emergency by asking the caller specific questions about the situation. They listen carefully to the caller's answers and tone of voice to assess urgency.

- 1 Identify your community and fire department
- 2 Ask if this is an emergency
- 3 Collect information, confirming it is correct after each question:
 - Incident location, including landmarks
 - Incident type
 - Description of scene and scene safety risks
 - When incident occurred
 - Caller name
 - Caller location
 - Caller callback number
- 4 Record all information
- 5 Let caller hang up first



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NOTE: You will need APPENDIX 5: Skill Drill Scripts for Facilitator and Assistants (in this facilitator guide for this drill.

- Make photocopies. Provide to assistants/helpers.**
- Use the script to act out a scenario for learners to practice taking emergency calls.**
- Call the student firefighter you are working with on their cell phone.**

EMERGENCY CALL INTAKE FORM – Part 1

FIRE DEPARTMENT NAME:

DATE OF CALL:

TIME OF CALL:

[Insert Name] Fire Department, what is your emergency?

- Listen to response - Confirm what you heard back to the caller - Write it down:

EMERGENCY TYPE:

Where is the emergency happening?

Ask for exact address, landmarks and/or specific directions if not provided by caller?

- Listen to response - Confirm what you heard back to the caller - Write it down:

LOCATION:

What is happening right now?

Ask if anyone in immediate danger AND if there are hazards at the scene (gas, electricity, fire, flooding, etc) if not provided by caller.

- Listen to response - Confirm what you heard back to the caller - Write it down:

SCENE SAFETY INFORMATION:

Learners can use the emergency call intake forms in their books as a script for this drill.

EMERGENCY CALL INTAKE FORM – Part 2

When did the incident happen?

- Listen to response - Confirm what you heard back to the caller - Write it down:

TIME OF INCIDENT:

What is your full name?

- Listen to response - Confirm what you heard back to the caller - Write it down:

CALLER NAME:

What is your phone number in case we get disconnected?

- Listen to response - Confirm what you heard back to the caller - Write it down:

CALLER PHONE:

Where are you calling from?

- Listen to response - Confirm what you heard back to the caller - Write it down:

LOCATION OF CALLER:

SKILL DRILLS

Facilitation Instructions

Skill 3-2: Perform using the fire radio to send and receive transmissions

1	TELL - Read out loud the steps for skill drill 3-2 on page page 16: - Let them know they can follow along in their books
2	SHOW Use a fire radio to show them how to do each step in drill 3-2. Make sure they can see what buttons you are using and go slow so they can follow along. - Show them how to listen to be sure the channel is clear. - Show them how to hold the microphone 2.5–5 cm from your mouth at a 45° angle. - Show them how to wait 2 seconds before speaking so your message isn't cut off. - Show them how to press the push-to-talk (PTT) button and give a short, clear message. - Show them how to release the PTT button when done.
3	DO - Have each participant practice the drill WHILE THEY PERFORM SKILL DRILL 3-3 - Watch each participant to ensure ALL steps done correctly. Correct if necessary

Skill 3-3: Perform initiating an emergency response over the radio

1	TELL - Read out loud the steps for skill drill 3-3 on page page 16: - Let them know they can follow along in their books
2	SHOW them how you should initiate an emergency response over the radio: Show them how to notify you: "Attention all units, this is (firefighter name). We've got a report of a fire at 16 Shilo Road. That's 1-6-Sierra-Hotel-India-Lima-Oscar Road. Caller reports a home fully engulfed, very near the diesel plant. Not aware of any occupants. Over. Show them how to let you know they are mobilized: "(Firefighter name) to Command. I am En route to station to take the truck to the scene. Requesting backup. Over." Show them how to tell you they are en route: "(Firefighter name) to Command. Truck 1 is en route to 16 Shilo Road. ETA approximately 5 minutes. Over."
3	- Ask if they have any questions before they begin. - Have all participants and partners spread out as best they can to do this drill with the least amount of background noise (other calls taking place).
4	DO - Have each participant practice the drill. - You will do the drill with them by using APPENDIX 5: Skill Drill Scripts for Facilitator and Assistants - Watch each participant to ensure ALL steps done correctly. Correct if necessary

NOTE:

- To run this drill with the whole group, you'll need enough radios and a few helpers who know how to use them.
- If you don't have enough radios, helpers, or space, try this alternative: give each participant a turn to call you on the radio from another room while the rest of the group listens from the main area.
- That's perfectly fine — the goal is to practice making the call correctly, not to test knowledge.
- You will need Appendix 5: Page 2 (in this facilitator guide) for this drill.

Show and do each of these steps exactly. Learners will be evaluated on these exact steps. Go slowly and show in an exaggerated way how to do each step.

Show and do each of these steps exactly. You may want to practice this beforehand so you show this skill the correct way.

SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program

Using the filled out EMERGENCY CALL INTAKE FORM, practice Skill Drill 3-2 and Skill Drill 3-3 at the same time.



SKILL DRILL 3-2: Using the fire radio

1	Listen to determine that the channel is clear of any other traffic.
2	Hold microphone 1 to 2 inches (2.5 to 5 centimetres) from your mouth and at a 45 degree angle.
3	Wait at least 2 seconds before speaking (delay enables the system to capture the channel without cutting off the first part of the message, some systems sound a distinctive tone when the channel is ready).
4	Know what to say before you start talking.
5	Press the "push-to-talk" (PTT) button.
6	Speak clearly, and keep the message brief and to the point.
7	Release PTT button



SKILL DRILL 3-3: Initiate emergency response

1	Transmission 1 (notify of event) • Make a general call out to all units • Identify yourself • Transmit the location of emergency, type of emergency and scene safety information. • End transmission
2	Transmission 2 (mobilize resources) • Identify yourself • Notify that you are getting Truck 1 from station. • Request backup
3	Transmission 3 (update en route) • Identify yourself • Notify that you are en route • Provide an Estimated Time of Arrival (ETA). • End transmission



LEARNING DEBRIEF

Estimated time	• 20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Discuss the purpose of fire service communications • Discuss the responsibilities of taking emergency calls • Discuss common phrasing and terminology used in radio communications

Facilitation Instructions

1	Ask participants to turn to page 17 in their workbook
2	Let participants know they can write down ideas in their workbooks.
3	Use Appendix 3 in this guide for helpful tips on facilitating discussions.
4	Ask participants to share stories or experiences related to this question: What is needed for effective fire service communications during an emergency response?: <i>Ask them to think about the importance of clear communication and the potential consequences of miscommunication.</i>
5	Ask participants to share stories or experiences related to this question: In what ways does using common radio phrasing and terminology enhance efficiency and safety?: <i>Ask them to think about how standardized language helps streamline communication and prevents misunderstandings.</i>
6	Ask participants to share stories or experiences related to this question: How can practice using fire radios and emergency call procedures improve your confidence and competence in real-life emergencies?: <i>Ask them to think about the value of practice when you are under pressure in a real response.</i>



LEARNING DEBRIEF

REMEMBER

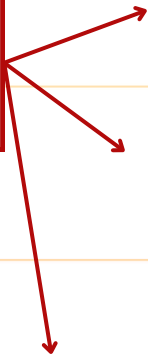
- Developing the proper work habits during training in this course helps ensure safety later
- Do not attempt anything you feel is beyond your ability or knowledge
- Tell someone if you see something that you feel is an unsafe practice
- Continue to learn teamwork and practice working as a team
- A firefighter injured during training should not return until medically cleared for duty

Reflect on the following questions. Write down notes or sketches in the spaces provided.

What is needed for effective fire service	
How terminology enhance efficiency and safety? How does standardized language prevent misunderstandings.	
How can practice using fire radios and emergency call procedures improve your confidence and competence in real-life emergencies?	

17

Participants can use the spaces provided to write or sketch out their thoughts.



AFTER THE SESSION

- Ask participants for feedback about the session. If they enjoyed it, encourage them to share with others if you are trying to increase participation in your department.
- If participants mention anything they didn't enjoy or found too difficult, try to adjust the training in the future. Also, let your MACA regional AFM know about their feedback.
- Fill out the attendance sheet (Appendix 4).
- Share details about the next training session, if possible.
- Encourage participants by telling them they did a great job if they were engaged and participated.
- Give yourself credit as the trainer—you did a great job too!

Consider reflecting on your job as a facilitator:

What went well and why?	
What areas can you improve on and how?	
Do you have questions to ask your regional MACA-CGLD Learning and Development Advisor?	

SESSION 4

COMMAND SYSTEMS



Session Overview

This module helps students understand how to use the Incident Command System (ICS) during fire operations. It explains how ICS is organized, how to manage a scene safely, and how to control risks. Participants will practice setting up and transferring command, and learn how to work effectively within the ICS structure.

Learning Outcomes

After this training session, learners should be able to:

- Discuss the purpose of the Incident Command System (ICS)
- Explain how and why ICS works as a modular organization
- Explain ICS functions related to fire operations
- Describe ICS scene and risk management tools and concepts
- Skill Drill 4-1: Perform establishing command
- Skill Drill 4-2: Perform transferring command
- Skill Drill 4-3: Perform operating within the ICS framework

Session Time

The estimated time for this training session is: **2-2.5 hours**

Session Materials

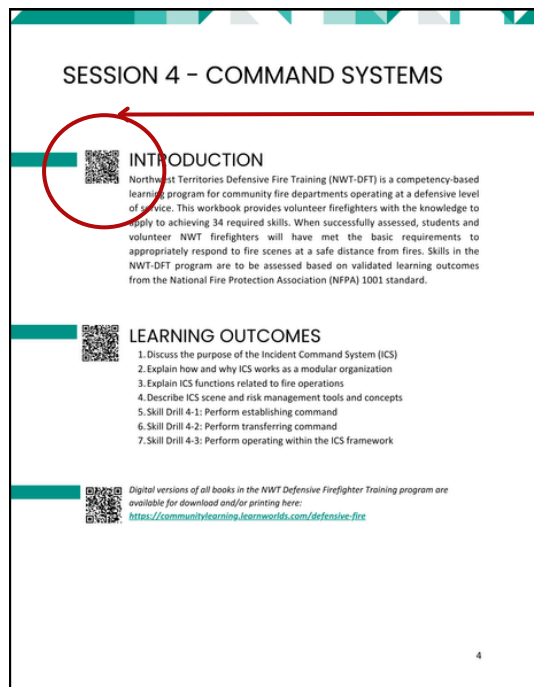
- Facilitation guide with attendance record (and appendices referenced in drills)
- Student workbook (Session 4)
- Phone or speaker/audio setup for QR codes
- Pens/pencils for each participant
- Timer for discussions
- Speaker (for QR-code audio)
- Handheld fire radios (if available or use cell phones)
- Optional: Whiteboard or flipchart with markers
- Optional: Extra paper

INTRODUCE THE SESSION

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones

Facilitation Instructions

	Start by telling participants what this module is about “This session helps you understand how the Incident Command System (ICS) works and why it is used. 1 You will learn about the main parts of ICS and how it helps organize fire operations. The session also covers tools for managing a fire scene and reducing risks. You will practice how to set up, transfer, and work under command during an incident.”
2	Tell participants to follow along in their workbook on page 4: Let them know they can use the QR code
3	Go over learning outcomes: After this session, you should be able to: • Discuss the purpose of the Incident Command System (ICS) • Explain how and why ICS works as a modular organization • Explain ICS functions related to fire operations • Describe ICS scene and risk management tools and concepts • Skill Drill 4-1: Perform establishing command • Skill Drill 4-2: Perform transferring command • Skill Drill 4-3: Perform operating within the ICS framework



Scan for audio narration

COMMAND SYSTEM OVERVIEW

Estimated time	25-30 mins
Materials needed	- Workbooks - Pens/pencils - Personal cell phones - Timer for discussions (good to have on hand)
Learning Outcome(s)	Discuss the purpose of the Incident Command System (ICS)

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 5. Let them know they can use the QR code
2	Ask if anyone has questions or comments before moving on. - If discussion starts, let it flow but keep on topic. - If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

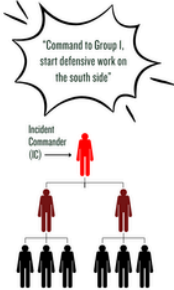


COMMAND SYSTEM OVERVIEW

Incident Command System (ICS)

The Incident Command System (ICS) was developed in the 1970s in the United States after massive wildfires in California. These fires showed the need for a standardized system to improve emergency response. ICS provides a flexible and scalable framework that can be used for incidents of any size.

In Canada, the fire service began using the Incident Command System (ICS) in the 1980s, with wider adoption in the 1990s. Using ICS, even for small emergencies, helps keep the fire team organized and working together. It ensures every firefighter knows their role, who they report to, and what they need to do. This reduces confusion and ensures resources are used effectively.



Priorities

In a firefighting command system, all actions taken in any operation are based on three priorities:

1	2	3
LIFE SAFETY	INCIDENT STABILIZATION	PROPERTY CONSERVATION
Includes keeping firefighters and other responders safe, as well as rescuing victims	Incident must be stabilized before fire suppression or clean up (includes protecting exposures)	Actions taken after meeting first two priorities to prevent further property damage

Unity of command

Unity of command is a top-down structure that defines ranks of authority and responsibility. It ensures a clear chain of command for the flow of information both up and down. At an incident, each person has only one direct supervisor. As a firefighter, you must follow unity of command by:



Taking direction from your superior only

Do not follow any other directions. Your superior coordinates response based on what they have asked you to do.

Reporting back to your superior

Do not forget to report back. Do not have another report back for you. Your superior hears directly from you.

Absolutely NO freelancing

Do not EVER freelance. This may seriously interfere with how the response is being coordinated by your superior.

5

COMMAND SYSTEM OVERVIEW

Facilitation Instructions (Continued from previous page)

3	Tell participants to follow along in their workbook on page 6. Let them know they can use the QR code
4	Use the discussion questions provided in books to talk about UNITY OF COMMAND. - Let it flow but keep on topic. - Try not to go over the allotted time. - See Appendix 3 in this facilitator's guide for more information about facilitating discussions.

What might happen in the example if firefighters don't follow IC directions?

If firefighters don't follow the IC's (Incident Commander's) directions, the scene can quickly become confusing and disorganized. Important jobs might not get done properly, which could put people in danger, cause more property damage, or waste important resources. For example, if putting out the fire isn't done as directed the fire could spread to other buildings and make the situation worse.

What might happen if they don't report back? If Sara and Joe don't check back with the IC, the IC won't know how their tasks are going. Without good information, the IC might make decisions based on wrong or missing details, which could cause problems with safety or how people and equipment are used. For example, if Joe doesn't report back about new hazards, the team might not know about dangers like a building collapse or toxic smoke, or other hazards.

What might happen if Sara and Joe freelance? If Sara and Joe act on their own without checking with the IC (this is called freelancing), it could mess up the plan and slow down the response. Freelancing can cause people to do the same job twice, waste supplies, and create safety risks. For example, if Sara starts fighting a fire in a spot that's already being handled, or if Joe ignores safety steps while checking for hazards, it could cause accidents, confusion, or make it harder to control the fire.

Use answers here to help guide discussion on these questions



COMMAND SYSTEM OVERVIEW

The following example shows how operating under *unity of command* ensures good coordination and communication among all fire team members.

**What might happen in the example below if firefighters don't follow IC directions?
What might happen if they don't report back? What might happen if Sara and Joe freelance?**

- ### 1 ESTABLISH COMMAND

The first firefighter on the scene takes on the role of Incident Commander (IC). They assess the situation and implement the Incident Command System (ICS) until the fire chief arrives.	- Peter (IC): "This is Peter to all units. I am on scene and establishing command. We have a single-story house fire with smoke coming from the roof. No occupants inside." - Sara (assigned to operations): Awaits Assignment - Joe (assigned to safety): Awaits Assignment
--	--
- ### 2 ASSIGN ROLES

The IC assigns roles and manages the team.	- Peter (IC): "Command to Sara, you are assigned to fire suppression. Confirm when in position." "Command to Joe, monitor hazards. Keep me updated." - Sara: "Command, this is Sara. Establishing water supply now. Assigning two firefighters to assist — maintaining span of control." - Joe: "Command, this is Joe. Monitoring crew safety — all firefighters have full PPE and are staying hydrated."
--	--
- ### 3 DETERMINE ACTIONS

The IC coordinates with the operations chief (Sara) and safety officer (Joe) to manage the response.	- Peter (IC): "Operations, this is Command. Once supply is set, deploy hose line for exterior attack on the fire." "Safety, this is Command. Make sure to monitor structural integrity." - Sara: "Command, this is Operations. Water supply is being established now — two firefighters assigned to assist deploying a hose line for exterior attack once flow is confirmed." - Joe: "Command, this is Safety. Monitoring for roof collapse and slippery areas — no immediate hazards at this time."
--	--
- ### 4 ENSURE COMMUNICATIONS, COORDINATION AND ACCOUNTABILITY

The IC keeps track of who is on scene and what tasks they are performing. Provides regular updates and confirms when fire is out.	Peter (IC): "Command to all units: Fire is extinguished. House is clear. Crews are cleaning up."
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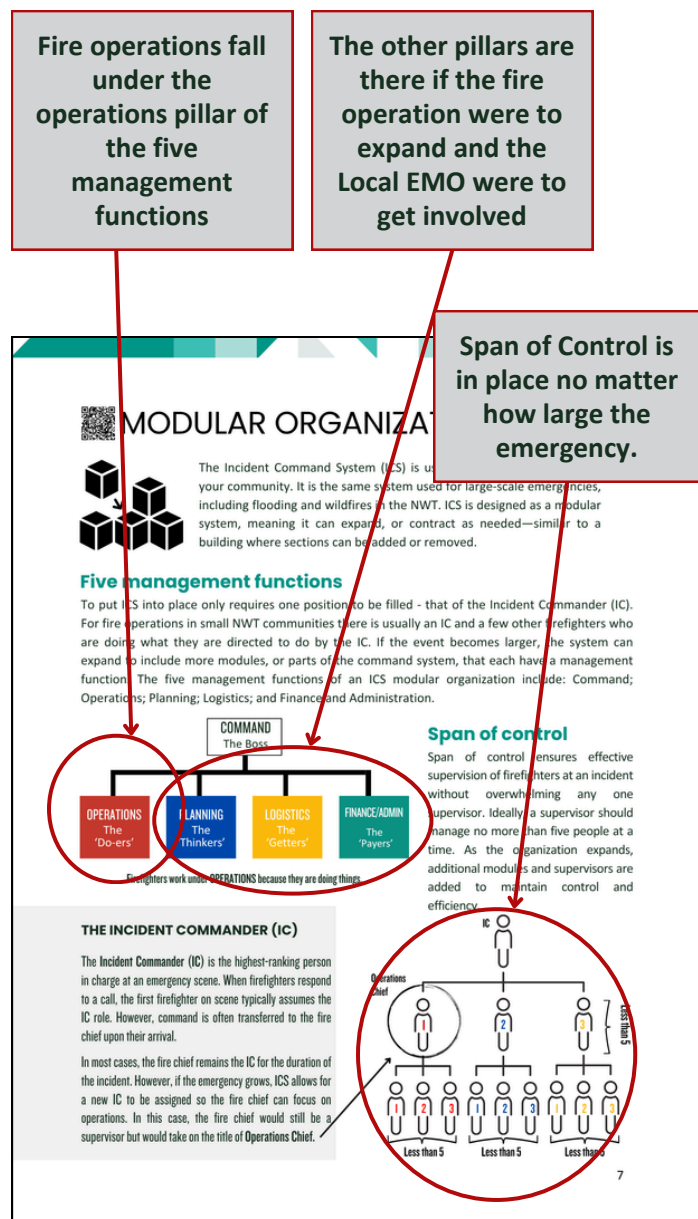
6

MODULAR ORGANIZATION

Estimated time	• 10-15 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	Explain how and why ICS works as a modular organization

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 7. Let them know they can use the QR code
2	Explain (especially for anyone who has taken ICS 100, 200, 300) that firefighting and Emergency Management both use ICS, but in firefighting operations it looks a bit different.
3	Highlight these key points: • Fire operations fall under the Operations pillar of the five management functions • The other pillars are there if the fire operation were to expand and the Local EMO were to get involved (one house fire turns into five houses on fire, for example) ◦ If it were a large emergency, it is likely the fire chief would become Operations Section Chief and not IC. ◦ In Local EMOs it is always advised that the IC be the town's SAO because the fire chief would be needed elsewhere to support fire department operations and personnel. • Span of Control should be in place no matter how large the emergency.
4	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



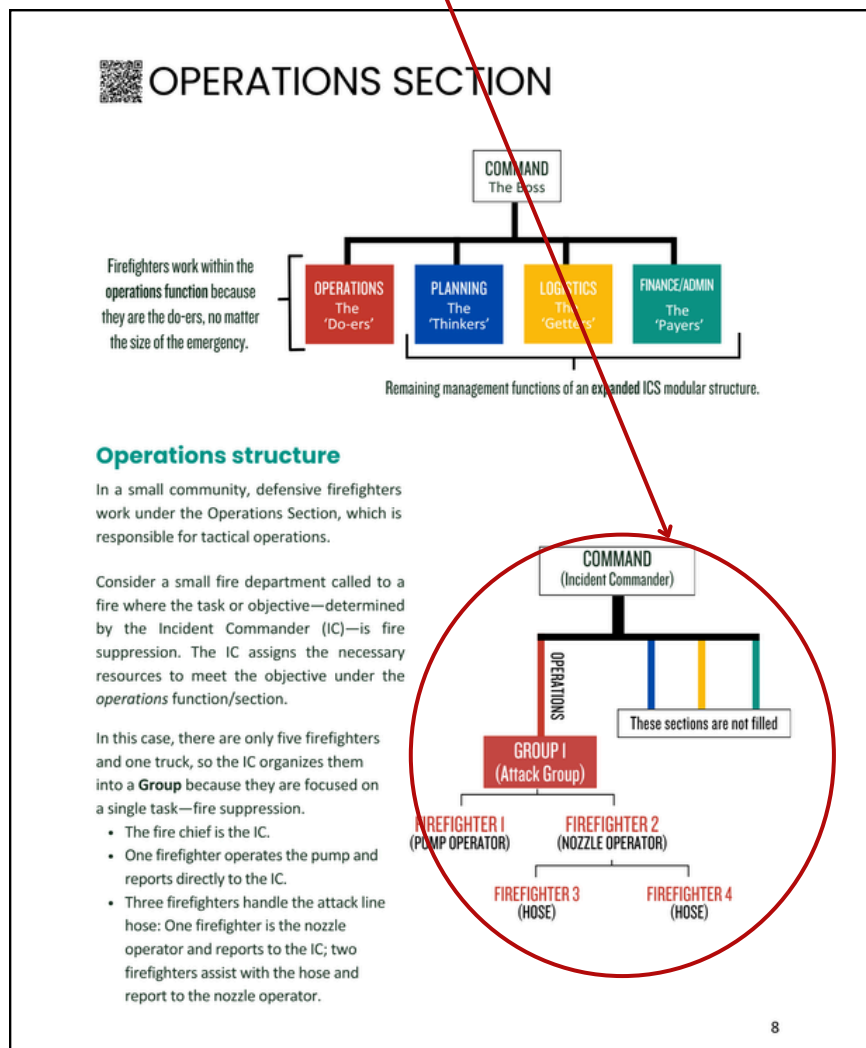
OPERATIONS SECTION

Estimated time	• 30-35 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	• Explain how and why ICS works as a modular organization • Explain ICS functions related to fire operations

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 8. Let them know they can use the QR code
2	Explain: The Operations Section can also expand if necessary for fire-only emergencies, even when the other pillars and the Local EMO are not needed. The graphic on this page shows what that might look like.
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

The operations section can also expand if necessary for fire-only emergencies even when the other pillars and Local EMO are not needed.



OPERATIONS SECTION

Facilitation Instructions (Continued from previous page)

4	Tell participants to follow along in their workbook on page 9. Let them know they can use the QR code
5	Explain: The main idea here is that participants are familiar with groups (as this is what will most often be used in firefighting) and that groups use different kinds of single resources. NOTE: Participants may ask why divisions are not often used. This is because divisions are most often used when firefighters are inside structures to determine locations within buildings, such as floor 1 or floor 2. Defensive firefighters are not trained to enter structures.
6	Discuss the questions in the book - Let it flow but keep on topic. - Try not to go over the allotted time. - See Appendix 3 in this facilitator's guide for more information about facilitating discussions.

What is happening here related to span of control?

In this scenario, the IC is managing the span of control by organizing resources into groups, ensuring that each supervisor has an appropriate number of firefighters under their supervision. The ideal span of control in fire operations is no more than five people per supervisor.

Why does Group 2 have two supervisors?

There are two supervisors in Group 2 to ensure the IC is not directly responsible for more than five people. If there were no supervisors in Group 2, the IC would be directly responsible for 7 people.

Why are there two groups?

There are two groups because there are two different tasks. Group 1 is responsible for fire suppression. Group 2 is responsible for exposure protection.

What are the tasks?

The IC has divided the tasks based on the priorities of the emergency response.

- Group 1 focuses on fire suppression at the burning house, which is already significantly involved in the fire and unlikely to be saved.
- Group 2 focuses on protecting the neighboring house to prevent the fire from spreading and to other properties and possibly affect human life.

Why are these groups and not divisions?

These are groups and not divisions because the tasks assigned are more about specific actions or tasks (fire suppression and property protection) rather than geographical areas.

What kind of single resources are being used?

- The IC is a single person
- Group 2 is an engine and its crew
- Group 3 is an engine and its crew, with two separate teams, each with a group leader

Participants should be familiar with groups (as this is what will most often be used)

Fire functions under ICS

In firefighting, the most commonly used ICS functions are Groups and Divisions.

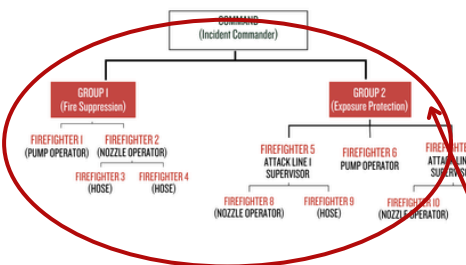
- Groups are task-specific teams, like those focused on fire suppression.
- Divisions are teams organized geographically (not often used in defensive fire operations).

Both groups and divisions utilize single resources.

Group	Single resources (chief; truck and crew; captain and hose operator) that are working on the same task or function , but not necessarily in the same location. 
Division	Multiple single resources working in the same location , but on different tasks. 

Consider the same scenario as on the previous page, but with a few changes. There are now two trucks, 11 firefighters, and one fire chief. A house fire is burning intensely and is unlikely to be saved. The IC is most concerned about protecting the house next to the one on fire. To manage the response, the IC creates two groups, each with a specific task: **Group 1** focuses on fire suppression at the burning house; **Group 2** is assigned to protecting the neighboring house.

What is happening here related to span of control? Why does Group 2 have two supervisors? Why are there two groups? What are the tasks? Why are these groups and not divisions? What kind of single resources are being used?



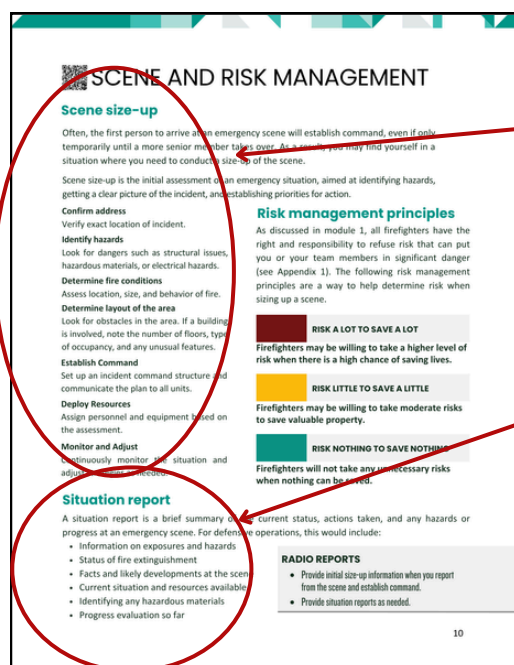
Use this graphic to have the discussion based on the questions

SCENE AND RISK MANAGEMENT

Estimated time	• 10-15 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	Describe ICS scene and risk management tools and concepts

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 10. Let them know they can use the QR code
2	Explain: Scene and risk management deal with using ICS at a fire scene. • Scene size up: Done when a firefighter first arrives on scene. • Risk management: Works alongside PRINCIPLES of Life Safety; Incident Stabilization; Property Conservation. It is important to remind participants here about what they learned about the right and obligation to refuse unsafe work (from session 1 and this module). There is always some level of risk involved in firefighting, so managing risk protects yourself and your team members. • Situation Report: Different than the scene size-up, situation reports focus on the task and how it is developing (ie: fire suppression). <i>Let learners know they will be practicing delivering a scene size up and situation report in Skill Drill 4-1.</i>
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



These steps need to be done when a firefighter first arrives on scene

situation reports focus on the task and how it is developing. Will need to offer this info when asked for a situation report by the IC

SCENE AND RISK MANAGEMENT

Facilitation Instructions (Continued from previous page)

4	Tell participants to follow along in their workbook on page 11. Let them know they can use the QR code
5	Explain: - Part of the ICS system involves keeping track of all personnel. Add to this by letting participants know how your department takes part in the Personnel Accountability System (PAS). - Location indicators are fairly straightforward. This is a good time to practice using the phonetic alphabet in communications. Let them know they will be practicing this in the skill drills. Remember, Alpha is always along the roadside (where an apparatus may be parked).
6	Ask if anyone has questions or comments before moving on. - If discussion starts, let it flow but keep on topic. - If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



SCENE AND RISK MANAGEMENT

Personnel Accountability System (PAS)

A Personnel Accountability System (PAS) tracks all personnel on the scene, including their identities (names), assignments (nozzle operator), and locations (see location indicators below on this page). Accountability systems are only effective when everyone uses them. By using a PAS within the ICS framework, an Incident Commander (IC) can track the resources at the scene, make appropriate assignments, and ensure everyone operates safely. If someone is missing, locating them becomes the top priority. Examples of PASs include:

- Written Rosters: Lists of firefighters and their assignments.
- Electronic Tracking Devices: Systems using electronic tags or GPS to track personnel.
- Nametags: Tags displayed on a board in the fire truck (apparatus) to identify personnel.

Location indicators

Location indicators help ensure firefighters can quickly explain their locations. In a defensive operation, location indicators are used for the four exterior sides of a structure. This is essential because ICS requires frequent updates and directions among all members. The IC must be able to communicate directions that include specific locations quickly. Firefighters also need to clearly explain their location at all times when using a Personnel Accountability System (PAS) or providing other updates.

Location indicators use the phonetic alphabet (see Session 3-Fire Service Communications) as a standard system to identify the different parts of a building or fire scene: Alpha, Bravo, Charlie, and Delta.

NOTE: Defensive fire operations rarely use divisions as location indicators. Divisions are often used as location indicators inside buildings:

- Division 1: first floor
- Division 2: second floor (and so on)

Some departments simplify this further by referring to them as A-side, B-side, C-side, and D-side.

Exterior sides of a structure:

- Front door/roadside is called Alpha or A-side
- Moving clockwise from Alpha is Bravo or B-side
- The back side of building is Charlie or C-side
- The 4th side is Delta or D-side



11

Ways to implement PAS. Explain what your fire department uses

Four exterior sides, clockwise from A to D. Let them know they will be practising this in the skill drills. Remember, Alpha is typically on the roadside (where an apparatus may be parked), which is highly recommended.

SKILL DRILLS

• 4-1 Establishing Command

Estimated time	20-25 mins
Materials needed	- Workbooks - Pens/pencils - Personal cell phones - Optional: Whiteboard or flipchart with markers - Handheld fire radios (charged and ready) - Modify using cell phones if needed
Learning Outcome(s)	Skill Drill 4-1: Perform establishing command

Facilitation Instructions

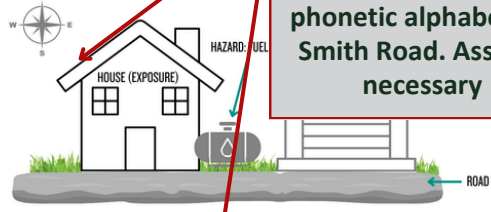
1	Tell participants to follow along in their workbook on page 13. Let them know they can use the QR code
	Tell participants to use the information in scenario to fill in the needed sections on page 14: Let them know to use the template script on page 14 to write down what they think they should say over the radio when they are establishing command using a size-up and situation report.
2	Do the drill - Use radios if you can (or telephones) - Have each participant radio you with a size-up and situation report based on what they have written on page 14. (Make sure you confirm back that what you heard is correct) - Ask them to remember to use the phonetic alphabet. <i>NOTE: It might be helpful to review their scripts on page 14 before doing the drill. Correct any inaccurate reporting by explaining why. However, it's more important for participants to practice using the radio and speaking with the correct terminology at this stage. The hands-on practice is what builds confidence and readiness.</i>
3	Ask if anyone has questions or comments before moving on. - If discussion starts, let it flow but keep on topic. - If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

SKILL DRILL 4-1

Read or listen to the following scenario and use the image to perform

Scenario

- A call comes in reporting a garage fire at 62 Smith Road. You inform dispatch that you're heading to the scene and will provide a radio update while en route.
- Upon arriving at the scene, you are first on location. The house is engulfed in flames. The house is located on the east side of the house. The occupant is trapped inside the house.
- You decide to initiate an exterior attack to protect additional support for the attack line.
- Perform Skill Drill 4-1: Establishing Command



SKILL DRILL 4-1: Establishing Command

The first firefighter to arrive at a scene must establish command to implement the command system. While this person may not be the incident commander, they must establish command until it can be transferred to another person.

1 Provide a size up report (see page 13)

- Provide command designation

2 Provide an initial situation report (see page 13)

- State the initial actions

Participants will use the scenario and illustration to fill out the template on next page. The template asks them to use location indicators to describe the fuel tank hazard and location of the house. And it asks them to use the and phonetic alphabet for Smith Road. Assist if necessary

Use the following to complete Skill Drill 4-1

SIZE-UP REPORT	
Location (use phonetic alphabet):	Identify hazards (use location indicators):
Describe fire condition:	Describe the area layout:
Establish command/provide command designation: ("Insert your name" assuming command at (insert location))	Deploy resources:
SITUATION REPORT	
State of fire:	Facts and likely developments at the scene:
Current resource situation:	Identifies of any hazardous materials (if not stated in size-up):
What progress has been made so far:	State your initial actions:

The skill drill steps ask for the greyed in boxes separately. In this case that info will be provided within the reports to make this drill more realistic

SKILL DRILLS

• 4-2 Transferring Command

Estimated time	20-25 mins
Materials needed	- Workbooks - Pens/pencils - Personal cell phones - Optional: Whiteboard or flipchart with markers - Handheld fire radios (charged and ready) - Modify using cell phones if needed
Learning Outcome(s)	Skill Drill 4-2: Perform transferring command

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 15. Let them know they can use the QR code
2	Have each participant use the scenario and image to make sense of the template script on the next page and add to it. <i>NOTE: Big hints are given in the template and in the scenario image. However, it is more important for each participant to practice transferring command at this point than to make sure they have figured out the exact right answers. The hands-on practice counts as experience and helps participants be better prepared.</i>
3	Do the drill Have each participant transfer command to you using the script they have filled out. <i>NOTE: If there are too many people they can use partners and switch with each other for this drill.</i>
4	Ask if anyone has questions or comments before moving on. - If discussion starts, let it flow but keep on topic. - If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

It might be difficult for learners to follow these steps without examples when first learning, as they may not know the terminology. Examples are provided here; the most important thing is practice at this stage.

SKILL DRILL 4-2: Transferring Command

During an emergency, the first firefighter on scene directs operations. As the situation becomes more complex, they may need to transfer command to a more experienced firefighter if necessary.

- Establish the ICS
- Follow departmental procedures for transferring command.
- Transfer command face-to-face, if possible. If not possible, transfer command over the radio.

Communicate to incoming command officer the:

- Tactical priorities
- Accomplishments
- Hazardous conditions (and potentially hazardous conditions)
- Effectiveness of operations
- Status of resources
- Need for additional resources

- Formally announce the transfer of command

Use the following to complete Skill Drill 4-2

Establish ICS structure with incoming IC:
ICU: "Currently I'm acting IC with P1 and P2 reporting to me"

INCOMING IC: "Transfer IC to me, you will be P1 and report to me, with P2 and P3 reporting to you."

Communicate the tactical priorities and action plan: Attack line to create water curtain

Communicate hazardous conditions (if potentially): Heating fuel tank

Communicate what has been accomplished and is effective: (baseline in place and ready, not yet charged with water)

Resources status, and need for anyone: (Engine, crew, baseline are all in place to accomplish the objective)

Formally announce the transfer of command over the radio:
"All units, Command is being transferred to [fire chief Name].
Fire chief [Name] is new Incident Commander."

This template assists learners to practice the transfer command skill based on the scenario given.

SKILL DRILLS

- 4-3 Perform operating within the ICS framework

Estimated time	• 15-20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Optional: Whiteboard or flipchart with markers • Handheld fire radios (charged and ready) ◦ Modify using cell phones if needed
Learning Outcome(s)	Skill Drill 4-3: Perform operating within the ICS framework

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 17. Let them know they can use the QR code
2	Have each participant use the scenario and image to make sense of the template script on the next page. <i>Note: At this point, all answers are provided so learners can practice with an understanding of what the steps in the drill are actually asking—and what the answers should sound like. This is also a good opportunity to discuss why providing these responses is necessary, based on the learning they have done in this session.</i>
3	Do the drill • Read from the list of IC radio questions/direction below. Speak as if you are IC asking these questions over the radio • Have learners respond by reading the answer that provides the required information from their books. (This can be in group format. Call on individual participants.) • Ask if they know why they are doing this (why is providing this info necessary when they are working within ICS).
4	After the drill, ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

Skill Step	Script	Reasoning
Verify ICS in Use	Facilitator: N/A • <i>Participant Response: "Command, this is Engine 1. On scene and awaiting IC direction. Over"</i>	A firefighter must verify ICS is in use to ensure a clear command structure is established, and who they report to preventing confusion and ensuring coordinated operations.
When given an assignment, repeat that information over the radio to verify it	"Command to firefighter (insert name): Provide brief safety update. Over" • <i>Participant response: "Engine 1 to Command, assessing the scene. Garage fully engulfed, house is 10 feet from Bravo side with heating tank observed facing Bravo. PPE and equipment are in good condition. Over"</i>	A firefighter must verify their assignment to ensure they understand their role and responsibilities, preventing miscommunication or delays.

Continued on next page >>

SKILL DRILLS

- 4-3 Perform operating within the ICS framework (Continued from previous page)

Skill Step	Script	Reasoning
Assess the scene, hazards, equipment, and PPE to ensure your safety	"Command to firefighter (insert name): Provide brief safety update. Over" Participant response: "Engine 1 to Command, assessing the scene. Garage fully engulfed, house is 10 feet from Bravo side with heating tank observed facing Bravo. PPE and equipment are in good condition." Over	A firefighter must assess the scene, hazards, equipment, and PPE to identify risks and ensure they can operate safely and effectively.
Account for yourself and for other team members	"Command to Firefighter (insert name): Accountability check, please. Over" Participant response: "Engine 1 to Command, accounting for all team members. All personnel are present and accounted for."	A firefighter must account for themselves and their team to ensure everyone is safe, accounted for, and operating within the incident management structure.
Update your supervising officer regularly	"Command to Firefighter (insert name): Provide your update. Over" Participant response: "Engine 1 to Command, protective water curtain established. No immediate threats to the fuel tank. Continuing to monitor."	A firefighter must provide updates to keep the IC informed of progress, hazards, ensuring effective decision-making and safety.
Provide personnel accountability reports as necessary	Facilitator: N/A Participant response: "Engine 1 to Command. FF3 down, possible leg injury, unable to continue operations. Request immediate medical support and replacement personnel. Remaining in position. Over."	A firefighter must provide a PAS report to ensure accountability, track personnel locations, and quickly identify if someone is missing or in danger.
Report completion of each assignment to your supervising officer	Facilitator: N/A Participant response: "Engine 1 to Command, assignment complete. Protective water curtain in place and holding. Awaiting further instructions. Over"	A firefighter should report the completion of each assignment to their supervising officer to ensure proper task tracking, reassignment if needed, and effective coordination within the ICS.

SKILL DRILL 4-3	
Any of the steps in Skill 4-3 could be requested at any time by your commanding officer while working within ICS. This may also need to be requested by your commanding officer at times. Practice saying the examples below out loud for this drill based on the continued scenario.	
Scenario Continued	
- After you transfer command, the new IC assigns you as main operator. You are directing FF3, the firefighter assisting with the attack line. Your assignment is to provide protection to the east side of the house and the fuel tank, while also using a water curtain to cover the flames on the west side of the garage. As soon as FF3 is ready. - Perform Skill Drill 4-3: Operating within ICS	
SKILL DRILL 4-3: Operating within ICS	
1. Verify that the IC is in use	See "Command: This is Engine 1. On scene and awaiting IC direction. Over"
2. When given an assignment, repeat that information over the radio to verify it	See "Command: Engine 1 copies. Proceeding to Bravo to establish protective water curtain around fuel tank. Over"
3. Assess the scene, hazards, equipment, and PPE to ensure your safety	See "Engine 1 to Command, assessing the scene. Garage fully engulfed, house is 10 feet from Bravo side with heating tank observed facing Bravo. PPE and equipment are in good condition. Over"
4. Account for yourself and for other team members	See "Engine 1 to Command, accounting for all team members. All personnel are present and accounted for. Over"
5. Update your supervising officer regularly	See "Engine 1 to Command, protective water curtain established. No immediate threats to fuel tank or exposure. Monitoring."
6. Provide personnel accountability reports as necessary	See "Engine 1 to Command. FF3 down, possible leg injury, unable to continue operations. Request immediate medical support and replacement personnel. Attack Team 1 remaining in position. Over"
7. Report completion of each assignment to your supervising officer	See "Engine 1 to Command, assignment complete. Protective water curtain in place and holding. Awaiting further instructions. Over"

Participant script with the answers

LEARNING DEBRIEF

Estimated time	• 20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Discuss the purpose of the Incident Command System (ICS) • Explain how and why ICS works as a modular organization • Explain ICS functions related to fire operations • Describe ICS scene and risk management tools and concepts

Facilitation Instructions

1	Ask participants to turn to page 18 in their workbook
2	Let participants know they can write down ideas in their workbooks.
3	Use Appendix 3 in this guide for helpful tips on facilitating discussions.
4	Ask participants to share stories or experiences related to this question: How does the ICS enhance the efficiency and effectiveness of fire service operations? <i>Reflect on an example from your experience or in this training.</i>
5	Ask participants to share stories or experiences related to this question: In what ways does the modular structure of ICS allow for scalability and flexibility during an incident? <i>Consider how this affects span of control.</i>
6	Ask participants to share stories or experiences related to this question: What scene and risk management tools within ICS do you consider to be most valuable? Why?

LEARNING DEBRIEF

REMEMBER

- Developing proper work habits during training in this course helps ensure safety later
- Do not attempt anything you feel is beyond your ability or knowledge
- Tell someone if you see something that you feel is an unsafe practice
- Continue to learn teamwork and practice working as a team
- A firefighter injured during training should not return until medically cleared for duty

Reflect on the following questions. Jot down notes or sketches in the spaces provided.

How does the ICS

modular structure of ICS allow for scalability and flexibility during an incident? Consider how this affects span of control.

What scene and risk management tools within ICS do you consider to be most valuable? Why?

Participants can use the spaces provided to write or sketch out their thoughts.

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AFTER THE SESSION

- Ask participants for feedback about the session. If they enjoyed it, encourage them to share with others if you are trying to increase participation in your department.
- If participants mention anything they didn't enjoy or found too difficult, try to adjust the training in the future. Also, let your MACA regional AFM know about their feedback.
- Fill out the attendance sheet (Appendix 4).
- Share details about the next training session, if possible.
- Encourage participants by telling them they did a great job if they were engaged and participated.
- Give yourself credit as the trainer—you did a great job too!

Consider reflecting on your job as a facilitator:

What went well and why?	
What areas can you improve on and how?	
Do you have questions to ask your regional MACA-CGLD Learning and Development Advisor?	

SESSION 5

FIRE BEHAVIOUR

AND FIRE EXTINGUISHERS



Session Overview

This session is designed to help defensive firefighters learn how fires start, grow, and spread, and show them how to choose and safely use the right type of fire extinguisher to put out small fires in the early stages.

Learning Outcomes

After this training session, learners should be able to:

- Identify the three properties needed for fire
- Identify three types of energy that create heat
- Describe the chain reaction that keeps fire going
- Identify three kinds of heat transfer
- Describe the four stages of fire
- Identify when and why to use fire extinguishers
- List extinguisher ratings, components, and maintenance requirements
- Explain the purpose of four suppression agents
- Skill Drill 5-1: Perform extinguishing a Class A or B fire

Session Time

The estimated time for this training session is: **3-3.5 hours**

Session Materials

- Facilitation guide
- Student workbook (Session 5)
- Pens/pencils
- Personal cell phones (needed for scenario activity)
- Timer for discussions or rotations
- Speaker (for QR-code audio)
- Burn barrel or shallow metal tray (e.g., oil drain pan or BBQ drip pan)
- Multiple Class A, B, or C fire extinguishers (10-lb minimum) — at least one per 2–3 participants for efficient practice
- Wood, paper, or other safe combustible material for controlled fire
- Water source (hose, bucket, or backup extinguisher for safety)
- Protective gear for all participants (gloves, helmet, safety goggles, fire-resistant clothing, boots — all must be worn)
- BBQ lighter or propane torch (for ignition)
- Water (for extinguishing and cleanup)
- Cleaning cloths
- Trash bags
- Broom or rake (for cleaning debris)
- Shovel or metal rake – for overhauling fire (stir and spread out remaining material to expose hidden embers)
- Designated nonflammable disposal container or metal bucket for cooled ash

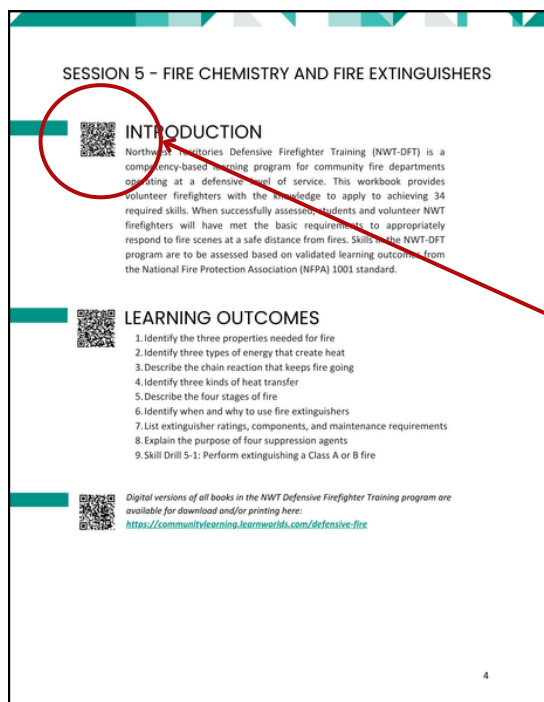
Note: Make sure fire extinguisher signs have been photocopied from APPENDIX 7 - Fire Extinguisher Signs, and posted in your learning space for the activity in p. 82 of this guide

INTRODUCE THE SESSION

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones

Facilitation Instructions

1	Start by telling participants what this module is about “In this session, you’ll learn about fire behaviour and safety, including the properties needed for fire, types of energy that create heat, the chain reaction of fire, heat transfer methods, and the stages of fire. You will also learn the safe and effective use of fire extinguishers.”
2	Tell participants to follow along in their workbook on page 4: Let them know they can use the QR code
3	Go over learning outcomes: After this session, you should be able to: • Identify the three properties needed for fire • Identify three types of energy that create heat • Describe the chain reaction that keeps fire going • Identify three kinds of heat transfer • Describe the four stages of fire • Identify when and why to use fire extinguishers • List extinguisher ratings, components, and maintenance requirements • Explain the purpose of four suppression agents • Skill Drill 5-1: Perform extinguishing a Class A or B fire



Scan for audio narration

WHAT MAKES FIRE

Estimated time	• 20-25 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Identify the three properties needed for fire • Identify three types of energy that create heat

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 5: Let them know they can use the QR code
2	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



WHAT MAKES FIRE

When firefighters understand fire behaviour, they can fight fires more effectively and anticipate changing conditions. A fire needs three things to start: fuel, oxygen, and heat. These elements make up the fire triangle.



Fire triangle properties

Fuel

All matter (solid, liquid, gas) can be fuel for fire:

- Wood from trees in a wildland fire (solid)
- Gasoline in a vehicle fire (liquid)
- Propane in a barbeque fire (gas)

Some fuels are less combustible than others. They can still burn but need more heat. For example, lighting a piece of paper with a match is easy, but trying to light a rock on fire is much harder. Rocks can burn with enough heat (like lava), but you can't start most rocks on fire with a match. It's important for firefighters to know what kinds of fuel are in the environment when fighting a fire.

Oxygen

Combustion needs oxygen. When we cover a candle with a glass, the flame goes out because the oxygen is removed. Some chemical reactions provide oxygen to fires by reacting with fuels when heated. They can be very dangerous. Materials like potassium nitrate, ammonium perchlorate, or hydrogen peroxide can be very destructive, even explosive. They are often controlled by removing the oxygen (see *Chemical Fire Causes Massive Explosion*, p. 6).

Heat

For ignition to occur, an initial heat source is needed. The heat source raises the fuel's temperature to its ignition point. For example, when you use a match to light a piece of paper, the heat from the match flame raises the paper's temperature to its ignition point. However, since most rocks are less combustible, the same match may not provide enough heat to raise the rock's temperature high enough for the rock to meet its ignition point.

COMMON HOUSE FIRE FUEL SOURCES

- Wood and Paper: Found in furniture, structural components, and other paper or wood products
- Plastics and Synthetic Materials: Used in furnishings, electronics, and building materials
- Fabrics: Such as curtains, upholstery, and clothing
- Combustible Liquids: Including gasoline, kerosene, alcohols, and oils
- Electrical Wiring and Insulation: Faulty wiring or damaged insulation can ignite
- Gas Lines: Leaks from gas lines can lead to fires



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WHAT MAKES FIRE

Facilitation Instructions (Continued from previous page)

3	Tell participants to follow along in their workbook on page 6: Let them know they can use the QR code
4	Discussion • Use the question in the workbook: How does sand/foam affect the fire triangle? Use the background information provided to help the discussion along. • Let it flow but keep it on topic. • Try not to go over the allotted time. • See Appendix 3 in this facilitator's guide for more information about facilitating discussions.

Background - Chemical Fires

Suppression

Sand and foam work well on chemical fires because they remove key elements that keep the fire burning:

- Sand smothers the fire by cutting off oxygen.
- Foam blocks oxygen or stops the chemical reaction that feeds the fire.

Hazards

Chemical fires are dangerous because they can release toxic fumes or explode. Always use the right suppression method for the type of chemical involved.

Explosions

Some chemical fires, like the Perth warehouse fire, explode when rapid reactions produce large amounts of gas and pressure.

Oxygen and Reactions

Certain chemicals (such as nitrates, chlorates, and peroxides) release oxygen as they burn, allowing the fire to feed itself. These exothermic reactions produce heat and oxidizing gases, creating a self-sustaining cycle that makes chemical fires especially hard to control.

Question: How does sand or foam effect fire triange. Use the provided discussion material. Try to keep it under 15 mins.

WHAT MAKES FIRE

CHEMICAL FIRE CAUSES MASSIVE EXPLOSION

In 2023, A massive fire that engulfed a chemical warehouse in Perth (Australia) triggered an explosion so fierce it could be felt by residents living more than 35 km away. The fire broke out in a chemical factory at about 7:45 pm. The warehouse specialized in chemical blending, which likely involved various industrial chemicals. Fire crews battled the blaze for around an hour before the massive blast was triggered by a chemical reaction causing total loss of the property. Fire crews used sand and foam in an effort to extinguish the blaze, which burned for about 12 hours.

How does sand/foam affect the fire triangle?

Ignition point and heat energy

Fire needs energy to start because it requires a temperature of the fuel to its ignition point. This energy is needed to break the chemical bonds in the fuel, allowing it to react with oxygen and release heat.

Mechanical Energy	Mechanical energy ignites a fire by converting to heat through friction, like using a bow drill to start a campfire. This heat helps maintain the temperature needed for the fire to start. The burning fire then creates its own heat (chemical energy), if there is also enough fuel and oxygen to keep it going.	
Electrical Energy	Electrical energy produces heat when it encounters resistance, like in an overloaded circuit. This heat helps maintain the temperature needed for the fire to start. The burning fire then creates its own heat (chemical energy), if there is also enough fuel and oxygen to keep it going.	
Light (thermal) Energy	Light energy produces heat when absorbed by fuel. This is how a magnifying glass can focus sunlight to create heat. This heat helps maintain the temperature needed for the fire to start. The burning fire then creates its own heat (chemical energy), if there is also enough fuel and oxygen to keep it going.	

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Try to make it clear that these types of energy are different than the CHEMICAL energy that is part of the fire's chain reaction, talked about more on next page. And different than the chemical fire discussed.

FIRE TRIANGLE SCENARIOS

Estimated time	• 30-35 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Identify the three properties needed for fire • Identify three types of energy that create heat

Facilitation Instructions

1	Give participants about 20 minutes to do the Fire Triangle Scenarios activity on page 7. Let them know they can use the QR codes to also see short videos for this activity
2	Take up the answers. If students come up with different answers they may still be correct, discuss other answers and make a group determination on whether or not it is also correct or not.

A bush fire started on an extremely hot day in dry conditions. It was not human-caused nor was it caused by lightning.

- Fuel: Dry Vegetation
- Oxygen: Ambient Surrounding Air
- Heat: Extreme ambient temperature.

A woman was making popcorn in her microwave. She sat down to watch TV and a few minutes later notices a burning smell. Her popcorn was on fire.

- Fuel: Popcorn Kernels, Oil
- Oxygen: Ambient Surrounding Air
- Heat: Microwave Radiation

A family went to visit their cousins in the winter and left their home with the woodstove going. When they returned they saw flames shooting out their chimney.

- Fuel: Creosote accumulated on the inner walls of the chimney.
- Oxygen: Ambient Surrounding Air
- Heat: Woodstove

A teenager had only one electrical wall outlet in her room. She had an extension cord connected to it that was damaged. One day while blow drying her hair she saw that the extension cord was on fire.

- Fuel: Electrical Wiring and Insulation
- Oxygen: Ambient Surrounding Air
- Heat: Electrical resistance

A man had been having some recent car trouble with his engine overheating. One day he was driving his car down the road when it stopped. The engine was smoking and when he popped the hood flames started shooting out.

- Fuel: Engine Oil, Coolant and Plastic and Rubber Components
- Oxygen: Ambient Surrounding Air and opening the hood allows more oxygen to enter the engine compartment.
- Heat: Overheating engine

FIRE TRIANGLE SCENARIOS

Read or listen to the following scenarios and write down your answers:

- Determine the main source of fuel.
- Determine the most likely heat source that causes the fuel to reach its ignition point.
- Determine where the fire is getting its oxygen from to burn.

A bush fire started on an extremely hot day in windy, dry conditions. The fire was not human-caused nor was it caused by lightning.		
Fuel:	Heat:	Oxygen:
A woman was making popcorn in her microwave. She sat down to watch TV and a few minutes later notices a fire inside microwave.		
Fuel:	Heat:	Oxygen:
A family went to visit their cousins in the winter and left their home with the woodstove going. When they returned, they saw flames shooting out their chimney.		
Fuel:	Heat:	Oxygen:
A teenager had only one electrical wall outlet in her room. She had an extension cord connected to it that was damaged. One day while blow drying her hair, she saw that the extension cable was on fire.		
Fuel:	Heat:	Oxygen:
A man had been having some recent car trouble with his engine overheating. One day he was driving his car down the road when it stopped. The engine was smoking, and when he popped the hood flames started shooting out.		
Fuel:	Heat:	Oxygen:

CONTINUOUS CHAIN REACTION

Estimated time	• 10-15 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Describe the chain reaction that keeps fire going

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 8: Let them know they can use the QR code
2	Emphasize Key Points • Once a fire has started it uses chemical energy to sustain itself. • The chemistry involved creates the fire behaviours noted in the TERMS sidebar • The main point is to know that because of this chemical chain reaction, fire behaviours such as those noted in the TERMS sidebar can also take place. • Stopping the reaction means removing one of the big three – fuel, oxygen or heat. There will be more on this later in the session.
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

Continuous reaction that creates chemical energy once a fire ignites

Examples of fire behaviours

CONTINUOUS CHAIN REACTION

Combustion is a chemical reaction between fuel and oxygen that produces heat and light. This reaction releases a new kind of energy - chemical energy - that generates more heat. The heat keeps the temperature high enough for the fuel and oxygen to keep reacting in this chain reaction.

Chemical energy

Combustion releases chemical energy that sustains a fire. It's the energy stored in the bonds between atoms and molecules. During combustion, this energy is released when fuel reacts with oxygen. Once a fire is ignited, this chemical reaction becomes the fourth part of the fire triangle, turning it into a fire tetrahedron (three-dimensional triangle).

Pyrolysis

The process of breaking down materials using heat without oxygen. For example, when wood is heated it breaks down into gases, liquids, and char. In firefighting, the gases can ignite and cause the fire to spread rapidly. Firefighters may add water to cool the materials to prevent further pyrolysis and gas production.

Oxidation

The process of burning fuel reacting with oxygen in the air, producing heat and light. Firefighters aim to disrupt the oxidation process by removing one of the fire's essential components—fuel, oxygen, or heat—to extinguish the fire.

Thermal Layering

Refers to the formation of layers of different temperatures in a burning building. Hot gases rise to the ceiling, creating a hot upper layer, while cooler air stays near the floor, forming a cooler lower layer. Thermal layering can be disrupted by cooling the hot gas layer with water.

Smoke Colour

The colour of smoke can indicate what is burning. For example, black smoke often means burning synthetic materials (usually thick and toxic). White smoke usually indicates burning wood or paper. Grey smoke can indicate a mixture of materials burning, often seen in structure fires where various items are involved.

Disrupting the reaction

Fire suppression involves stopping a fire by removing one of its three essential components: fuel, oxygen, or heat. Removing one of these disrupts the chemical reaction that keeps the fire burning. For example, pouring water on a campfire cools it, removing heat. Placing a lid on a burning pan cuts off oxygen. Fire extinguishers use agents (chemicals, foam, etc.) to remove one of the three components, disrupting the reaction.

Feeds into fire suppression later on in the session.

HOW FIRE SPREADS

Estimated time	• 10-15 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Identify three kinds of heat transfer

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 9: Let them know they can use the QR code
2	Emphasize Key Points • How a fire spreads inside the structure gives defensive firefighters a sense of how to attack it from the outside. • Learners understand better when they can connect new ideas to their own experiences. Encourage participants to think about times when they've noticed similar situations to the examples. Then apply to heat transfer in building fires.
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

HOW FIRE SPREADS

We now know how a fire starts - when enough oxygen is present and a fuel source's temperature rises to its ignition point. We also know that for a fire to be sustained, combustion must take place during a continuous chain reaction using chemical energy. To better understand fire behaviour, it is important to also know how a fire spreads using heat transfer.

Heat Transfer

Convection

The transfer of heat by the movement of a gas or liquid from hotter areas to cooler areas. In a structure fire, hot air rises to the ceiling, causing heat to spread throughout the area.

EXAMPLE: The air in a cabin's attic or loft is much warmer on a summer day; as the air in the cabin warms up, it rises and creates a convection current.

Radiation

The transfer of heat in the form of invisible electromagnetic waves. The radiant heat from a fire can cause highly combustible materials to ignite without direct contact.

EXAMPLE: Feeling the warmth of the sun on your skin. The heat is transferred from the sun to you through radiation, even though the air around you might be cool.

Conduction

The transfer of heat between solid objects that are in direct contact with each other. Heat transfers from the warmer object to the cooler object. Conduction can cause heat to travel along hot metal materials in a building and ignite combustible materials in another part of the building.

EXAMPLE: When you touch a metal spoon that has been sitting in a hot pot of soup, the heat from the soup is transferred to the spoon and then to your hand.

Examples in a structure fire

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Real world examples participants can use for better understanding

STAGES OF FIRE

Estimated time	• 20-25 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Describe the four stages of fire

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 10: Let them know they can use the QR code
2	Emphasize Key Points • The main idea here is to grasp how a fire behaves at different stages. • The terms below describe the key dangers during these phases. Consider the case studies below for discussion.
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

CASE STUDIES

Flashover

On June 2, 1983, the Air Canada McDonnell Douglas DC-9-32 operating the service developed an in-flight fire in air around the rear lavatory that spread between the outer skin and the inner decor panels, filling the plane with toxic smoke. The spreading fire also burned through crucial electrical cables that disabled most of the instrumentation in the cockpit, forcing the plane to divert to Cincinnati/Northern Kentucky International Airport. Ninety seconds after the plane landed and the doors were opened, the heat of the fire and fresh oxygen from the open exit doors created flashover conditions, and the plane's interior immediately became engulfed in flames, killing 23 passengers—half of the people on board—who were unable to evacuate the aircraft.

Backdraft

On March 28, 1994, the Fire Department of New York responded to a fire at an apartment on Watts Street. When firefighters forced open the apartment door, a backdraft occurred, resulting in a blowtorch-like flame that extended up the staircase, tragically killing three firefighters

Smoke explosion

In 2013, firefighters responded to a fire in a commercial building in Houston. The fire had been burning for some time, producing a significant amount of smoke and unburnt gases. As firefighters attempted to ventilate the building and locate the fire, a sudden explosion occurred. This explosion caused extensive structural damage and resulted in injuries to several firefighters.

STAGES OF FIRE



STAGES OF FIRE

Fires go through different stages, each with their own behaviours and ways of spreading heat. By understanding fire behaviour during different fire stages, you can be better prepared.

Incipient Stage	This is the initial stage where the fire has just ignited and is small, with minimal heat, smoke, and flames.	
Growth stage	The fire starts to spread and intensify as it finds more fuel and oxygen, becoming more dangerous. This stage sees the fire spreading to nearby combustible materials by heat transfer.	
Fully developed stage	At some point during fire growth everything that can burn is burning. The fire reaches its peak intensity, consuming all available fuel and oxygen, making it extremely hazardous. All modes of heat transfer are usually being used. Temperatures are at their peak.	
Decay stage	The fire begins to diminish as it runs out of fuel or oxygen, but it can still reignite if conditions are right. You could point out these dangers of the decay phase specifically. Firefighters must understand there are still extreme dangers once a fire appears to be almost out	



FLASHOVER: Can occur if heat becomes so intense that all combustible materials ignite simultaneously. Nearly instant transition from growth to fully developed stage.

BACKDRAFT: Happens when a fire uses up most of the oxygen in a space causing it to smolder. When air is re-introduced, there is still enough heat and fuel to cause the fire to reignite explosively. Most often happens during decay phase.

SMOKE EXPLOSION/FIRE GAS IGNITION: Occurs when unburned combustible gases (produced by a fire) accumulate in closed in space and then mix with air, leading to an explosive ignition when they encounter a heat source. Most often happens during growth or decay phases.

EXTINGUISHING FIRE

Estimated time	• 35-45 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand) • Fire extinguisher(s)
Learning Outcomes	• Identify when and why to use fire extinguishers • List extinguisher ratings, components, and maintenance requirements • Explain the purpose of four suppression agents

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 11: Let them know they can use the QR code
2	Emphasize Key Points • Let firefighters know that the next session will cover fire attacks using water and hose lines. For now, this session focuses on using fire extinguishers, an important skill that also helps them understand how to stop the chemical reaction that keeps a fire burning. • Using fire extinguishers depends on what kind of fire you are dealing with and what stage it is in.
3	Activity • Pass around some fire extinguishers and practice reading the labels to determine volume and fire class uses.
4	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

Stress how dangerous it could be to try and use extinguishers during any other stages than the incipient stage.

Let participants know they can refer to this table for upcoming activity (looking over fire extinguishers)



EXTINGUISHING FIRE

Common types of fire suppression systems include water-based systems, which cool and smother flames, taking away heat and oxygen. Gas-based systems deprive fires of oxygen. Chemical-based systems interrupt the chain chemical reaction of fires. Defensive firefighters use these methods to attack fires from a safe distance.

When to use fire extinguishers

Fire Stages
Fire extinguishers work best in the incipient stage, which is right after a fire starts. At this point, the fire is small, and there are minimal heat, smoke, and flames. Using a fire extinguisher during the growth stage is less effective and can be risky. It's never safe to use a fire extinguisher during the fully developed or decay stages.

Chemical Agents
Fire extinguishers often use chemical agents, especially when water isn't suitable:

- Electrical: Water can increase electrocution risk.
- Flammable liquids: Water can spread the fire.



Classifications and ratings

CLASS OF FIRE	TYPE OF FIRE	APPROVED FIRE EXTINGUISHER
A Ordinary combustibles	Wood, paper, cloth	Type A Type A-B
B Flammable liquids	Gasoline, paints, oils, grease	Type A-B Type B-C Type A-B-C
C Live electrical equipment	Electrical wiring, fuse box	Type B-C Type A-B-C
D Combustible metal	Metals	*Bucket of sand
K Commercial cooking equipment	Commercial cooking oil appliances	*Wet chemical

Fire extinguishers have specific ratings that identify the type or class of fires where they should be used:

- N
- e
- v
- (U)
- Le
- of
- ag

Do not extinguish Class D or K fires. These types of fires carry risks that typical fire extinguisher training does not cover.

Make sure firefighters know this.

EXTINGUISHING FIRE

Facilitation Instructions (Continued from previous page)

5	Tell participants to follow along in their workbook on page 12: Let them know they can use the QR code
6	Activity: Choose the correct fire extinguisher • Print the fire extinguisher labels from Appendix 7: Fire Extinguisher Signs in this facilitator guide (do this before the session to have them ready). • Post each fire extinguisher type on walls in different areas of your space (do this before the session to have it ready) • Ask students to get up and walk to the number of the fire extinguisher they would use for the following fires (read from the list below). Tell them to refer to the table under classification and ratings in their books on page 11. • Use the Fire Scenarios below to help you to explain the correct answers.

Fire Scenarios

Trash can fire: **1 or 3**

Why? Trash can fires often involve a variety of combustible materials, including paper, cardboard, wood, and sometimes flammable liquids. Therefore, the appropriate type of fire extinguisher for a dumpster fire would typically be a Class A-B-C multipurpose fire extinguisher.

Grease fire: **NONE!**

Why? None of these fire extinguishers are used for Class K fires. This is a trick question: Don't do it. Not trained. Find someone who has the proper training. Class K Extinguishers work on the principle of saponification. Saponification takes place when alkaline mixtures such as potassium acetate, potassium citrate, or potassium carbonate are applied to burning cooking oil or fat.

Engine Fire: **2**

Why? Class B-C extinguishers are designed to combat fires involving flammable liquids such as gasoline, diesel, oil, and grease. Also designed for fires involving energized electrical equipment, which can be a factor in vehicle fires due to the presence of electrical systems in the engine compartment.

Grass Fire: **5**

Why? The most common type of extinguisher used for grass and brush fires is a water-based extinguisher. These extinguishers use water to cool the fuel and extinguish the flames. **It is important to consider the size of the fire. In this case the larger water extinguisher would be more accurate to use instead of option 5.**

Electrical Outlet Fire: **1, 2 or 3**

Class C fires (fires involving energized electrical equipment).

Shed Fire (unknown contents): **4**

Same rationale as dumpster fires, except a shed is much larger so the best response here would be option 4 with a 20 pound fire extinguisher



EXTINGUISHING FIRE

Suppression agents

Suppression agents are what make up contents inside fire extinguishers. These are the most common:

DRY CHEMICAL	The most common fire extinguishers, often used for Class A, B and C fires. Discharge a blanket of fine powder designed to coat fuel and smother the fire, breaking the chemical chain reaction between fuel and oxygen.
CLASS B FOAM	Discharge a solution of water and a synthetic or protein foam. They may also be effective for Class A fires.
Carbon Dioxide (CO2)	Uses pressurized CO2 for Class B and C fires. CO2 smothers the fuel and interrupts the chemical reaction by removing oxygen.
WATER	Used for Class A fires to cool the fuel source and/or remove heat.



A Ordinary combustibles



B Flammable liquids



C Live electrical equipment

Other kinds of fire extinguishers include:

- Water-mist extinguishers that contain distilled or de-ionized water that conducts less electricity.
- Wetting-agent extinguishers contain a solution to reduce surface tension so water spreads over the fire and penetrates more efficiently into Class A or B fuels.
- Halogen-agent extinguishers use liquefied gases (halogens: fluorine, bromine, iodine, and chlorine) that do not leave residue on electronics.

Fire departments typically store fire extinguishers in strategic locations:

- Fire Trucks
- Fire Stations
- Training Areas
- Utility Rooms



12

EXTINGUISHING FIRE

Facilitation Instructions (Continued from previous page)

- 7 **Tell participants to look at their workbook on page 13:**
Let participants know they can refer to the fire extinguisher diagram for the upcoming skill drill
- 6 **Ask if anyone has questions or comments before moving on.**
 - If discussion starts, let it flow but keep on topic.
 - If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

EXTINGUISHING FIRE

Fire extinguisher components

Locking mechanism: Stiff pin to lock against accidental discharge, designed for quick release

Pressure indicator: Usually needle gauge that monitors for sufficient pressure. Ensure the needle is in the green zone, indicating the extinguisher is fully charged and ready for use

Carrying handle: To hold while in use or being moved

Cylinder: Holds the extinguishing agent (water, CO₂ or dry chemical)

Nozzle or horn: Where extinguishing agent is released

Participants can refer to this diagram for the upcoming skill drill

Make sure the fire extinguisher(s) you are using have the required service tag and point this out to participants

Care and maintenance

Ensure your fire department has procedures for the care and maintenance of the types of fire extinguishers you carry. Procedures should also follow the manufacturer's care and maintenance recommendations.

- Proper training is required before use
- Keep records of scheduled inspection and maintenance
- Use service tag with date of the last inspection, inspector's initials, and maintenance performed

13

SKILL DRILLS

Estimated time	• 45 mins - 1 hour
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions or rotations (optional but helpful) • Burn barrel or shallow metal tray (e.g., oil drain pan or BBQ drip pan) • Multiple Class A, B, or C fire extinguishers (10-lb minimum) — at least one per 2–3 participants for efficient practice • Wood, paper, or other safe combustible material for controlled fire • Water source (hose, bucket, or backup extinguisher for safety) • Protective gear for all participants (gloves, helmet, safety goggles, fire-resistant clothing, boots — all must be worn) • BBQ lighter or propane torch (for ignition) • Water (for extinguishing and cleanup) • Cleaning cloths • Trash bags • Broom or rake (for cleaning debris) • Shovel or metal rake – for overhauling fire (stir and spread out remaining material to expose hidden embers) • Designated nonflammable disposal container or metal bucket for cooled ash
Learning Outcomes	• Skill Drill 5-1: Practice extinguishing a Class A or B fire

Facilitation Instructions

Set-up

Select a Safe Outdoor Location

- Choose an open area, away from buildings, vehicles, and flammable materials.
- Ensure the ground is stable and free of trip hazards.

Prepare the burn barrel or pan:

- Place a small amount of wood, paper, or other approved material in the tray (consider having several for more efficient re-igniting if you have a large number of trainees)

1	Tell participants to follow along in their workbook on page 13: • Let them know they can use the QR code • Have each participant answer the questions in the book to ensure the scene size-up portion of the drill is completed. • Ask if there are any questions before showing them the drill
2	Ignite the fire in the tray using appropriate combustible materials and lighter
3	Show the drill yourself Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. • Make sure to have escape route planned for this particular drill (not scenario)
4	Dispose of fuel and chemical extinguishing agent • Small amounts: Scatter over soil or mix into compost (wood/paper ash is safe in moderation; dilute it with water to prevent dust inhalation). • Large amounts: Sweep, bag and dispose of in a designated ash disposal site or landfill. • Wipe down tray with a damp cloth to remove powder residue. • 🔥 Never dump hot ashes or extinguishing agents into trash bins. • 🔥 Always follow local waste disposal regulations
5	DO • Have each participant practice the drill. • Watch to ensure ALL steps done correctly. Correct if necessary. • Repeat steps to dispose of fuel and chemical extinguishing agent as necessary for all participants to practice the drill
6	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

SKILL DRILLS



SKILL DRILLS

Scenario

You arrive at a small fire at the town dump. It is burning cardboard and wood, but other materials may be involved. The flames are small with minimal smoke, and there are no apparent hazardous materials within 20 feet. The fire truck arrives with a 5-pound multi-purpose dry chemical fire extinguisher.

Is a multipurpose dry-chemical fire extinguisher safe and effective for this fire?

☐ YES ☐ NO

Is the fire extinguisher large enough to be safe and effective?

☐ YES ☐ NO

Are you wearing the required PPE?

☐ YES ☐ NO

Determine an exit route from the fire using this map:



Tell participants to refer to p. 12. This is in reference to the fire extinguisher you have for the drill. An all-purpose Class A, B, or C fire extinguisher is the correct extinguisher type – answer is yes.

Look at the volume on your fire extinguisher. Must have minimum 10- or 20-pound ABC extinguisher for this drill based on the scenario.



SKILL DRILL 5-1: Extinguish a Class A or B fire with a multipurpose dry-chemical fire extinguisher

1	Scene size-up:
	- Determine whether a multipurpose dry-chemical fire extinguisher is safe and effective for this fire - Ensure the fire extinguisher is large enough to be safe and effective - Ensure your safety: Wear the appropriate PPE; have an exit route from the fire; do not turn your back on a fire
	2 Remove fire extinguisher hose and nozzle
3	Quickly check pressure gauge to verify that the fire extinguisher is adequately charged
4	Position yourself
	Depending on the size of the fire and fire extinguisher, you must be within 5 to 45 ft (2 to 14 m) away from the fire to be effective
5	Implement the PASS technique:
	- P-Pull the pin to release the fire extinguisher control valve - A-Aim the nozzle at the base of the fire - S-Squeeze the handle to discharge the agent - S-Sweep the nozzle from side to side at the base of the fire
	6 Overhaul the fire
	Take steps to prevent rekindling: break apart tightly packed fuel

Protective gear (gloves, helmet, safety goggles, fire-resistant clothing, boots) per participant

LEARNING DEBRIEF

Estimated time	• 20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Identify the three properties needed for fire • Describe the chain reaction that keeps fire going • Describe the four stages of fire • Identify when and why to use fire extinguishers • Explain the purpose of four suppression agents

Facilitation Instructions

1	Ask participants to turn to page 16 in their workbook
2	Let participants know they can write down ideas in their workbooks.
3	Use Appendix 3 in this guide for helpful tips on facilitating discussions.
4	Ask participants to share stories or experiences related to this question: How does knowing about fire properties and how they ignite help you as a firefighter? <i>Reflect on the fire triangle and what happens if one property is removed.</i>
5	Ask participants to share stories or experiences related to this question: Why does it matter how a fire behaves on the inside of a structure if you are working as a defensive firefighter? <i>Consider how stages of fire may play a role.</i>
6	Ask participants to share stories or experiences related to this question: How do different fire extinguisher agents affect fire properties and the chain reaction that keeps fire going?

LEARNING DEBRIEF

REMEMBER

- Developing proper work habits during training in this course helps ensure safety later
- Do not attempt anything you feel is beyond your ability or knowledge
- Tell someone if you see something that you feel is an unsafe practice
- Continue to learn teamwork and practice working as a team
- A firefighter injured during training should not return until medically cleared for duty

Reflect on the following questions. Jot down notes or sketches in the spaces provided.

How does knowing about fire properties and how they ignite help you as a firefighter?
 Reflect on the fire triangle and what happens if one property is removed.

Why does it matter how a fire behaves on the inside of a structure if you are working as a defensive firefighter?
 Consider how stages of fire may play a role.

How do different fire extinguisher agents affect fire properties and the chain reaction that keeps fire going?

16

Participants can use the spaces provided to write or sketch out their thoughts.

AFTER THE SESSION

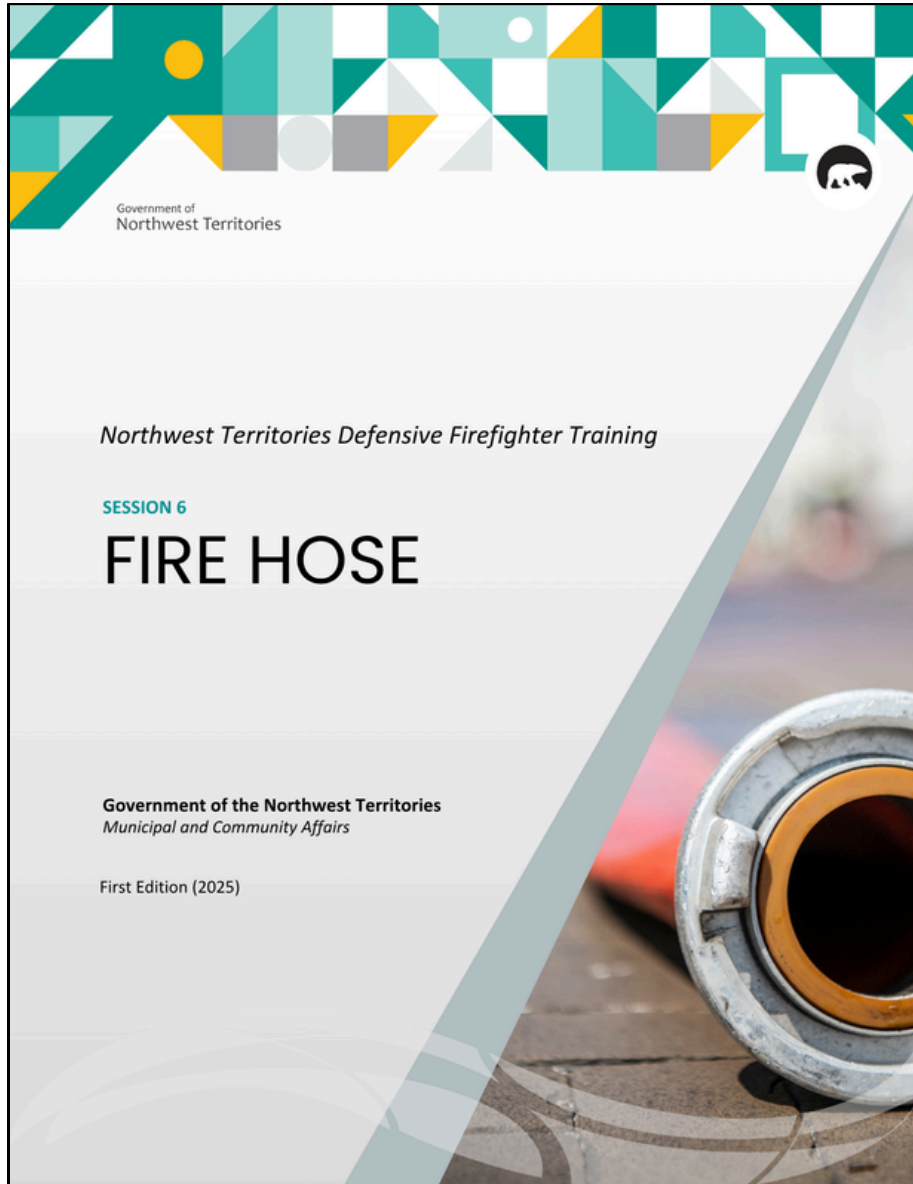
- Ask participants for feedback about the session. If they enjoyed it, encourage them to share with others if you are trying to increase participation in your department.
- If participants mention anything they didn't enjoy or found too difficult, try to adjust the training in the future. Also, let your MACA regional AFM know about their feedback.
- Fill out the attendance sheet (Appendix 4).
- Share details about the next training session, if possible.
- Encourage participants by telling them they did a great job if they were engaged and participated.
- Give yourself credit as the trainer—you did a great job too!

Consider reflecting on your job as a facilitator:

What went well and why?	
What areas can you improve on and how?	
Do you have questions to ask your regional MACA-CGLD Learning and Development Advisor?	

SESSION 6

FIRE HOSE



Session Overview

This session helps firefighters learn how to use, care for, and inspect fire hoses. They will practice setting up supply and attack lines; rolling, loading, and laying hoses; and learn how to advance and extend attack lines safely during fire operations.

Learning Outcomes

After this training session, learners should be able to:

- Explain the purpose of supply and attack lines
- Explain common techniques for hose rolls, hose loads and hose lays
- Explain common techniques to advance an attack line
- Explain how to extend an attack line
- List the common types of couplings
- List the common hose appliances
- List two types of hose nozzles
- Explain fire hose care and maintenance
- Skill Drill 6-1: Perform a one-firefighter foot-tilt method of coupling a fire hose
- Skill Drill 6-2: Perform uncoupling a hose with a spanner wrench
- Skill Drill 6-3: Perform replacing the swivel gasket on a fire hose
- Skill Drill 6-4: Perform a straight hose roll
- Skill Drill 6-5: Perform a single-doughnut hose roll
- Skill Drill 6-6: Perform a preconnected flat hose load
- Skill Drill 6-7: Perform advancing a preconnected flat hose load
- Skill Drill 6-8: Perform cleaning and maintaining hose

Session Time

The estimated time for this training session is: **2.5-3 hours**

Session Materials

- Facilitation guide with attendance record
- Student workbook (Session 6)
- Personal cell phones to hear audio (or a speaker set up for group playback)
- Pens/pencils for each participant
- Timer for discussions
- Speaker (for QR-code audio)
- Optional: Whiteboard or flipchart with markers
- Fire truck (pumper) — for connecting and testing hose lines
- Hose sections (multiple lengths, both supply and attack hose)
- Hose with couplings (male and female ends)
- Spanner wrenches (at least one per pair of participants)
- Replacement swivel gaskets
- Hose clamps/straps (for securing hose during drills)
- Hose nozzles (smooth bore and fog types)
- Buckets or water supply for hose testing and cleaning
- Mild detergent and scrub brushes
- Hose tags and marking tools (for identification and maintenance records)
- Drying rack or clean area for hose drying
- PPE for all participants (gloves, helmet, safety goggles, fire-resistant clothing, boots)

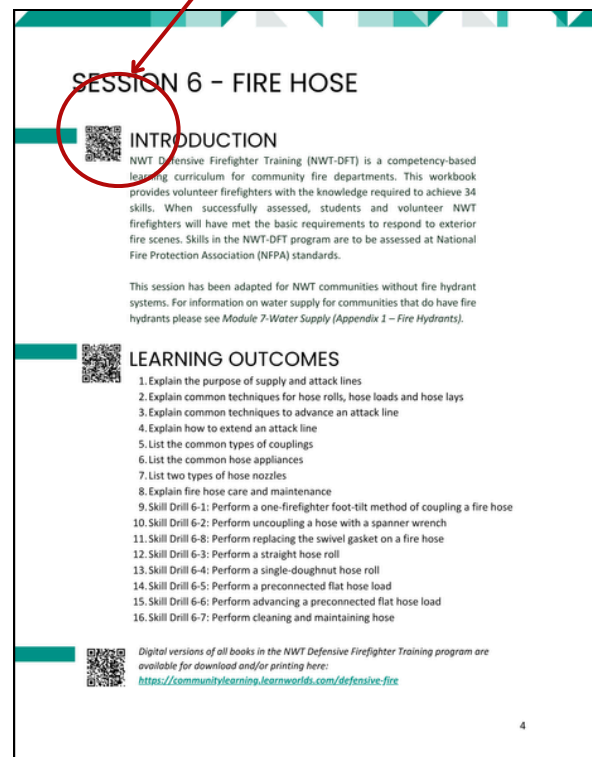
INTRODUCE THE SESSION

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones

Facilitation Instructions

1	Start by telling participants what this session is about “In this session, you will learn how to use and take care of fire hoses. You will practice setting up supply and attack lines, rolling, loading, and laying hoses, and safely moving and extending attack lines during a fire.”
2	Tell participants to follow along in their workbook on page 4: Let them know they can use the QR code
3	Go over learning outcomes: After this session, you should be able to: • Explain the purpose of supply and attack lines • Explain common techniques for hose rolls, hose loads and hose lays • Explain common techniques to advance an attack line • Explain how to extend an attack line • List the common types of couplings • List the common hose appliances • List two types of hose nozzles • Explain fire hose care and maintenance • Skill Drill 6-1: Perform a one-firefighter foot-tilt method of coupling a fire hose • Skill Drill 6-2: Perform uncoupling a hose with a spanner wrench • Skill Drill 6-3: Perform replacing the swivel gasket on a fire hose • Skill Drill 6-4: Perform a straight hose roll • Skill Drill 6-5: Perform a single-doughnut hose roll • Skill Drill 6-6: Perform a preconnected flat hose load • Skill Drill 6-7: Perform advancing a preconnected flat hose load • Skill Drill 6-8: Perform cleaning and maintaining hose

Scan for audio narration



FIRE HOSE OVERVIEW

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	Explain the purpose of supply and attack lines

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 5: Let them know they can use the QR code
2	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



FIRE HOSE OVERVIEW

Firefighters use fire hose for two main purposes - as supply hose and attack hose. These hoses work together. The supply hose brings water from a water source to a pump. The pump makes sure there is enough water and pressure. Then the attack hose carries the water to the fire.



Supply Hose

Supply hoses bring water to the fire truck or another pump. They are bigger and wider because they need to move a lot of water. They are usually between 65 mm and 150 mm wide (2.5 to 6 inches). Supply hoses do not have as much pressure as attack hoses.

Attack Hose

Attack hoses are used to spray water directly on a fire. The pump adds pressure to help the water reach the flames. Attack hoses are smaller, lighter, and easier to move. They are usually 38 mm or 45 mm wide (1.5 to 2 inches), but can be up to 65 mm (2.5 inches) for bigger fires.

Both attack and supply fire hoses usually share the same basic features, but there are many different types and setups. It's important to know the hoses and equipment your fire department uses.

- **Inner Liner:** made of rubber or similar material to keep water from leaking out and limits friction inside the hose.
- **Outer Jacket:** made from strong fabric like polyester or nylon to make the hose tough to prevent damage from use.
- **Reinforcement:** extra layers or other materials to handle higher water pressures.
- **Durability:** tough enough to handle high pressure and rough use.
- **Flexibility:** bendable and light so firefighters can move them around.

SUCTION HOSE

A suction hose is a rigid or semi-rigid hose used to draw water from a static source, like a pond or tank, into a fire pump. Suction hoses will be discussed more in Module 7: Water Supply.





5

FIRE HOSE ROLLS AND LOADS

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	Explain common techniques for hose rolls, loads and lays

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 6: Let them know they can use the QR code
2	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



FIRE HOSE ROLLS AND LOADS

Hose Rolls

Fire hose rolls help to store and move hoses safely and easily. These rolls are used to properly store fire hose and make sure it is ready for use.

- The **straight roll** is the simplest way to roll a hose. It is rolled from one end to the other and is usually used for storage or transport when the hose is dry.
- The **single doughnut roll** is good for fast use at a fire. Both ends are on the outside, so it's quicker to connect and unroll.

Straight or Storage Roll • Male coupling at center of roll • Female coupling on outside of roll	
Single Doughnut Roll • Both couplings on outside of roll • Can be connected and extended by one fire fighter	

Hose Loads

Hose loads are ways to fold and store fire hose on a fire truck so it can be deployed, or put into use, quickly during a fire.

- **Flat Hose Load:** The hose is laid flat in layers, one on top of the other. It's simple and easy to load.
- **Preconnected Flat Hose Load:** This is the same as the flat hose load, but the female end is already connected to the truck. This makes it faster to use as an attack line.

Flat Load 	
Pre-connected Flat Load	

OTHER ROLLS AND LOADS

Fire departments may use different hose rolls and loads depending on their equipment, staffing, and needs. Here are some you might hear about:

- Minuteman load
- Triple-Layer load
- Accordion load
- Horseshoe load
- S-Load
- Twin doughnut roll
- Self-locking twin doughnut roll
- Coil roll
- Skid load roll

Let students know these will be practiced in the skill drills.

FIRE HOSE LAYS

Estimated time	• 15-20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	Explain common techniques for hose rolls, loads and lays

Facilitation Instructions

1	Tell participants to follow along in their workbook on pages 7 and 8: Let them know they can use the QR code
2	Key Points Discuss the modifications necessary to make these lays work according to the equipment you have at your fire department. • If you only have one truck (attack engine) an additional pump would be needed to make both the forward and split lays work. • For the reverse lay you would need and appliance to connect the supply and attack lines.
3	Tell participants water shuttling will be explored further in the next session If participants are curious now, provide the following information: • If a fire pumper is set up right at the fire scene with a portable tank beside it, and a water tender is refilling the tank by making trips, the hose system would work like this: ◦ Pump Suction Hose: The pumper truck uses a suction hose (also called a hard suction line) to draw water from the portable tank. ◦ Pump Pressurizes Water: The pumper truck then pressurizes the water using its onboard pump. This is necessary to create enough pressure to send water through the attack hoses to the firefighters. ◦ Attack Hose Lines: From the pumper, attack lines are connected and used to fight the fire directly. These are carried and operated by firefighters at the scene. ◦ Maintaining Water Supply: The key is keeping the portable tank filled. The water tender must keep making return trips quickly enough, so the pumper doesn't run out of water to supply the attack lines. • This setup is common in rural or remote communities, like many in the NWT, where no hydrant system exists. It allows for a continuous water supply during firefighting operations, as long as the tender keeps the tank full.
4	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

FIRE HOSE LAYS

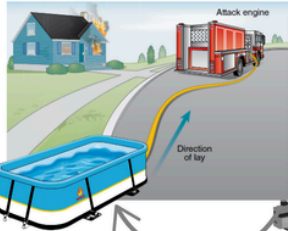


FIRE HOSE LAYS

A hose lay is how firefighters deploy fire hose from the fire truck for use as supply or attack hose and position where it's needed. It helps bring water to the fire or from a water source (like a portable tank, if there are no fire hydrants).

Forward hose lay

- Attack engine arrives at a water source first.
- Attack engine drives to fire scene while hose is laid along the way.



Portable tanks don't supply pressure to get the water from the tank to the engine — so this lay often doesn't apply in small NWT communities with only one pumper or attack engine. It may be useful if an additional pump is set up at the water source.

Reverse hose lay

One-truck scenario:

- Truck starts at the fire, lays supply hose on its way to water source.
- Truck drafts directly from the water source and pumps water in.
- An appliance (gated wye) at the fire scene connects the large smaller diameter attack lines.



Water shuttling is more common in small NWT communities and will be studied in the next session

You can let students know that these will not be practiced in the skill drills because it is more common to understand water shuttling in small communities. However, it is good information to know, and these set ups can still be used with the right equipment.



FIRE HOSE LAYS

Split hose lay

Often useful in complex situations where different areas need to be serviced at the same time, or where there are longer distances from the water source to the fire.

- Attack engine stops at point between fire scene and water source
- From there, one hose is laid toward the water source (reverse lay) and another towards the fire scene (forward lay)



Portable tanks don't supply pressure to get the water from the tank to the engine — so this lay often doesn't apply in small NWT communities with only one pumper or attack engine. It may be useful if an additional pump is set up at the water source.

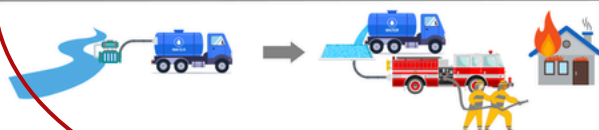
PUMPER TRUCK (ATTACK ENGINE)

The word "apparatus" means any vehicle or equipment used by firefighters. This includes fire trucks, ladder trucks, rescue vehicles, and more. A pumper or attack engine is a fire truck with hoses, a water tank, and a strong pump. It can get water from its tank or from an outside source like a portable tank.



WATER SHUTTLE

Supply hose lays need enough water flow and pressure to keep the attack lines working. In many northern communities with only one fire truck, water shuttling, using local water trucks, is often used to bring water to the scene. This setup helps make supply hose lays work even without fire hydrants. More about water shuttling in Session 7



ADVANCING ATTACK HOSE

Estimated time	• 10-15 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain common techniques to advance an attack line • Explain how to extend an attack line

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 9: Let them know they can use the QR code
2	Tell participants the skill will be practiced later on in this session. Ask them to try to remember the terms so that they can practice using them during the drills.
4	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep it on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

Ask them to try and remember the terms so that they can practice using them during the drills.

ADVANCING ATTACK HOSE

When firefighters get ready to fight a fire, they need to bring the attack hose from the truck to the fire. This is called advancing the attack line. It means safely and effectively pulling the hose off the truck and moving it toward the fire. This job needs teamwork, clear communication, and safe movement. The goal is to get water on the fire quickly and safely from a defensive position.

Firefighters carry the hose from the truck and walk to their assigned location outside the fire area (*see working hose drag and shoulder carry below*). Always lay out extra hose before adding water, because the hose gets much heavier once it's full and more difficult to move. The extra hose makes it easier to move positions and reach farther. The hose should be flaked out in a loose S-shape (serpentine pattern) so it doesn't get tangled when filled. Once everything is ready, the hose is charged—this means filling it with water.

TERMS

- **Evolution:** A planned group of steps firefighters follow to get something done during a fire.
- **Lay:** The way the hose is set out on the ground from where the water comes from to where it's used.
- **Advancing:** Moving the hose closer to the fire scene so water can be sprayed where it's needed from a defensive position.
- **Charged:** Hose is filled with water.

Working hose drag

The working hose drag technique is used to pull hose from the truck's hose bed and move it over a short distance to the needed location.

Shoulder carry

The shoulder carry is used to transport full lengths of hose over longer distances where dragging isn't practical. It requires more than one firefighter to carry the hose.

Extending Hose

To extend hose, stop the water at the nozzle or pump. Connect another hose to the end. Once it's tight, turn the water back on and check for leaks. *See example below using a wye appliance.*

9

FIRE HOSE TOOLS AND ATTACHMENTS

Estimated time	• 10-15 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• List the common types of couplings • List the common hose appliances • List two types of hose nozzles

Facilitation Instructions

1	Tell participants to follow along in their workbook on pages 10 and 11: Let them know they can use the QR code
2	Tell participants skills using tools and attachments will be practiced later on in this session. They will perform a one-firefighter foot-tilt method of coupling a fire hose; uncoupling a hose with a spanner wrench; and replacing the swivel gasket on a fire hose.
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



FIRE HOSE TOOLS AND ATTACHMENTS

Fire hose tools and attachments include:

- Couplings that connect the hoses together.
- Valves and splitters that help control how the water flows.
- Nozzles at the end of the hose aim the water where it's needed.

Hose Couplings

Fire hose couplings are the metal parts at the ends of the hose that let you connect it to other hoses, nozzles, the pump engine or other appliances or adaptors. There are two main types of hose couplings used in the fire service: threaded and non-threaded.

Storz-Type (non-threaded) Hose Couplings

Storz-type hose couplings are easy to use because they don't have a male or female end. To connect them, line them up and turn a quarter-turn to the right until they lock. You usually need a spanner wrench for tightening and loosening Storz-type hose couplings.

Threaded Couplings

Threaded couplings have screw-like ends and are often used on smaller hoses. There are different thread types, so it's important that all equipment matches and works together. When connecting threaded couplings, you have to properly line them up with each other or they may cross thread or become damaged.

- **Higbee indicator:** A notch or mark on the lug of the threaded coupling that indicates where the thread starts. Align the Higbee indicators on both male and female couplings to avoid cross-threading.
- **Rubber Swivel Gasket:** Ensure the rubber swivel gasket is in place inside the female coupling. This gasket is crucial for creating a watertight seal.
- **Lugs:** The lugs on the couplings provide a better grip for tightening.
- **Spanner Wrench:** Used to securely tighten the couplings by aligning on the lugs.



Storz-type coupling



Spanner wrenches



Higbee indicator



Rubber swivel gaskets



Lugs



FIRE HOSE TOOLS AND ATTACHMENTS

Hose Appliances

Hose appliances are any devices used with fire hose to deliver water. There are a variety of different hose appliances for different purposes. Some are to protect hoses (rollers and jackets), aid in connecting different sizes of hoses (reducers) or maximize hose capacity and control water flow (wyes, clamps). It is important for a defensive firefighter to know the purpose and safe use of the different hose appliances that your fire department carries. See Appendix 1 – Fire Hose Appliance List



FIRE DEPARTMENT CONNECTION

Some buildings in your community may have a Fire Department Connection (FDC). It's important to know which buildings have them and where they are. FDCs are outside hookups that let firefighters pump water into the building's sprinkler or standpipe system. The sprinkler system helps control the fire inside so people can get out safely. A standpipe system allows firefighters to connect fire hose to a pipe system inside the building to better position and properly attack a fire.



Nozzles

Nozzles control the direction and flow of water at the end of a fire hose.

Smooth-bore nozzle	Fixed opening size, producing solid stream of water. Effective for reaching long distances and penetrating fuels for more effective extinguishing of fire.	
Fog stream nozzle	Produces a fog pattern by adjusting the nozzle to break water stream into tiny droplets, creating mist for better heat absorption.	

HOSE CARE AND MAINTENANCE

Estimated time	• 10-15 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain fire hose care and maintenance

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 12: Let them know they can use the QR code
2	Tell participants the skill will be practiced later on in this session. They will perform cleaning and maintaining hose
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



HOSE CARE AND MAINTENANCE

Fire hose is made to handle tough use, but it still needs proper care to stay in good shape. Regular care and maintenance help prevent damage and makes sure the hose works when needed. Taking care of the hose helps:

- Keep your crew safe
- Avoid hose failure during a real fire
- Save money by making hose last longer

Inspect regularly	• Check hoses often • Look for cuts, holes, leaks, or worn-out couplings • Check after every use and at least once a year	
Test under pressure	• Test hoses with water under pressure once a year • Use your truck's pump if that's all you have • Watch for bulges or leaks while it's under pressure	
Clean and dry properly	• Clean and dry after every fire or practice • Rinse with clean water if it got dirty or used with foam • Let hose dry fully before rolling or storing	
Store correctly	• Store hose off the floor • Use wall hooks, racks, or shelves if possible • Don't leave hose sitting wet or in direct sunlight	
Remove damaged hose	• Fix or tag damaged hose • Take damaged hose out of service to be repaired or replaced • Mark it clearly so it's not used by mistake	
Keep records	• Write down the hose number, test date, and condition • This helps track how long hoses last and when to replace them	



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SKILL DRILLS

Estimated time	• 1-1.5 hours	
Materials needed	• Facilitation guide with attendance record • Student workbooks (Session 6) • Hose with couplings (male and female ends) • Spanner wrenches • Replacement swivel gaskets	• Mild detergent • Scrub brush • Hose Tag • Fire truck (pumper) • PPE per participant
Learning Outcomes	SK 6-1: Perform one-firefighter foot-tilt method of coupling fire hose SK 6-2: Perform uncoupling a hose with a spanner wrench SK 6-3: Perform replacing the swivel gasket on a fire hose SK 6-4: Perform a straight hose roll	SK 6-5: Perform a single-doughnut hose roll SK 6-6: Perform a preconnected flat hose load SK 6-7: Perform advancing preconnected flat hose load SK 6-8: Perform cleaning and maintaining hose

Facilitation Instructions

Skill Drill 6-1: Perform a one-firefighter foot-tilt method of coupling a fire hose

1	Tell participants to follow along in their workbook on page 14: • Read out loud each step in Skill Drill 6-1 in the workbook • Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. • Show how to place one foot on the hose behind the male coupling. • Show how to push down with your foot to tilt the male coupling upward. • Show how to place one hand behind the female coupling and grasp the hose. • Show how to place the other hand on the swivel of the female coupling. • Show how to bring the two couplings together and align the Higbee indicators. • Show how to turn the female coupling counterclockwise until it clicks, which indicates that the threads are aligned. • Show how to rotate the swivel in a clockwise direction to connect the hose.
3	Do • Have each participant practice the drill with a partner (partners should take turns during each of the steps). • Watch each participant to ensure ALL steps done correctly. Correct if necessary.

Skill Drill 6-2: Perform uncoupling a hose with a spanner wrench

1	Tell participants to follow along in their workbook on page 14: • Read out loud each step in Skill Drill 6-2 in the workbook • Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. • Show how to straddle the connection above the female coupling with the connection on the ground. • Show how to place one spanner wrench on the swivel of the female coupling, with the handle of the wrench to the left. • Show how to place the second spanner wrench on the male coupling, with the handle of the wrench to the right. • Show how to push both spanner wrench handles down towards the ground, loosening the connection.
3	Do • Have each participant practice the drill with a partner (partners should take turns during each of the steps). • Watch each participant to ensure ALL steps done correctly. Correct if necessary.

SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program



SKILL DRILL 6-1: Perform one-firefighter foot-tilt method of coupling a fire hose

1	Place one foot on the hose behind the male coupling. Push down with your foot to tilt the male coupling upward.
2	Place one hand behind the female coupling and grasp the hose.
3	Place the other hand on the swivel of the female coupling. Bring the two couplings together and align the Higbee indicators.
4	Turn the female coupling counterclockwise until it clicks, which indicates that the threads are aligned.
5	Rotate the swivel in a clockwise direction to connect the hose.



SKILL DRILL 6-2: Uncouple hose with spanner wrenches

1	With the connection on the ground, straddle the connection above the female coupling.
2	Place one spanner wrench on swivel of female coupling, with handle of the wrench to the left.
3	Place the second spanner wrench on male coupling, with handle of the wrench to the right.
4	Push both spanner wrench handles down towards the ground, loosening the connection.



SKILL DRILLS

Facilitation Instructions

Skill Drill 6-3: Perform replacing the swivel gasket on a fire hose

1	Tell participants to follow along in their workbook on page 15: • Read out loud each step in Skill Drill 6-3 in the workbook • Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. • Show how to fold the new swivel gasket in half by bringing the thumb and the forefinger together to create two loops. • Show how to place either of the two loops inside the hose coupling, and position it against the gasket seat. • Show how to use the thumb, push the remaining unseated portions of the swivel gasket into the hose coupling until the entire swivel gasket is properly positioned against the gasket seat inside the coupling.
3	Do • Have each participant practice the drill with a partner (partners should take turns during each of the steps). • Watch each participant to ensure ALL steps done correctly. Correct if necessary.

Skill Drill 6-4: Perform a straight hose roll

1	Tell participants to follow along in their workbook on page 15: • Read out loud each step in Skill Drill 6-4 in the workbook • Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. • Show how to fold the male coupling over on top of the hose • Show how to roll the hose to the female coupling • Show how to set the hose roll on its side and tap any protruding hose flat with a foot. With this arrangement, the male coupling is at the centre of the roll, and the female coupling is on the outside of the roll
3	Do • Have each participant practice the drill with a partner (partners should take turns during each of the steps). • Watch each participant to ensure ALL steps done correctly. Correct if necessary.

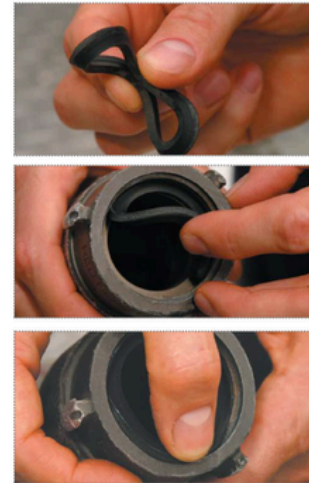
SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program



SKILL DRILL 6-3: Practice replacing swivel gasket on a fire hose

1	Fold the new swivel gasket in half by bringing the thumb and the forefinger together to create two loops.
2	Place either of the two loops inside the hose coupling and position it against the gasket seat.
3	Using the thumb, push the remaining unseated portions of the swivel gasket into the hose coupling until the entire swivel gasket is properly positioned against the gasket seat inside the coupling.



SKILL DRILL 6-4: Perform a straight/storage hose roll

1	Lay the hose flat and in a straight line.
2	Fold the male coupling over on top of the hose.
3	Roll the hose to the female coupling.
4	Set the hose roll on its side and tap any protruding hose flat with a foot. With this arrangement, the male coupling is at the centre of the roll, and the female coupling is on the outside of the roll



SKILL DRILLS

Facilitation Instructions

Skill Drill 6-5: Perform a single-doughnut hose roll

1	Tell participants to follow along in their workbook on page 16: • Read out loud each step in Skill Drill 6-5 in the workbook • Tell them the straight roll is the simplest way to roll a hose. It is rolled from one end to the other and is usually used for storage or transport when the hose is dry. • Tell them the single doughnut roll is good for fast use at a fire. Both ends are on the outside, so it's quicker to connect and unroll. • Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. • Show how to lay the hose flat and in a straight line. • Show how to locate the midpoint of the hose. • Show how to: From the midpoint, move 5 ft (1.5 m) towards the male coupling end. From this point, start rolling the hose towards the female coupling. • Show how to: At the end of the roll, wrap the excess hose of the female end over the male coupling to protect the threads on the male coupling. With this arrangement, and for easy access, both couplings are on the outside of the roll.
3	Do • Have each participant practice the drill with a partner (partners should take turns during each of the steps). • Watch each participant to ensure ALL steps done correctly. Correct if necessary.

Skill Drill 6-6: Perform a preconnected flat hose load

1	Tell participants to follow along in their workbook on page 16: • Read out loud each step in Skill Drill 6-6 in the workbook • Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. • Show how to attach the female end of the hose to the preconnect discharge outlet. • Show how to begin flat loading the hose in the hose bed. • Show how to load the first layer of hose and make the first fold even with the edge of the hose bed. • Show how to make a longer loop, or ear, on the second or higher fold. This loop will be used as a pull handle. • Show how to flat-load the remainder of the hose in the hose bed. • Show how to attach the nozzle to the male coupling at the end of the hose.
3	Do • Have each participant practice the drill with a partner (partners should take turns during each of the steps). • Watch each participant to ensure ALL steps done correctly. Correct if necessary.

SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program



SKILL DRILL 6-5: Perform a single doughnut hose roll

1	Lay the hose flat and in a straight line.
2	Locate the midpoint of the hose.
3	From the midpoint, move 5 ft (1.5 m) towards the male coupling end. From this point, start rolling the hose towards the female coupling.
4	At the end of the roll, wrap the excess hose of the female end over the male coupling to protect the threads on the male coupling. With this arrangement, and for easy access, both couplings are on the outside of the roll.



SKILL DRILL 6-6: Perform a pre-connected flat hose load

1	Attach the female end of the hose to the pre-connect discharge outlet.
2	Begin flat loading the hose in the hose bed.
3	Load the first layer of hose and make the first fold even with the edge of the hose bed.
4	Make a loop, or ear, on the second or higher fold. The loop will be used as a pulling handle.
5	Flat load the remainder of the hose in the hose bed.
6	Attach the nozzle to the male coupling at the end of the hose.



SKILL DRILLS

Facilitation Instructions

Skill Drill 6-7: Perform advancing a preconnected flat hose load

1	Tell participants to follow along in their workbook on page 17: • Read out loud each step in Skill Drill 6-7 in the workbook • Tell them the straight roll is the simplest way to roll a hose. It is rolled from one end to the other and is usually used for storage or transport when the hose is dry. • Tell them the single doughnut roll is good for fast use at a fire. Both ends are on the outside, so it's quicker to connect and unroll. • Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. • Show how to grasp the nozzle and place it securely over your shoulder. • Show how to turn and face the direction of travel before moving. • Show how to walk forward, advancing the hose line while keeping it straight and untangled. • Show how to signal for water when the line is fully advanced and ready for use. • Show how to bleed air from the nozzle and prepare to operate.
3	Do • Have each participant practice the drill with a partner (partners should take turns during each of the steps). • Watch each participant to ensure ALL steps done correctly. Correct if necessary.

Skill Drill 6-8: Perform cleaning and maintaining hose

1	Tell participants to follow along in their workbook on page 17: • Read out loud each step in Skill Drill 6-8 in the workbook • Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. • Show how to stretch out the hose in a straight line to drain any remaining water. • Show how to use mild detergent and a scrub brush to clean dirt or debris from the hose surface. • Show how to rinse thoroughly with clean water. • Show how to inspect the hose, couplings, and gaskets for wear or damage. • Show how to tag any damaged hose sections for repair or replacement. • Show how to hang or rack the hose properly for drying and storage.
3	Do • Have each participant practice the drill with a partner (partners should take turns during each of the steps). • Watch each participant to ensure ALL steps done correctly. Correct if necessary.

SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program



SKILL DRILL 6-7: Advance a pre-connected flat hose load

1	Grasp the top section of hose and place it over your shoulder.
2	Turn away from the apparatus until the top load drops onto your shoulder.
3	Turn back around towards the hose bed, and grasp the lower loop, or ear.
4	Pull the remainder of the hose from the hose bed.
5	Turn away from apparatus, continue walking, letting the hose lay out off of your shoulder.



NOTE:

If there is a nozzle attached to the flat hose load, always ensure you maintain control of the nozzle when advancing/deploying a flat hose load. This helps protect the nozzle from damage and protects the firefighter from being struck with a nozzle.



SKILL DRILL 6-8: Practice cleaning and maintaining a fire hose

1	Lay the hose out flat. Rinse the hose with water.
2	Gently scrub the hose with mild detergent and a soft bristled brush, paying attention to soiled areas.
3	Turn over the hose and repeat steps 1 and 2.
4	Give a final rinse to the hose with water. Make sure the hose is dry before storing it.



LEARNING DEBRIEF

Estimated time	• 20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain the purpose of supply and attack lines • Explain common techniques to advance an attack line • List the common types of couplings • List the common hose appliances • Explain fire-hose care and maintenance

Facilitation Instructions

1	Ask participants to turn to page 18 in their workbook
2	Let participants know they can write down ideas in their workbooks.
3	Use Appendix 3 in this guide for helpful tips on facilitating discussions.
4	Ask participants to share stories or experiences related to this question: How does the fire hose play a key role in getting water to the fire quickly and safely during an emergency?
5	Ask participants to share stories or experiences related to this question: What are some of the tools and appliances hoses use?
6	Ask participants to share stories or experiences related to this question: How does maintaining the fire hose ensure the success of the firefighting operation and the safety of the crew?



LEARNING DEBRIEF

REMEMBER

- Developing proper work habits during training in this course helps ensure safety later
- Do not attempt anything you feel is beyond your ability or knowledge
- Tell someone if you see something that you feel is an unsafe practice
- Continue to learn teamwork and practice working as a team
- A firefighter injured during training should not return until medically cleared for duty

Reflect on the following questions. Jot down notes or sketches in the spaces provided.

How does the fire hose play a key role in getting water to the fire quickly and safely during an emergency?	
What are some of the tools and appliances hoses use?	
How does maintaining the fire hose ensure the success of the firefighting operation and the safety of the crew?	

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Participants can use the spaces provided to write or sketch out their thoughts.

AFTER THE SESSION

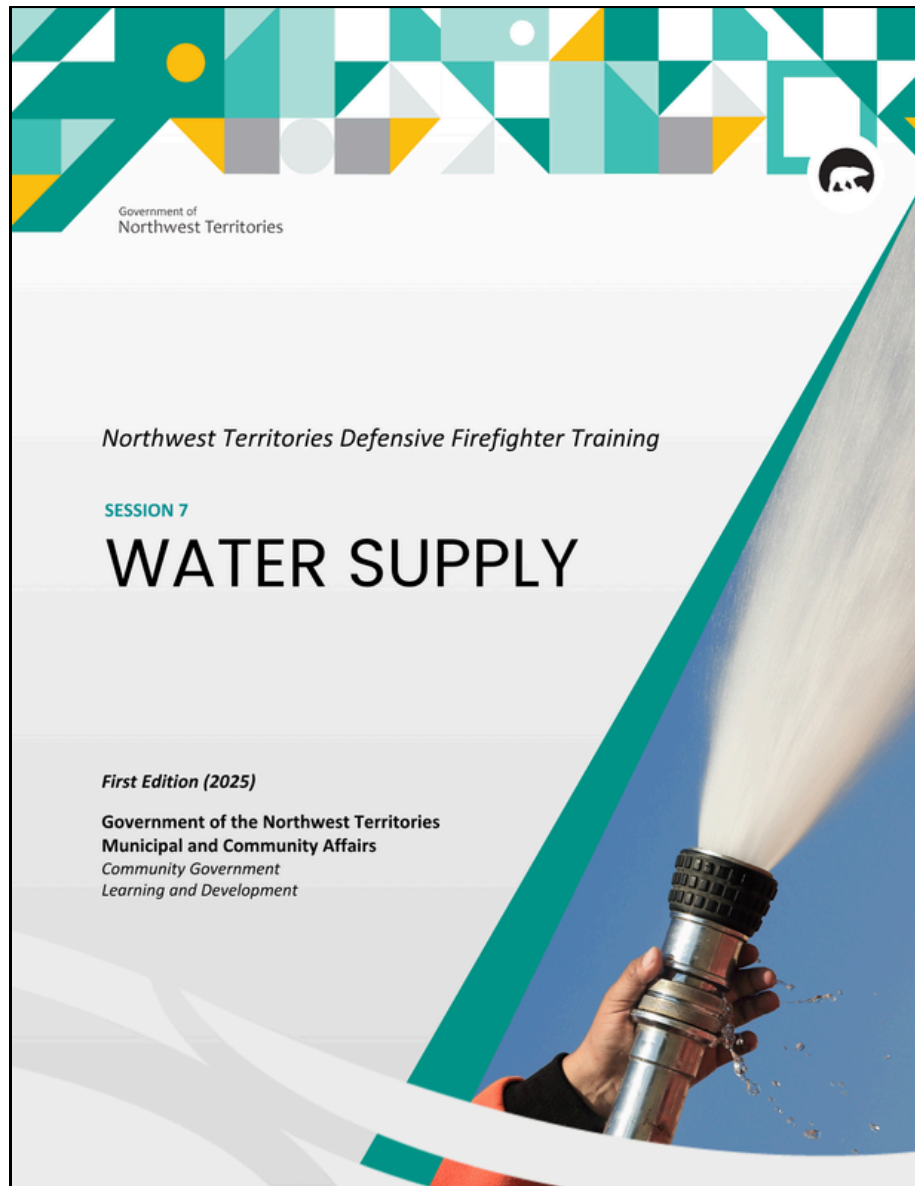
- Ask participants for feedback about the session. If they enjoyed it, encourage them to share with others if you are trying to increase participation in your department.
- If participants mention anything they didn't enjoy or found too difficult, try to adjust the training in the future. Also, let your MACA regional AFM know about their feedback.
- Fill out the attendance sheet (Appendix 4).
- Share details about the next training session, if possible.
- Encourage participants by telling them they did a great job if they were engaged and participated.
- Give yourself credit as the trainer—you did a great job too!

Consider reflecting on your job as a facilitator:

What went well and why?	
What areas can you improve on and how?	
Do you have questions to ask your regional MACA-CGLD Learning and Development Advisor?	

SESSION 7

WATER SUPPLY



Session Overview

This session is designed to help firefighters learn how water is supplied and moved during firefighting operations in small NWT communities, including the use of static water sources, water shuttling, and water supply tools.

Please note: If you are instructing in a community that does use fire hydrants, adapt the knowledge-based content in this facilitator guide. The skill drills still apply.

Learning Outcomes

After this training session, learners should be able to:

- Describe common water sources in NWT communities without fire hydrants
- Describe the process of water shuttling
- Describe the purposes of common water supply tools and equipment
- Describe the care and maintenance of water supply tools and equipment
- Skill Drill 7-1: Perform setting up a portable tank
- Skill Drill 7-2: Perform operating a fog stream nozzle
- Skill Drill 7-3: Perform an annual service test on fire hose
- Skill Drill 7-4: Perform marking a defective fire hose
- Skill Drill 7-5: Perform replacing a damaged section of hose

Session Time

The estimated time for this training session is: **2.5-3 hours**

Session Materials

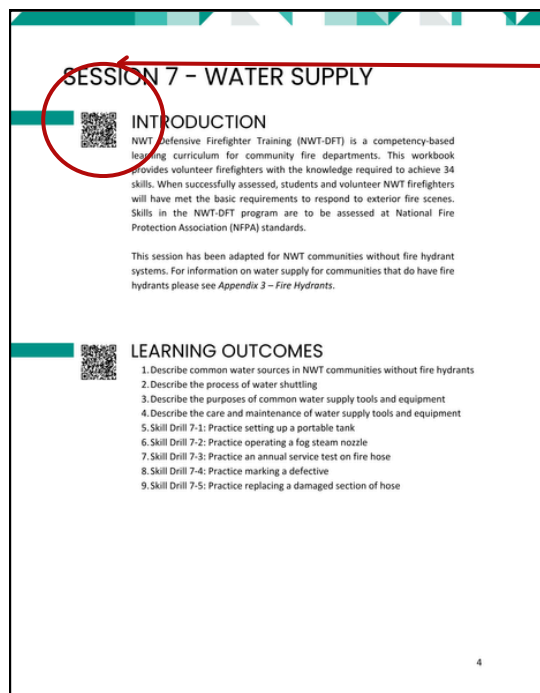
- Facilitator Guide
- Student workbook (Session 7)
- Personal cell phones to hear audio (or have a speaker set up)
- Pens/pencils for each participant
- Timer for discussions
- Speaker (for QR-code audio)
- Optional: Whiteboard or flipchart with markers
- PPE per participant (gloves, helmet, safety goggles, fire-resistant clothing, boots)
- Supply hose sections x2
- Portable tank
- Replacement swivel gasket
- Coupling with replaceable swivel gasket
- Two hose ends (one with male and one with female coupling)
- Spanner wrenches
- Pressure gauge suitable for water pressure testing
- Pressurized water source (water-filled portable pump with tank or water-filled pumper engine)
- Hose clamps
- Fog Stream Nozzle
- Optional: Screwdriver or wrench
- Optional: Hose tags and/or maintenance records/logs
- Hose marker (like a sharpie)

INTRODUCE THE SESSION

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones

Facilitation Instructions

1	Start by telling participants what this module is about “In this session, you’ll learn where firefighters in NWT communities without hydrants get their water and how water shuttling works. You’ll also learn about the tools and equipment used for water supply, how to take care of them, and how to keep them working properly.”
2	Tell participants to follow along in their workbook on page 4: Let them know they can use the QR code
3	Go over learning outcomes: After this session, you should be able to: • Describe common water sources in NWT communities without fire hydrants • Describe the process of water shuttling • Describe the purposes of common water supply tools and equipment • Describe the care and maintenance of water supply tools and equipment • Skill Drill 7-1: Perform setting up a portable tank • Skill Drill 7-2: Perform operating a fog steam nozzle • Skill Drill 7-3: Perform an annual service test on fire hose • Skill Drill 7-4: Perform marking a defective fire hose • Skill Drill 7-5: Perform replacing a damaged section of hose



Scan for audio
narration

WATER SUPPLY OVERVIEW

Estimated time	• 15-20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer (good to have on hand)

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 5: Let them know they can use QR code
2	Ask participants to answer the following questions based on your own community and discuss: • Where is enough water always accessible? • How is water moved without piping? • How is water transported from source to scene? • How is water pressurized? Keep discussion to about 15 minutes
3	Ask if anyone has questions or comments before moving on If discussion starts, let it flow but keep on topic. If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

Discuss these questions



WATER SUPPLY OVERVIEW

Water supply means keeping water flowing to the fire. In many small NWT communities, this is hard because there are no hydrants. Roads can be rough or icy, the fire may be far away, and crews are small.



Water supply means keeping pressurized water flowing into the hoses so the crew can fight the fire without stopping. It is about getting water close to the fire scene without the option of fire hydrants.

Keeping a steady flow of water to the fire is challenging in small communities that don't have an underground water piping system. Where there are fire hydrants, underground pipes bring water to hydrants around the community. Without that system, communities need a plan that lists safe water sources and the equipment needed to move it. This plan often uses water shuttling with water trucks (tenders), portable tanks, and pumps.

INITIAL WATER SOURCE



WATER FOR FIRE OPERATIONS



Where is enough water always accessible?
 How is water transported from source to scene?
 How is water moved without piping?
 How is water pressurized?



5

WATER SOURCES

Estimated time	• 15-20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer (good to have on hand)
Learning Outcome(s)	Describe common water sources in NWT communities without fire hydrants

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 6: Let them know they can use QR code
2	Discussion If your community gets water from the water plant, discuss the following: • What are the pros of this method? • What are some challenges? Keep discussion to about 15 minutes
3	If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



WATER SOURCES

Water Plants

Most communities have a water plant where trucks fill up in order to deliver water to homes. At the plant water, is cleaned so people can drink it and use it safely. Water plants often have pressurized options to get water from the plant into a water tender or truck. Usually water comes out of a truck fill arm at about 1,000 litres per minute.

The fill arm is fast, but the plant may not hold enough water for a large fire. A medium-sized fire, one that burns through a couple rooms in a house, can need a lot of water—up to 8,000 litres (2,000 gallons) to get the fire under control. Many community fire departments use the plant to fill trucks quickly, but have a backup plan if the water level at the plant drops too low.

WATER FILL STATIONS

Some water plants or town buildings have special places where fire trucks or water trucks can fill up with water. These places are called water fill stations. They have hoses or connectors that make it fast and easy to fill the trucks. A truck fill arm (also called a tanker-fill or hydrant-fill arm) is a special tool that helps fill fire trucks or water trucks with water quickly through a fill opening on top of the truck. Always test your trucks and equipment at your local fill station(s) to ensure compatibility before an emergency happens.



Pre-plan with the plant operator

- Confirm the maximum safe draw (how many litres you can take and for how long).
- Set a minimum tank level where you must stop (to protect drinking water).
- Note after-hours access, keys/codes, and a 24/7 phone number.
- Check fitting sizes and keep the right adapters on the truck.
- Mark a safe route and turn-around for tankers.

WATER SOURCES

Facilitation Instructions (Continued from previous page)

1	Tell participants to follow along in their workbook on page 7: Let them know they can use QR code
2	Discussion Is there a dry hydrant in your community? If so: • Talk about where it is and how it works • Consider taking participants out to take a look at it
3	If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



WATER SOURCES

Static Water Sources

Static water sources are unpressurized so require a water pump to be placed nearby. Static water sources may work better than using the community's water plant when the fire requires more water and is far away. Small NWT communities usually get water from static water sources such as rivers, streams, lakes, or man-made water reservoirs. The kind of water source a community fire department uses depends on the land and water nearby - where is the water most accessible? Firefighters use pumps to pull or 'draft' water from these water sources. This is called drafting or suctioning.

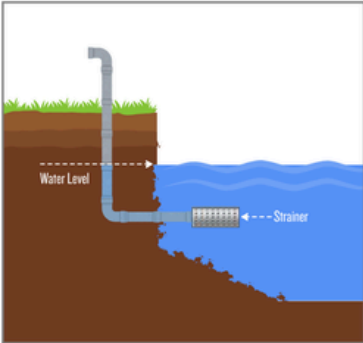
Portable Pumps

When water is not under pressure—like in a lake or pond—a pump is needed to move it. A portable pump can be carried by hand or moved with a vehicle to a water source. It pulls water in using a hard suction hose with a strainer to keep out debris. The pump pushes the water through a supply hose to another place, like a water truck or the fire engine. How much water the pump can move depends on the size of the pump.



Dry Hydrants

Some places may have a dry hydrant. It may look like a regular fire hydrant, but it is not connected to a pressurized water system. A dry hydrant is a pipe that goes into a lake, river, or pond. One end of the pipe has a strainer that sits under the water. The other end is above ground and connects to a suction hose. Dry hydrants help firefighters get water from a lake or river—even when the surface is frozen.



7

WATER SHUTTTLING

Estimated time	• 15-20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer (good to have on hand)
Learning Outcome(s)	Describe the process of water shuttling

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 8: Let them know they can use QR code
2	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



WATER SHUTTTLING

Water shuttling means moving water from a water source to the fire. A water truck brings the water to a portable tank set up beside the fire truck (also called a pumper). The fire truck pulls water from the tank using a hard suction hose. While the fire truck uses the water, the water truck drives back to the water source to get more. It goes back and forth, shuttling water to keep the portable tank full.

Scenario

- Water truck fills up at the water plant or drafts water from another static water source
- Water truck arrives at the fire scene near the pumper engine
- Water truck dumps water into portable tank
- Hard suction hose is set up between portable tank and engine
- Pumper engine suctions water from tank to pump into attack lines



Water Shuttling Safety

- Firefighters operating near water sources must wear approved personal flotation devices (PFDs) when working in proximity of water to prevent drowning incidents.
- Establish clear perimeters around water and ensure there are department guidelines in place to maintain safe operations around water.
- Ensure water truck drivers manage speed, set up traffic controls like cones and signage, and avoid backing up if possible.
- Make sure equipment is maintained and set up properly.
- Use the ICS system.
- Use fill and dump sites that are easily accessible and pose minimal risk to personnel and equipment.



8

Let students know they will practice setting up a portable tank during the skill drills at the end of this session.

WATER SHUTTTLING

Facilitation Instructions (Continued from previous page)

3	Tell participants to follow along in their workbook on page 9: Let them know they can use QR code
4	Discuss how this system works in your community: Does it work well? How might it work better?
5	If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



WATER SHUTTTLING

Water Shuttling Step-by-Step

FILL SITE SET UP

1. Identify a safe and accessible static water source.
2. Set up portable pump at the water source.
3. Connect hard suction hose with a strainer and set into the water or use dry hydrant.
4. Prime pump and start pulling water into pump to then fill the water truck.



MAINTAIN WATER SUPPLY

1. Water tanker(s) drive from the fill site to the dump site.
2. Empty water into the portable tank (via gravity or quick dump valve).
3. Empty tankers return to the fill site to reload.
4. Assign personnel to monitor water levels, coordinate traffic and safety procedures.



DUMP SITE SET UP

1. Set up one or more portable (drop) tanks near the fire scene.
2. Position a pumper engine at the dump site to draw from the portable tank.
3. Connect hard suction hose from the engine intake and place into the portable tank.
4. Prime the engine pump to remove air from the suction hose so water is ready to be drawn in.
5. Connect attack lines to the discharge ports



FIRE ENGINE PUMP SET UP

1. Follow engine procedures to draft water from portable tank into engine pump.
2. Engage the pump panel controls to bring the pump up to operating pressure.
3. Monitor pump pressure and water flow into attack lines.
4. Begin fire suppression.



WHEN THE WATER SOURCE IS CLOSE TO A FIRE SCENE

Sometimes, water shuttling isn't needed. If the fire is close to a static water source (and hoses can reach it while maintaining enough water pressure) you can use a pump and hoses to move water directly, instead of using water tenders or water trucks.



9

WATER SUPPLY TOOLS

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer (good to have on hand)
Learning Outcome(s)	Describe the purposes of common water supply tools and equipment

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 10 and 11: Let them know they can use QR code
2	Let participants know they will be using most of these tools coming up in the skill drills
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

WATER SUPPLY TOOLS

Water Pumps

Pumps help move water from the source to the fire for water shuttling operations.

- Portable pumps: Lightweight, gas-powered pumps placed at static water sources.
- Fire truck (engine) pumps: Built-in pumps used to fill tankers or supply attack lines at fire scene.
- Relay pumps: Used when pumping through hose over long distances to boost water pressure.

Portable Tanks

Portable tanks keep water flowing when water trucks can't stay at the fire. They let trucks dump and go, so the fire engine can pump steadily without running dry.

- Folding frame: Metal frame, square pool, most common.
- Onion tank: Round, self-standing, good on uneven ground.
- Low tank/pumpkin: Low walls, good for quick dumps.
- Snap tank: Light, fast, good for wildland work.

Fire Hose

Firefighters use three types of hose to get water from a source to the fire. Suction hose pulls water from a static source, supply hose moves water between trucks or from a hydrant to a pump, and attack hose delivers water from a fire truck onto the fire.

- Suction hose: Used to draw water from a source like a lake, river, or portable tank into the fire truck's pump. It's thick and rigid to handle strong suction pressure.
- Supply hose: A large-diameter hose used to move water from the portable tank or a hydrant to the pumper engine. In water shuttling, it keeps a steady flow of water from the tank so the engine can keep pumping on the fire without stopping.
- Attack hose: A smaller, flexible hose used by firefighters to apply water directly onto the fire. It is fed by the water coming through the supply hose, so it can keep flowing as long as the supply is steady.



10

WATER SUPPLY TOOLS

Nozzles

Nozzles control how water comes out of the attack hose. Picking the right one helps fight the fire safely and saves water.

- Smooth Bore: Solid stream, good for reach and high flow.
- Fog Nozzle: Adjustable spray (wide fog to straight stream), good for cooling fires.
- Combination Nozzle: Can switch between fog and straight stream.



Water Tenders (Tankers)

This is a truck that hauls large amounts of water (often 1,500–3,500 gallons or 5,500–13,000 litres) from a source to the fire scene. It dumps water into portable tanks during water shuttling.



Other Tools

- Dump Valves: Special valves on the back/sides of a tender that let it unload water quickly into a portable tank.
- Jet Siphons: Simple devices that use a small stream of water to move water between tanks, keeping water levels stable when multiple water tanks are used.
- Draft Pits/Dry Hydrants: Permanent pipe systems installed in lakes or ponds so tankers or pumps can access water year-round (see page 6).
- Hard Suction Hose Adapters and Strainers: Strainers keep debris out of pumps, adapters connect hose to unusual water sources.
- Portable Fill Devices: Truck-fill arms or floating strainers that make tender filling faster and safer.

11

TOOL CARE AND MAINTENANCE

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer (good to have on hand)
Learning Outcome(s)	Describe the care and maintenance of water supply tools and equipment

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 12: Let them know they can use QR code
2	Let participants know that these are general guidelines on care and maintenance, but that the best way to ensure proper care and maintenance per tool is to follow manufacturer's instructions
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



TOOL CARE AND MAINTENANCE

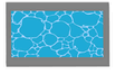
Water Pumps

- Run pumps regularly to make sure they start and run properly
- Check oil, fuel, and air filters on portable pumps
- Inspect pump seals and valves for leaks
- Flush pumps with clean water after use, especially if drafting from dirty sources



Portable Tanks

- Rinse/inspect for leaks/buildup
- Check dump valves and covers for proper operation



Hoses and Couplings

- Inspect hoses after use for holes, wear, or burns
- Wash and fully dry hoses before storing
- Check couplings for cracks, dents, damaged threads
- Lubricate coupling gaskets if needed



Nozzles and Appliances

- Clean nozzles and check for damage or debris
- Operate all valves and moving parts to prevent sticking
- Store appliances in a clean, dry space



Water Tender

- Work with the town's water service staff to coordinate maintenance, schedule downtime, and ensure the truck can be used for fire response.
- Inspect the water tank for leaks, cracks, or loose fittings
- Check valves, hoses, and spray bars
- Test lights, brakes, and tires regularly for safe road travel.
- Clean and flush plumbing
- Refill fuel after use so the truck is always ready for a fire call.
- Training Reminder: Firefighters should be trained and familiar with operating the town's water tender so they can use it safely during an incident.



REMEMBER

- Always follow manufacturer's recommendations for the care and maintenance of tools.
- Always follow your department's Standard Operating Procedures (SOPs) for inspection schedules, maintenance intervals, and logging. Regular checks and proper record-keeping keep all equipment ready for the next fire.

SKILL DRILLS

Estimated time	• 1-1.5 hours	
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Portable tank (metal-frame or self-expanding type) • Suction hose • Strainer • Fire engine (pumper) • Water tanker (tender)	• Gloves • Fog stream nozzle • Pressure gauge suitable for water pressure testing • Pressurized water source (water-filled portable pump with tank or water-filled pumper engine) • Hose marker (like a Sharpie) • Optional: Hose tags and/or maintenance records/logs
Learning Outcome(s)	• Skill Drill 7-1: Perform setting up a portable tank • Skill Drill 7-2: Perform operating a fog stream nozzle • Skill Drill 7-3: Perform an annual service test on fire hose • Skill Drill 7-4: Perform marking a defective fire hose • Skill Drill 7-5: Perform replacing a damaged section of hose	

Facilitation Instructions

Skill Drill 7-1: Perform setting up a portable tank

1	TELL • Read out loud each step in Skill Drill 7-1 in the workbook on page 14. • Let them know they can follow along in their books
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. You will need a partner. • Show how two firefighters safely lift the portable tank from the truck. • Show how to place it on level ground beside the engine. • Show how to expand or unfold the tank. • Demonstrate attaching the strainer to the suction hose. • Show how to place the suction hose into the tank and connect it to the engine intake. • Show how to have the tanker driver simulate filling the tank. • Show how to secure the tank and check that the hose connections are tight. Emphasize safety and teamwork—lifting together, avoiding hose kinks, and keeping a clear work area.
3	DO • Have each participant practice the drill • Watch each participant to ensure ALL steps done correctly. Correct if necessary

Skill Drill 7-2: Perform operating a fog stream nozzle

1	TELL • Read out loud each step in Skill Drill 7-2 in the workbook on page 14. • Let them know they can follow along in their books
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. • Show how to select the desired nozzle. • Show how to attain a stable stance (if standing). • Show how to slowly open the valve and allow water to flow. • Show how to open the valve completely. • Show how to select the desired water pattern by rotating the bezel of the nozzle. • Show how to apply water where needed.
3	DO • Have each participant practice the drill • Watch each participant to ensure ALL steps done correctly. Correct if necessary

SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program



SKILL DRILL 7-1: Set up a portable tank

1	Use two fire fighters to lift the portable tank off the apparatus.
2	Place the portable tank on as level ground as possible beside the engine.
3	Expand the tank (metal-frame type), or lay it flat (self-expanding type).
4	One fire fighter helps pump driver/operator place strainer on end of the suction hose.
5	Put the suction hose into the tank, and connect it to the engine.
6	Second fire fighter helps the tanker driver discharge water into the portable tank.
7	Secure the tank.

NOTE:

- Tank may be mounted on a side rack or on a hydraulic rack that lowers it to ground.
- The pump driver/operator indicates best location for the portable tank.
- If the tank is self-expanding, the fire fighters may need to hold the collar until the water level is high enough for the tank to support itself.
- Make sure the tank is stable and the frame is locked. Some tanks have straps or additional supports that need to be fastened.



SKILL DRILL 7-2: Operate fog stream nozzle

1	Select the desired nozzle. Attain a stable stance (if standing).
2	Slowly open the valve and allow water to flow.
3	Open the valve completely.
4	Select the desired water pattern by rotating the bezel of the nozzle.
5	Apply water where needed.



SKILL DRILLS

Facilitation Instructions

Skill Drill 7-3: Perform an annual service test on fire hose

1	Tell participants to follow along in their workbook on page 15. Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. - Show how to visually inspect the hose for cuts, burns, or worn couplings. - Show how to attach the hose to the apparatus. - Show how to fill the hose with water and bleed out all air from the line. - Show how to gradually increase pressure to the required NFPA test level (usually 300 psi or as specified). Maintain it for the set time. - Show how to observe the hose for bulges, leaks, or movement. - Show how to record all results, tagging or marking any hose that fails. - Show how to slowly release pressure and drain water safely. As you demonstrate, remind learners to: - Stand clear of pressurized hoses. - Never straddle or lean over a hose during testing. - Communicate clearly during pressure changes.
3	DO - Have each participant practice the drill. - Watch each participant to ensure ALL steps done correctly. Correct if necessary.

Skill Drill 7-4: Perform marking a defective fire hose

1	Tell participants to follow along in their workbook on page 15. Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. - Show how to inspect the hose for defects. - Show how to mark the area on the hose when a defect is found, and remove the hose from service. - Show how to tag the hose as defective, provide a description of the defect, and notify your supervisor. - Show how to roll the hose in reverse fashion with the male coupling on the outside (for threaded hose).
3	DO - Have each participant practice the drill. - Watch each participant to ensure ALL steps done correctly. Correct if necessary.

Skill Drill 7-5: Perform replacing a damaged section of hose

1	Tell participants to follow along in their workbook on page 15. Ask if there are any questions before showing them the drill
2	Show the drill yourself Talk as you are doing each step, explaining what you are doing. - Show how to shut down or clamp off the damaged hose line. - Explain when to signal the pump operator or use a clamp. Confirm pressure is off before handling. - Show how to remove the damaged section of hose by loosening both couplings with spanner wrenches and clearing it from the work area. - Show how to replace the damaged section with two new sections. - Explain that using two sections maintains hose reach and prevents strain. Connect couplings properly, align Higbee indicators, and tighten securely. - Show how to restore water flow slowly, checking all four couplings for leaks. If leaks appear, stop, retighten, and resume. - Show how to maintain clear communication and teamwork between nozzle, hose, and pump operators.
3	DO - Have each participant practice the drill. - Watch each participant to ensure ALL steps done correctly. Correct if necessary.

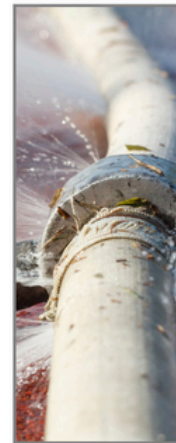
SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program



SKILL DRILL 7-3: Perform annual service test on fire hose

1	Visually inspect the hose for any obvious damage or wear before testing.
2	Attach the hose to apparatus, ensuring all connections are secure to prevent leaks.
3	Mark the hose at intervals to monitor for slippage during the test.
4	Fill the hose with water, expelling all air to ensure accurate pressure readings.
5	Gradually increase the pressure to the designated test pressure as specified by NFPA standards, and maintain this pressure for a set period.
6	Observe the hose for leaks, bulges, or other failures. Use pressure gauges to monitor for any drop in pressure that might indicate a leak.
7	Document the results, noting any hoses that fail the test so they can be removed from service and repaired or replaced.



SKILL DRILL 7-4: Mark a defective hose

1	Inspect the hose for defects.
2	Upon finding a defect, mark the area on the hose, and remove the hose from service.
3	Tag the hose as defective, provide a description of the defect, and notify your superiors.



SKILL DRILL 7-5: Replace damaged section of hose

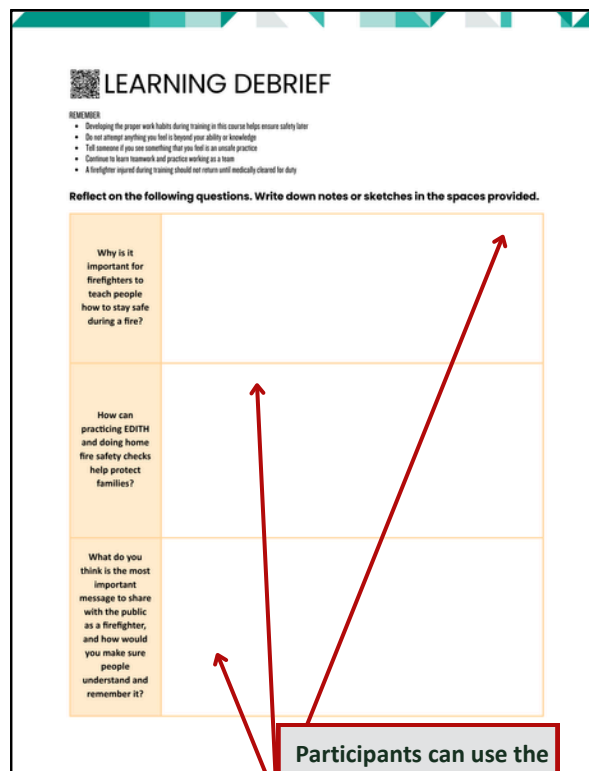
1	Shut down or clamp off the damaged hose line.
2	Remove the damaged section of hose.
3	Replace the damaged section of hose with two new sections.
4	Restore the water flow.

LEARNING DEBRIEF

Estimated time	• 20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Describe common water sources in NWT communities without fire hydrants • Describe the process of water shuttling • Describe the purposes of common water-supply tools and equipment

Facilitation Instructions

1	Ask participants to turn to page 16 in their workbook
2	Let participants know they can write down ideas in their workbooks.
3	Use Appendix 3 in this guide for helpful tips on facilitating discussions.
4	Ask participants to share stories or experiences related to this question: Why is it important for firefighters to use different tools, like hoses, pumps, and nozzles, when moving water to fight fires?
5	Ask participants to share stories or experiences related to this question: How does water shuttling help firefighters when there are no fire hydrants nearby?
6	Ask participants to share stories or experiences related to this question: What are the challenges firefighters might face when using static water sources like lakes or ponds, and how can they overcome them?



LEARNING DEBRIEF

REMEMBER

- Developing the proper work habits during training in this course helps ensure safety later
- Do not attempt anything you feel is beyond your ability or knowledge
- Tell someone if you see something that you feel is an unsafe practice
- Continue to learn teamwork and practice working as a team
- A firefighter injured during training should not return until medically cleared for duty

Reflect on the following questions. Write down notes or sketches in the spaces provided.

Why is it important for firefighters to teach people how to stay safe during a fire?	
How can practicing EDITH and doing home fire safety checks help protect families?	
What do you think is the most important message to share with the public as a firefighter, and how would you make sure people understand and remember it?	

Participants can use the spaces provided to write or sketch out their thoughts.

AFTER THE SESSION

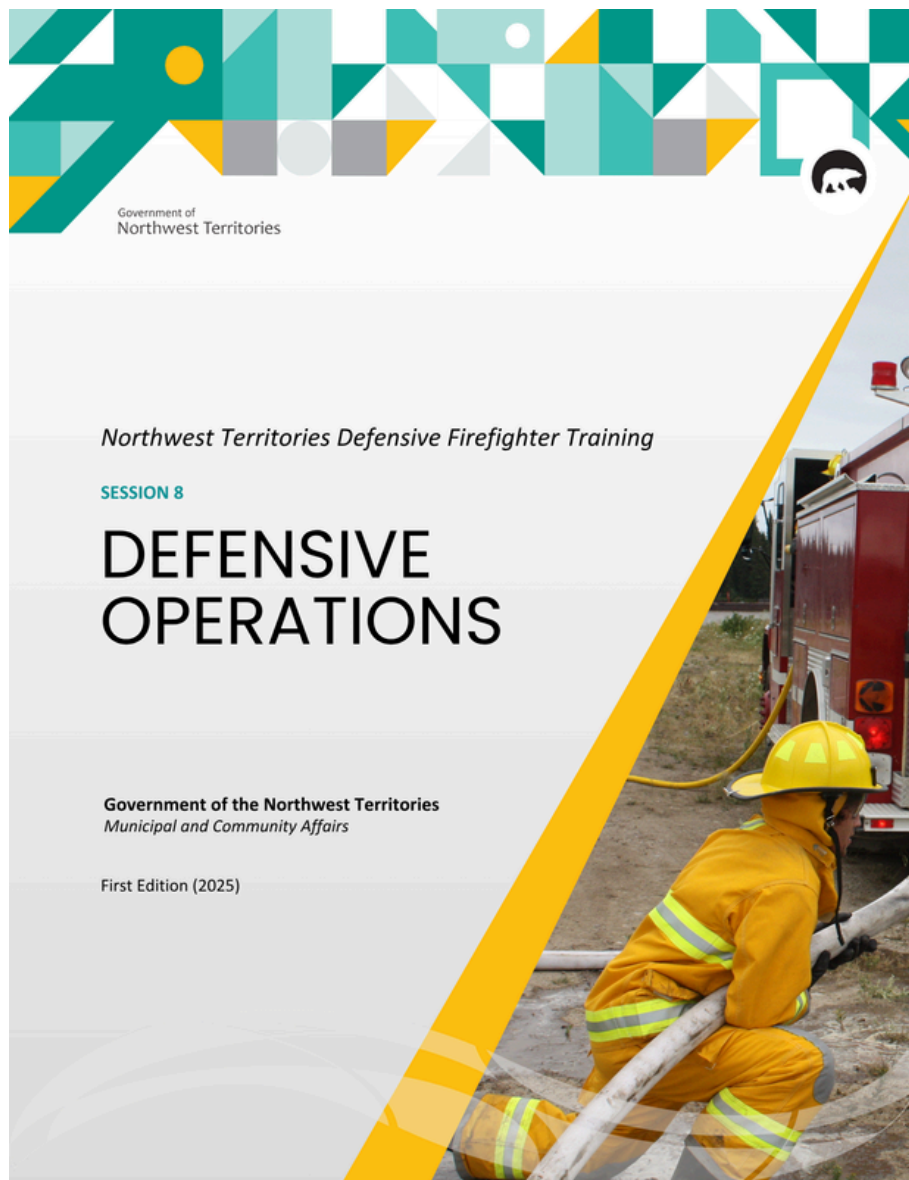
- Ask participants for feedback about the session. If they enjoyed it, encourage them to share with others if you are trying to increase participation in your department.
- If participants mention anything they didn't enjoy or found too difficult, try to adjust the training in the future. Also, let your MACA regional AFM know about their feedback.
- Fill out the attendance sheet (Appendix 4).
- Share details about the next training session, if possible.
- Encourage participants by telling them they did a great job if they were engaged and participated.
- Give yourself credit as the trainer—you did a great job too!

Consider reflecting on your job as a facilitator:

What went well and why?	
What areas can you improve on and how?	
Do you have questions to ask your regional MACA-CGLD Learning and Development Advisor?	

SESSION 8

DEFENSIVE OPERATIONS



Session Overview

This session is designed to help firefighters identify why and how defensive firefighting is used at different types of fire scenes, and to understand a defensive firefighter's role in salvage and overhaul activities.

Learning Outcomes

After this training session, learners should be able to:

- Describe the concept of defensive firefighting operations
- Describe indirect attacks using handlines and master stream devices
- Describe the suppression of fires in exposed and/or high-fuel load environments
- Describe the tactics used to protect exposures and suppress chimney fires
- Explain the reasons for shutting off electrical, water and fuel utilities
- Explain the purpose of salvage and overhaul operations
- Skill Drill 8-1: Perform contacting a utility provider to isolate location
- Skill Drill 8-2: Perform shutting off fuel utilities
- Skill Drill 8-3: Perform one-firefighter method for operating a large handline
- Skill Drill 8-4: Perform two-firefighter method for operating a large handline
- Skill Drill 8-5: Perform an indirect attack
- Skill Drill 8-6: Perform extinguishing an outside trash fire (Class A)
- Skill Drill 8-7: Perform opening an exterior wall to check for fire
- Skill Drill 8-8: Perform illuminating an emergency scene
- Skill Drill 8-9: Perform folding a salvage cover for one-fire fighter deployment

Session Time

The estimated time for this training session is: **5-6 hours** (Consider setting aside an entire day for Session 8 training)

Session Materials

- Facilitator Guide
- Student workbook (Session 8)
- Personal cell phones
- Pens/pencils for each participant
- Timer for discussions
- Speaker (for QR-code audio)
- Optional: Whiteboard or flipchart with markers
- PPE per participant (gloves, helmet, safety goggles, fire-resistant clothing, boots)
- Fire engine with a charged water tank
- Handlines (1.5-inch or 1.75-inch hose lines)
- Nozzles (adjustable fog nozzles)
- Shut-off/lock-out tag
- Lockout device (if you have one)
- Adjustable wrench
- Utility provider contact information
- Power generator (portable or stationary)
- Fuel supply for the generator (e.g., gasoline, diesel)
- Extension cords
- Portable scene lights and tripods
- Ground fault circuit interrupter (GFCI) adapters
- Salvage cover
- Halligan tool or pry bar
- Flathead axe
- Chainsaw
- Traffic cones
- Flashlight
- Simulated building with a mock fuel supply (e.g., gas meter or propane tank)
- Simulated fire/emergency scene: A built structure with a wall that can be set on fire

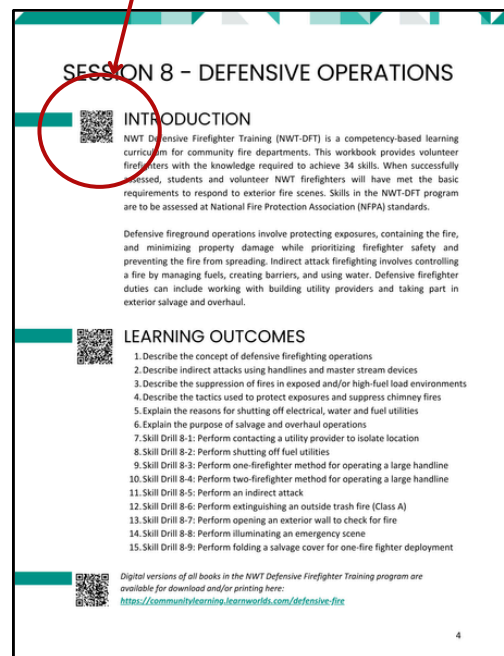
INTRODUCE THE SESSION

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones

Facilitation Instructions

1	Start by telling participants what this module is about “Today’s training will be a full day. You’ll learn what defensive firefighting is, when it’s used, and how to work safely during different types of fire scenes. You’ll also learn about your role in salvage and overhaul—protecting property and making sure the fire is fully extinguished.”
2	Tell participants to follow along in their workbook on page 4: Let them know they can use the QR code
3	Go over learning outcomes: After this session, you should be able to: • Describe the concept of defensive firefighting operations • Describe indirect attacks using handlines and master stream devices • Describe the suppression of fires in exposed and/or high-fuel load environments • Describe the tactics used to protect exposures and suppress chimney fires • Explain the reasons for shutting off electrical, water and fuel utilities • Explain the purpose of salvage and overhaul operations • Skill Drill 8-1: Perform contacting a utility provider to isolate location • Skill Drill 8-2: Perform shutting off fuel utilities • Skill Drill 8-3: Perform one-firefighter method for operating a large handline • Skill Drill 8-4: Perform two-firefighter method for operating a large handline • Skill Drill 8-5: Perform an indirect attack • Skill Drill 8-6: Perform extinguishing an outside trash fire (Class A) • Skill Drill 8-7: Perform opening an exterior wall to check for fire • Skill Drill 8-8: Perform illuminating an emergency scene • Skill Drill 8-9: Perform folding a salvage cover for one-firefighter deployment

Scan for audio narration



DEFENSIVE OPERATIONS OVERVIEW

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 5: Let them know they can use the QR code
2	Discussion: Have a discussion to help build an understanding of the defensive firefighter role in situations where a rescue is not possible. Use the script below to help you.
3	Take a break before moving on NOTE: This conversation may be difficult. See <i>Appendix 7: Tips for Emotional Group Discussions</i> in this trainer's guide to support emotional discussions in a respectful and trauma-aware way.

Estimated time	25-30 mins
Materials needed	- Workbooks - Pens/pencils - Personal cell phones - Timer for discussions (good to have on hand)
Learning Outcomes	Describe the concept of defensive firefighting operations

Discussion Script

Let's talk about one of the hardest situations you might face as a defensive firefighter: arriving at a fire, seeing someone trapped inside—and knowing you are not trained or allowed to go in. This is a tough scenario. It goes against everything in your gut that wants to help. But it's also one of the most important times to follow your training.

Let me ask you: What would you feel or think if you saw someone inside a burning building and you couldn't go in? [Pause for discussion]

It's normal to feel frustration, fear, or helplessness. But here's the truth: if you are not trained for interior attack, going in puts you—and your team—at serious risk. People have died trying to help without the proper training or backup. And when that happens, there are more lives at risk, not fewer.

Your job in this situation is to stay calm, follow defensive procedures, and support your team from the outside. That might mean protecting other buildings, setting up hose lines, or helping direct incoming trained crews.

Here's a key question: What are some actions you can take when you arrive and there's someone inside, but you're on a defensive team? [Encourage answers like: call for backup, protect exposures, do a 360 size-up, control crowds, support the trained team, etc.]

Another thing to remember: yelling or rushing in won't change the fact that you're not equipped to go inside safely. But what you do next can make a difference.

So, here's a final question on this topic: How can you mentally prepare yourself now, before it happens, so that if this situation comes up, you can act quickly and stay focused? [Invite thoughts on mindset, practice, drills, clear roles, etc.]

We hope it never happens. But if it does, your job is to follow the defensive strategy, support your team, and keep yourself safe—so you can keep helping, the right way. Unfortunately you may encounter situations where you cannot do as much as you would like, but you must always operate within the scope of your training. Acting outside of it puts both you and others at risk.



DEFENSIVE OPERATIONS OVERVIEW

Firefighters use a defensive strategy when it is too dangerous to go inside a burning building. This can happen if the fire is too big, if there are not enough trained people, or if the fire department conducts defensive operations only. Firefighters trained in defensive work must never go inside any building affected by fire. Even if a building is close to the fire (an exposure) but not burning yet, defensive firefighters need to understand the risks and only enter exposed structures if trained and competent.

Key Goals for defensive firefighting

1-Control and Suppress the Fire: Knock down flames and stop the fire from growing — all from outside the building.

2-Protect Exposures: Stop the fire from spreading to nearby buildings, vehicles, vegetation, or other flammable materials.

3-Preserve Firefighter Safety: Keep personnel out of structurally compromised or dangerous areas by operating entirely from the exterior.

4-Prevent Rekindling: Maintain water flow and observation until the fire is fully extinguished to prevent it from starting again.



WHAT IS AN EXPOSURE?

In firefighting, an exposure is anything close to a fire that could catch fire if the fire is not controlled. This could be a nearby house, shed, vehicle, or even trees and grass. Firefighters protect exposures to stop the fire from spreading and causing more damage.



INDIRECT ATTACK

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Describe indirect attacks using handlines and master stream devices

Facilitation Instructions

1	Tell participants to follow along in their workbook on pages 6 and 7: Let them know they can use the QR code
2	Tell participants they will be practicing this in the skill drills.
3	Ask if anyone has questions or comments before moving on • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

INDIRECT ATTACK

In firefighting, an indirect attack is a strategy used to apply water to nearby surfaces or into the hot smoke layer from a safe distance. This method cools the area and reduces the fire's intensity.

When a fire department operates in defensive mode only, such as many small NWT departments, indirect attacks are a key strategy. This defensive strategy means firefighters do not enter burning structures. Their goal is to:

- Protect lives (mainly by keeping firefighters safe)
- Stop the fire from spreading
- Protect nearby buildings or property
- Let the fire burn itself out

An indirect attack is ideal when you can't go inside because it:

- Applies water or foam from outside
- Cools fire by turning water into steam
- Reduces fire's energy without needing firefighters to enter the structure

Indirect attacks are useful for:

- Safety of firefighters without structural training
- Working with limited staff or equipment
- Slowing or stopping the fire enough to save part of the building
- Protecting exposures (nearby structures or areas)

Examples

Firefighters using a handline to protect an exposure Using a portable monitor on gas tank close to fire Using a deck gun on top of apparatus

SAFETY NOTES

- Ensure no one is inside before using an indirect attack
- Be ready for changes—if a roof collapses or fire spreads, adjust your position quickly.
- Maintain strong communication and watch for hazards like propane tanks or power lines.

INDIRECT ATTACK

Key Tools

For defensive firefighting, both handlines and master streams are used from a safe distance. Water is directed into the burning building through doorways, windows, and other openings or onto exposures to keep the fire from spreading.

Handlines

Handlines refer to the sections of hose that firefighters handle and operate manually during firefighting operations. These handlines are made up of attack hoses (Session 6 and 7). They are durable, flexible, and capable of delivering a variety of water streams to effectively combat fires. Defensive firefighters must be able to advance and position these hose lines properly.

USING HANDLINES SAFELY

- Check fire size, location, hazards; always be aware of surroundings.
- Work in pairs for safety and better hose control.
- Make sure hose is full of water, nozzle is set right, air is bled out.
- Move in safely, talk with your partner, and adjust as needed.
- Nozzle operator aims, controls water; back-up supports and moves hose.
- Watch the fire and back out if it becomes unsafe.

Master Stream Devices

A master stream is a tool used to fight large fires from a safe distance. It sprays a large amount of water or foam at high pressure. It can be controlled by hand or by remote. Some master streams stay on the fire truck. Others can be removed and used on the ground.

USING MASTER STREAM DEVICES SAFELY

- Assess the fire size, location, and any dangers.
- Choose good location for the master stream—moving it after the water is flowing is difficult.
- Make sure there is enough water to support the stream. They flow substantial amounts of water.
- Keep clear—high volumes of water under pressure is dangerous.
- Stay in contact with command.
- Watch for safety and track progress.

Handlines are operated by one or more firefighters during defensive operations.

A **deck gun** is a nozzle fixed to the top of a fire truck (sometimes connected to hose). The pump operator opens a valve to start the water.

A **portable monitor** sits on the ground and can be moved where needed. It is safely secured, and hose lines are connected to supply water to monitor.

FIRE SCENE CHALLENGES

Estimated time	• 25-30 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Describe the suppression of fires in exposed and/or high-fuel load environments • Describe the tactics used to protect exposures and suppress chimney fires

Facilitation Instructions

1	Tell participants to follow along in their workbook on pages 8 and 9: Let them know they can use the QR code
2	Discussion: Quickly discuss areas in your community where these types of fire scenes might occur (eg: new buildings being built, areas there here are stacked materials, the dump)
3	Ask if anyone has questions or comments before moving on • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



FIRE SCENE CHALLENGES

Some fire locations—like lumberyards, trash piles, and buildings under construction—can be especially dangerous, so defensive tactics are often the safest way to fight these fires.

Construction, renovation, or demolition sites

Defensive firefighting is often used at buildings under construction, repair, or being taken down. These places may have a lot of fuel that can burn easily, lots of air to feed the fire, and no working fire protection systems. Firefighters must set up a collapse zone—an area where no one should work because part of the building could fall down. When possible, this zone should be at least 1.5 times the height of the building.

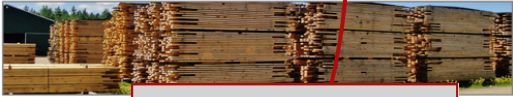


Stacked/piled materials

Fires in stacked or piled materials are hard to fight. The piles can fall down suddenly without warning. Firefighters often need to use strong water pressure to reach deep into the pile. These fires take a lot of work and a lot of water. Defensive tactics are often the safest way to handle them.

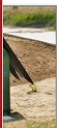
Lumberyards

Defensive firefighting is often used in lumberyards. These sites have a lot of wood and other materials that burn easily. There may not be many ways for fire trucks to get close. Other obstacles can make it hard for firefighters to safely reach the fire. Because of this, lumberyard fires often need a lot of water and are best fought from a safe distance.



Trash

Defensive firefighters protective gear when attacking the materials burning. Firefighters should stay work from upwind, so away from them. If the dry chemical extinguishes fires, use a hose line or



Consider a discussion about where you might find these kinds of situations in your community, now or in the future.



FIRE SCENE CHALLENGES

Chimney fires

Chimney fires can happen in any NWT community because many people use wood or pellet stoves. These fires are hard to fight and can be dangerous.



Limited Access:

On rooftops in locations that are difficult for firefighters to access.

Heat and Smoke:

Generate high heat and produce large volumes of smoke, which can create hazardous conditions and impact visibility.

Structural Integrity:

Can compromise the structural integrity of the chimney and other building materials. The heat can cause expansion and contraction, leading to cracks, fractures, or collapse of the roof and structure.

Creosote Buildup:

A byproduct of burning wood materials that can accumulate inside chimneys over time. Creosote can ignite quickly and burn very hot.

Embers and Sparks:

May escape through the chimney and ignite combustible materials on the roof or surrounding structures. You must continuously monitor the roof for fire spread.

Water use:

Chimney fires are tricky to fight because using too much water can damage the building. Water should only be used in small, careful amounts. If cold water hits a hot chimney, it can weaken the structure by causing cracks or damage from the sudden change in temperature. That's why firefighters often use other tools like foam or dry chemical powder to smother the flames.



Consider short discussion on anyone's experience with a chimney fire in their own homes or others.

UTILITIES

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain the reasons for shutting off electrical, water and fuel utilities

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 10: Let them know they can use the QR code
2	Tell participants they will practice shutting off fuel utilities and coordinating the shut off of electric utilities during the skill drills.
3	Ask if anyone has questions or comments before moving on • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



UTILITIES

Finding and dealing with utilities at a fire scene is important because active fuel, power, or water systems can feed the fire, cause explosions or shocks, and endanger lives.

Electrical

Turning off electricity should only be done by trained professionals. Firefighters should not attempt it unless properly trained. Treat the fire as a Class C fire.



Solar energy systems

For small, defensive-only fire departments, fighting solar panel fires with an indirect attack is usually the safest and most appropriate approach—but only under strict safety precautions.

- Treat solar panel fires as electrical fires.
- Protect exposures and wait for utility personnel or solar specialists if possible.
- Always keep your crew at a safe distance and assume the system is live.

NWT UTILITY PROVIDERS

Make sure you know where to find utility provider phone numbers in your community quickly.

To find the phone number for the fuel provider in our community search:

GNWT-infrastructure-fuel providers
 Northwest Territories Power Corporation (NTPC)
 emergencies: 1-855-575-6872.



Water

Shutting off water to a building can help reduce damage if the system is damaged. This is usually done by locating a valve outside the building and using a special wrench or key. Firefighters must make sure they don't shut off water needed for fighting the fire, like water for sprinkler systems.

Heating Fuel

Firefighters should try to find the main shut-off valve or switch for the home heating system only if safe to do so. It's a good idea to work with local fuel suppliers to understand these systems and how to reduce risks during fire operations.



Getting these utilities shut off will be practiced during skills drills.

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NOTE: Why Solar Panel Fires Are Risky

- Always live: Panels keep producing power in any light, so they can't be fully shut off.
- Shock hazard: DC current can arc and cause electrocution. Avoid contact or spraying water on panels.
- Water danger: Water conducts electricity
- Collapse risk: Roof-mounted panels can hide fire damage and increase collapse danger.
- Toxic smoke: Burning panels release harmful gases like hydrofluoric acid.

Defensive Firefighter Guidance:

- Do not attack solar panel fires without proper training.
- Protect exposures and people; let it burn in a controlled way.

SALVAGE AND OVERHAUL

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain the purpose of salvage and overhaul operations

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 11: Let them know they can use the QR code
2	Tell participants they will practice salvage and overhaul during the skill drills.
3	Ask if anyone has questions or comments before moving on • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



SALVAGE AND OVERHAUL

Salvage and overhaul operations in firefighting involve protecting property from damage by removing water, smoke, and debris, and ensuring that all hidden fire sources are extinguished to prevent rekindling.

Salvage

The goal of salvage is to protect property from more damage during and after a fire. This can include covering items with tarps or blocking doorways and windows to keep out weather. Defensive firefighters do not go inside buildings to do this work, since they are not trained for it. However, they may help by using tools like air monitors or thermal cameras from outside.





Thermal imaging

Thermal imagers or cameras help firefighters find hidden fire or hot spots that could restart the fire. They can also help find people by detecting body heat and show weak areas in a building. Firefighters must be properly trained to use thermal imaging safely and effectively.

- Start with a scan of the building to spot areas with high heat.
- Check walls, ceilings, and floors for hidden fire or hot spots.
- Look for unusual heat patterns that may show fire spread or weak spots.
- Use the imager/camera to help find any hidden people or pets.



Air monitoring

Air monitoring is used after a fire to check if the air is safe to breathe. It helps find dangerous gases, low oxygen levels, or other harmful substances. This tells firefighters if it is safe to enter or if the area is too dangerous.

- Check air quality before starting any work.
- Keep monitoring air during salvage.
- Stop work and move to safety if air becomes unsafe.

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SALVAGE AND OVERHAUL

Overhaul

Overhaul helps prevent a fire from starting again by finding and putting out hidden flames or hot spots. Even after the fire looks out, high heat may still be present and can restart a fire. Defensive firefighters do not enter dangerous areas and must work from the outside. This may include opening walls or crawlspaces using tools like chainsaws to check for fire.

Key Tasks

- Search for and extinguish hot spots.
- Remove smoldering debris.
- Ventilate and clear smoke.
- Monitor structure for collapse risks.
- Prevent rekindling (fire starting again)

Tools and Equipment

- Saws to access hidden areas from the exterior
- Thermal imagers/cameras to detect hidden hot spots
- Portable fans to ventilate smoke and improve air quality
- Salvage covers/tarps to protect belongings during overhaul
- Air monitors to check for hazardous gases or unsafe oxygen levels
- Portable or vehicle-mounted generator to provide power if needed
- Hand tools like axes, crowbars and Halligans for opening exterior walls
- Portable scene lights or headlamps for visibility in dark, smoky conditions

Safety:

- Full PPE and operating at a safe distance: dangerous gases may be present and flare-ups of the fire are possible.
- Communication: maintain radio contact with the team and command.
- Accountability and supervision: a designated officer should oversee the operation.



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SKILL DRILLS

Estimated time	• 4-5 hours
Materials needed	• Facilitator Guide (all drills) • Student Workbooks (all drills) • Personal cell phones (all drills) • PPE per participant – gloves, helmet, safety goggles, fire-resistant clothing, boots (all drills) • Utility provider contact information (Skill Drill 8-1) • Shut-off / lock-out tag (Skill Drill 8-1 and 8-2) • Lockout device (if available; otherwise simulate tagging procedure) (Skill Drill 8-2) • Adjustable wrench (Skill Drill 8-2) • Radio (Skill Drill 8-1 and 8-2) • Fire engine with a charged water tank (Skill Drills 8-3 to 8-6) • Handlines (1.5-inch or 1.75-inch hose lines) (Skill Drills 8-3 to 8-6) • Nozzles (adjustable fog nozzles) (Skill Drills 8-3 to 8-6) • Simulated fire/emergency scene (built structure with a wall that can be set on fire OR burn barrel/pit) (Skill Drills 8-5 to 8-7) • Halligan tool or pry bar (Skill Drill 8-7) • Flathead axe (Skill Drill 8-7) • Chainsaw (Skill Drill 8-7) • Flashlight (Skill Drills 8-7 and 8-8) • Power generator (portable or stationary) (Skill Drill 8-8) • Fuel supply for the generator (gasoline or diesel) (Skill Drill 8-8) • Extension cords (Skill Drill 8-8) • Portable scene lights and tripods (Skill Drill 8-8) • Ground fault circuit interrupter (GFCI) adapters (Skill Drill 8-8) • Salvage cover (Skill Drill 8-9) • Hose marker or Sharpie (optional – Skill Drills 8-5 to 8-7) • Hearing protection (recommended for generator or chainsaw use)
Learning Outcome(s)	• Skill Drill 8-1: Perform contacting a utility provider to isolate location • Skill Drill 8-2: Perform shutting off fuel utilities • Skill Drill 8-3: Perform one-firefighter method for operating a large handline • Skill Drill 8-4: Perform two-firefighter method for operating a large handline • Skill Drill 8-5: Perform an indirect attack • Skill Drill 8-6: Perform extinguishing an outside trash fire (Class A) • Skill Drill 8-7: Perform opening an exterior wall to check for fire • Skill Drill 8-8: Perform illuminating an emergency scene • Skill Drill 8-9: Perform folding a salvage cover for one-fire fighter deployment

Facilitation Instructions

SCENARIOS

- Read out loud or use QR code for scenarios on **page 14**.
- Let them know they can follow along in their books

Skill Drill 8-1: Perform contacting a utility provider to isolate location

2	TELL • Now that they have a scenario in mind, read out loud the steps for skill drill 8-1 on page 15. • Let them know they can follow along in their books
3	SHOW: Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. • Show how to locate the electrical shut-off: look for an exterior switch or breaker near the power meter. • Show how to contact the utility provider: keep emergency contact numbers in the vehicle. Call and give clear details — location, type of emergency, and where the meter is located. • Example: “This is the fire department at 62 Smith Road. We need the power shut off for safety. The meter is on the south side.” • Show how to follow the provider’s instructions: they may guide you to switch off power if safe, or send a technician. Never handle exposed or sparking wires. • Show how to confirm power is isolated: check that the exterior switch or breaker is in the OFF position, or wait for confirmation from the utility provider before resuming operations. • Show how to report to command: inform your officer once power is confirmed off and the area is safe to continue operations.
4	DO • Have each participant practice the drill • Watch each participant to ensure ALL steps done correctly. Correct if necessary

Skill Drill 8-2: Perform shutting off fuel utilities

1	TELL • Based on the scenario, read out loud the steps for skill drill 8-2 on page 15. • Let them know they can follow along in their books
2	SHOW: Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. • Show how to acknowledge the assignment: Example: “Acknowledged, Command. Going to shut off the building’s exterior fuel supply.” • Show how to locate the gas shut-off valve: look near the tank or where the fuel line enters the building. Valves may have a wheel or lever handle. • Show how to close the valve: Wheel → turn right (clockwise) until it stops. Lever → turn across (perpendicular to) the pipe. • Show how to tag and lock the valve: attach a weather-resistant tag with the date, time, reason, and your name/unit. Use a lock-out device or padlock if available. • Show how to notify command: Example: “Command, fuel is shut off, tagged, and locked out. No leaks or damage visible.”
3	DO • Have each participant practice the drill • Watch each participant to ensure ALL steps done correctly. Correct if necessary



SKILL DRILLS

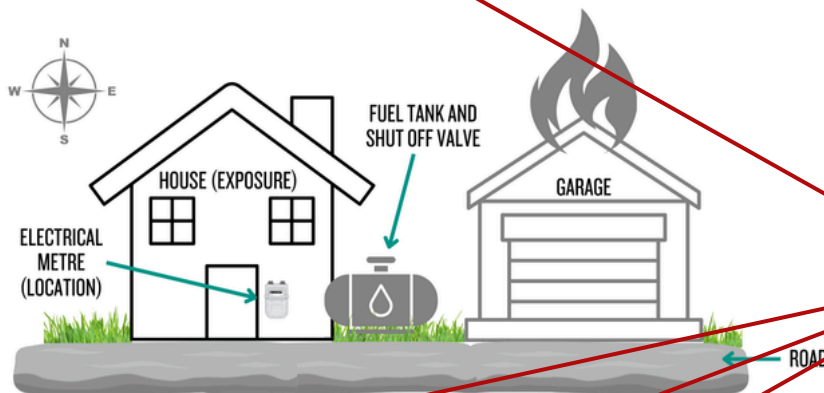
Read the following scenarios and use the image to perform the following Skill Drills

Scenario 1

A call came in reporting a garage fire at 62 Smith Road. All units have been mobilized. Your team is performing an indirect attack on the house next to the garage (the exposure). After informing your superior that you have arrived at the scene, your superior directs you to do the following:

- Contact the electrical utility provider to turn off power to the exposure
- Shut off fuel to the exposure if safe to do so

You provide size-up and situation reports to your superior, determining it is safe to proceed.



Scenario 2

A call came in reporting a garage fire at 62 Smith Road. All units have been mobilized. After informing your superior that you have arrived at the scene, your superior directs you to get prepared by:

- Using the **one-firefighter method** for operating a large handline

Scenario 3

A call came in reporting a garage fire at 62 Smith Road. All units have been mobilized. After informing your superior that you have arrived at the scene, your superior directs you to:

- Using the **two-firefighter method** for operating a large handline

Scenario 4

A call came in reporting a garage fire at 62 Smith Road. All units have been mobilized. After informing your superior that you have arrived at the scene, your superior directs you to:

- Perform an **indirect attack** on the burning building and extinguish the fire

Scenario-based learning helps participants be motivated to learn skills correctly.

SKILL DRILLS

SKILL DRILL 8-1: Contact utility provider to isolate location

1	Don full defensive PPE
2	Determine location of utility shutoff points for fuel, electricity, and water
3	Obtain the contact details for the relevant utility providers
4	Call the utility provider's emergency contact number. Provide location and nature of emergency details
5	Follow instructions from utility provider. They may guide you on specific actions or send technician
6	Ensure utility is successfully isolated. Check shutoff points yourself or confirm with utility provider
7	Inform your superior that the utility has been isolated and provide any relevant updates.

SKILL DRILL 8-2: Shut off exterior fuel supply to building

1	Don full defensive PPE
2	Acknowledge the assignment
3	Locate the exterior gas shut-off valve
4	Close the gas shut-off valve
5	Attach a shut-off or lockout tag and lock if required
6	Notify command that the gas is shut off



Facilitation Instructions

Skill Drill 8-3: Perform one-firefighter method for operating a large handline

Skill Drill 8-4: Perform two-firefighter method for operating a large handline

1	TELL - Based on the scenario, read out loud the steps for skill drills 8-3 and 8-4 on page 16. - Let them know they can follow along in their books	
2	SHOW: Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step.	
3	Show how to select the correct hose: Use a 1.5"–1.75" (38–45 mm) attack line for easy handling and lower water use.	
4	1FF METHOD: Show how to advance the hose - Grip the nozzle with one hand and the hose 2–3 ft behind. - Move forward using your legs; flake hose if kinked. - Brace in position (kneel or crouch).	2FF METHOD: Show how to advance the hose - Nozzle firefighter grips the nozzle with one hand and the hose 2–3 ft behind. - Backup firefighter holds the hose 1–2 m (3–6 ft) behind the nozzle to help control pressure and feed hose forward. - Move together using your legs; backup firefighter helps flake hose if kinked. - Both brace in position (kneeling or crouched).
5	Show how to signal for water: - Radio: "Pump, this is Nozzle. Charge the line." - Or raise one arm and make a circular "crank" motion.	
6	1FF METHOD: Show how to bleed the line: - Brace, open nozzle slowly to release air, then close when water flows steady. - Confirm with pump operator that water is flowing.	2FF METHOD: Show how to bleed the line: - Nozzle firefighter braces and opens nozzle slowly to release air. - Backup firefighter supports the line to control movement. - Close the nozzle once water flows steady and confirm with pump operator.
7	1FF METHOD: Show how to secure the hose: - Close nozzle, form a loose loop, and place it under the main line. - Lash or hold where lines cross to prevent movement.	2FF METHOD: Show how to secure the hose: - Backup firefighter helps form a loose loop behind the nozzle. - Place nozzle under the main line and ensure both firefighters keep tension controlled. - Lash or hold where lines cross to prevent movement.
8	1FF METHOD: Show how to attack the fire: - Aim at the base of the fire, sweep side to side. - Use fog or straight stream depending on conditions. - Cool hot surfaces to protect exposures.	2FF METHOD: Show how to attack the fire: - Nozzle firefighter aims at the base of the fire, sweeping side to side. - Backup firefighter supports hose and manages kinks. - Use fog or straight stream depending on conditions. - Cool hot surfaces to protect exposures.
9	DO - Have each participant practice the steps for both drills. - Watch each participant to ensure ALL steps done correctly. Correct if necessary	

Let participants know the visuals in the books will help them to see how the skills are performed. They can review the skills anytime using test, audio QR codes and the pictures.

SKILL DRILL



SKILL DRILL 8-3: Operate large handline (one-firefighter method)

1	Don full defensive PPE
2	Select correct size of fire hose for the task to be performed
3	Advance hose into position from which you plan to attack the fire
4	Signal pump operator you are ready for water
5	Open nozzle to allow air to escape hose and ensure water flowing
6	Close nozzle, make pressure loop with hose ensuring nozzle is under hose line coming from apparatus
7	Lash the hose sections together where they cross or use your body weight to kneel or sit on hose line at the point where hose crosses itself
8	Allow enough hose to extend past the section where the line crosses itself for maneuverability
9	Open nozzle and direct water onto designated area



SKILL DRILL 8-4: Operate large handline (two-firefighter method)

1	Don full defensive PPE
2	Select the correct handline for the task at hand
3	Stretch the hose line from the fire apparatus into position then signal that you are ready for water
4	Open the nozzle a small amount to allow air to escape and to ensure water is flowing
5	Advance the hose line as needed
6	Firefighter on the nozzle should cradle the hose on hip while grasping the nozzle with one hand and supporting the hose with the other hand
7	Second firefighter stays 1 metre behind nozzle operator, grasping hose with two hands
8	Open the nozzle in a controlled fashion
9	Direct water onto the fire or designated exposure



Facilitation Instructions

Skill Drill 8-5: Perform an indirect attack

1	TELL - Read out loud the steps for skill drill 8-5 on page 17. - Let them know they can follow along in their books
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. - Show how to exit apparatus wearing full PPE: Face the truck, keep one hand on a grab bar, step down carefully using steps — never jump; maintain three points of contact. - Show how to select correct hose line for the fire type, size, and location. - Show how to advance hose line from apparatus to indirect attack position. - Show how to notify operator you're ready for water. - Show how to open nozzle to purge air and confirm water flow, then shut down until ready to attack. - Show how to advance charged line to attack position. - Show how to direct water stream at upper levels, sweeping side to side to cool the area (no live fire; repeat in Skill Drill 8-6). - Show how to shut off nozzle. - Show how to reassess conditions—watch for flame return, smoke, or structural change; communicate updates. - Show how to shut down nozzle fully once fire is reduced. - Show how to confirm ventilation—ensure smoke and heat are clearing. - Show how to attack remaining hotspots using short bursts until all fire is extinguished (repeat with live fire in Skill Drill 8-6).
3	DO - Have each participant practice the drill - Watch each participant to ensure ALL steps done correctly. Correct if necessary

Skill Drill: 8-6: Extinguish an outdoor Class A fire

- This drill can be conducted using a small structure fire if safe and practical. If not, use a controlled trash-can fire containing only Class A materials such as wood or paper.*
- If using a structure, leave at least one wall intact to complete Skill Drill 8-7 later.*

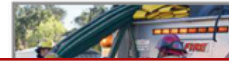
1	TELL - Read out loud the steps for skill drill 8-5 on page 17. - Let them know they can follow along in their books
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. - Show how to perform size-up and give an arrival report: Quickly scan what's burning, where it's spreading, and what's at risk. Radio report: "Command, Engine 1 on scene at 62 Smith Road. Detached garage fully involved, exposures on Bravo side. No occupants. Defensive operations underway." - Show how to park safely: Position uphill and upwind; angle to protect from traffic; use cones or lights if near a road. - Show how to deploy an attack line (min. 38 mm). - Show how to open nozzle to purge air and confirm flow; set nozzle pattern—straight or narrow fog for reach, wide fog for protection. - Show how to shut nozzle until in attack position. - Show how to direct crew: Work from uphill and upwind; stay outside the structure; use sweeping motions to knock back flames. - Show how to break up burning material: Use tools or hose streams to separate and cool piles of debris. - Show how to overhaul fire: Check for hot spots, pull apart debris, apply water only as needed. - Show how to notify command: "Command, fire under control. No visible flames. Beginning overhaul." - Show how to identify origin and cause: Look for burn patterns, melted wiring, or unusual smells. - Show how to preserve evidence: Don't disturb suspicious items; flag or photograph instead. - Show how to return to service: Clean and check hoses, tools, and PPE; repack hose beds; refill tank; log damage; confirm crew safety before leaving
3	DO - Have each participant practice the drill - Watch each participant to ensure ALL steps done correctly. Correct if necessary

SKILL DRILLS



SKILL DRILL 8-5: Perform indirect attack using handline

1	Exit the apparatus donning full defensive PPE
2	Select correct hose line depending on fire type, location, size
3	Advance hose line from apparatus to designated attack location
4	Notify operator/driver that you are ready for water
5	Open nozzle, make sure air is purged from hose line and water is flowing
6	Shut down the nozzle and advance the charged hose line to the location where you will apply water
7	Direct water stream onto upper levels and move stream back down
8	Shut off nozzle
9	Reassess fire conditions – watch for changes and reduction in amount of fire
10	Once fire is reduced, fully shut down nozzle
11	Confirm ventilation has been completed
12	Attack any remaining fire, hotspots until fire is completely extinguished



Many of the steps in these drills are repeated. In skill drill 8-5, focus on the handline operations **WITHOUT** a live fire first. For skill-drill 8-6 repeat the proper steps in skill drill 8-5 with a larger focus on fire extinguishment using a live fire. Review skills anytime using audio QR codes and the pictures.



SKILL DRILL 8-6: Extinguish an outdoor Class A fire

1	Don full defensive PPE
2	Perform size-up and give an arrival report. Call for additional resources if needed
3	Ensure apparatus is positioned uphill/upwind of fire and protecting scene from traffic
4	Deploy an appropriate attack line (at least 38 mm in diameter)
5	Open nozzle to purge air from system, make sure water is flowing
6	If using an adjustable nozzle, ensure it's set to proper nozzle pattern
7	Shut down the nozzle until you are in a position to apply water
8	Direct the crew to attack the fire in a safe manner—uphill and upwind from the fire
9	Break up compact materials with hand tools or hose streams
10	Overhaul the fire
11	Notify command when the fire is under control
12	Identify obvious signs of the origin and cause of the fire
13	Preserve any evidence of arson
14	Return the equipment and crew to service



Facilitation Instructions

Skill Drill 8-7: Perform illuminating an emergency scene

1	FINAL SCENARIO • Read out loud or use QR code for final scenario on page 18. • Let them know they can follow along in their books
	TELL • Read out loud the steps for skill drill 8-7 on page 18. • Let them know they can follow along in their books
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. • Show how to inspect equipment: Check lights, cords, generator, and adapters—clean, untangled, and undamaged. • Show how to start power source: Start the generator, turn on the inverter, or confirm building power. • Show how to connect equipment: Plug in lights using adapters and GFIs; keep cords dry and off the ground. • Show how to ensure grounding: Attach grounding wire to a safe metal point if using a generator. • Show how to check lighting: Make sure the area is well lit with no glare or shadows in key work zones.
3	DO • Have each participant practice the drill • Watch each participant to ensure ALL steps done correctly. Correct if necessary

SKILL DRILLS

Final Scenario

After the fire is extinguished, it starts getting dark outside. Your superior directs you to do salvage and overhaul operations. You are directed to:

- Illuminate the emergency scene
- Overhaul an exterior wall (to make sure the fire is completely out)
- Fold a salvage cover (tarp) for one firefighter use



SKILL DRILL 8-7: Illuminate an emergency scene

1	Don full defensive PPE
2	Inspect all equipment while setting it up
3	Start the portable generator, engage the inverter, or check that there is electrical power in the building
4	Connect cords, plug adaptors, Ground Fault Interrupters (GFI), and lighting equipment
5	Ensure proper grounding and GFI use
6	Ensure scene is adequately and safely illuminated



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Facilitation Instructions

Skill Drill 8-8: Perform opening an exterior wall to check for fire

1	TELL • Read out loud the steps for skill drill 8-8 on page 19. • Let them know they can follow along in their books
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. • Show how to choose where to open the wall: Start with the most fire-damaged area, then check nearby sections. • Show how to confirm power: Start the generator or inverter, or verify building power is on. • Show how to cut the wall: Use the axe blade to cut downward between studs, starting near the top; watch for switches or outlets that indicate wiring. • Show how to make two vertical cuts: Use the pick end of the axe to pull wall material from studs, working top to bottom about 40–60 cm apart. • Show how to remove trim: Use the Halligan or axe to gently pry off baseboards or window/door trim without splintering. • Show how to open more wall sections: Continue until no more heat, smoke, or fire is visible. • Show how to pull out insulation from behind the wall to check for hidden fire.
3	DO • Have each participant practice the drill • Watch each participant to ensure ALL steps done correctly. Correct if necessary

Skill Drill 8-9: Perform folding a salvage cover for one-firefighter deployment

1	TELL • Read out loud the steps for skill drill 8-8 on page 19. • Let them know they can follow along in their books
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step. • Show how to Spread the salvage cover flat on the ground with a partner facing you • Show how to (On the right side of the salvage cover) make a fold at the quarter point of the cover. • Show how to make a second fold that ends in the middle of the cover. • Show how to (On the left side of the salvage cover) make a fold at the quarter point of the cover. • Show how to make a second fold that ends in the middle of the cover. • Show how to Fold the two halves together and flatten the salvage cover to remove any trapped air. • Show how to Make 30 cm folds from each end of cover until you reach the centre of the salvage cover. • Show how to Fold the two halves together
3	DO • Have each participant practice the drill • Watch each participant to ensure ALL steps done correctly. Correct if necessary

SKILL DRILLS



SKILL DRILL 8-8: Overhaul an exterior wall

1	Don full defensive PPE
2	Determine which area of the wall will be opened. Open areas most heavily damaged by the fire first, followed by the surrounding areas
3	Use the axe blade to begin cutting near the top of the wall. Cut downward between wall studs. Be alert for electrical switches or receptacles, as they indicate the presence of electrical wires behind the wall
4	Make two vertical cuts, using pick end of axe to pull the wall material away from the studs and open the wall. Work from top to bottom
5	Remove items such as baseboards or window and door trim with a Halligan tool or axe
6	Continue opening additional sections of the wall until the desired area is open
7	Pull out any insulation found behind the wall



SKILL DRILL 8-9: Fold salvage cover for one firefighter use

1	Spread the salvage cover flat on the ground with a partner facing you
2	On the right side of the salvage cover, make a fold at the quarter point of the cover
3	Next, make a second fold that ends in the middle of the cover
4	On the left side of the salvage cover, make a fold at the quarter point of the cover
5	Next, make a second fold that ends in the middle of the cover
6	Fold the two halves together and flatten the salvage cover to remove any trapped air
7	Make 30 cm folds from each end of cover until you reach the centre of the salvage cover
8	Fold the two halves together



LEARNING DEBRIEF

Estimated time	• 20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Describe the suppression of fires in exposed and/or high-fuel load environments • Describe the tactics used to protect exposures and suppress chimney fires • Explain the purpose of salvage and overhaul operation

Facilitation Instructions

1	Ask participants to turn to page 20 in their workbook
2	Let participants know they can write down ideas in their workbooks.
3	Use Appendix 3 in this guide for helpful tips on facilitating discussions.
4	Ask participants to share stories or experiences related to this question: Why is it important for defensive firefighters to understand the risks of different fire locations, like lumberyards or chimney fires, before starting operations?
5	Ask participants to share stories or experiences related to this question: What are some ways defensive firefighters can protect property and people without entering a burning structure?
6	Ask participants to share stories or experiences related to this question: How would tools like thermal imagers and air monitors help defensive firefighters work more safely and effectively during salvage and overhaul?

LEARNING DEBRIEF

REMEMBER

- Developing proper work habits during training in this course helps ensure safety later
- Do not attempt anything you feel is beyond your ability or knowledge
- Tell someone if you see something that you feel is an unsafe practice
- Continue to learn teamwork and practice working as a team
- A firefighter injured during training should not return until medically cleared for duty

Reflect on the following questions. Jot down notes or sketches in the spaces provided.

Why is it important for defensive firefighters to understand the risks of different fire locations, like lumberyards or chimney fires, before starting operations?	
What are some ways defensive firefighters can protect property and people without entering a burning structure?	
How would tools like thermal imagers and air monitors help defensive firefighters work more safely and effectively during salvage and overhaul?	

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Participants can use the spaces provided to write or sketch out their thoughts.

AFTER THE SESSION

- Ask participants for feedback about the session. If they enjoyed it, encourage them to share with others if you are trying to increase participation in your department.
- If participants mention anything they didn't enjoy or found too difficult, try to adjust the training in the future. Also, let your MACA regional AFM know about their feedback.
- Fill out the attendance sheet (Appendix 4).
- Share details about the next training session, if possible.
- Encourage participants by telling them they did a great job if they were engaged and participated.
- Give yourself credit as the trainer—you did a great job too!

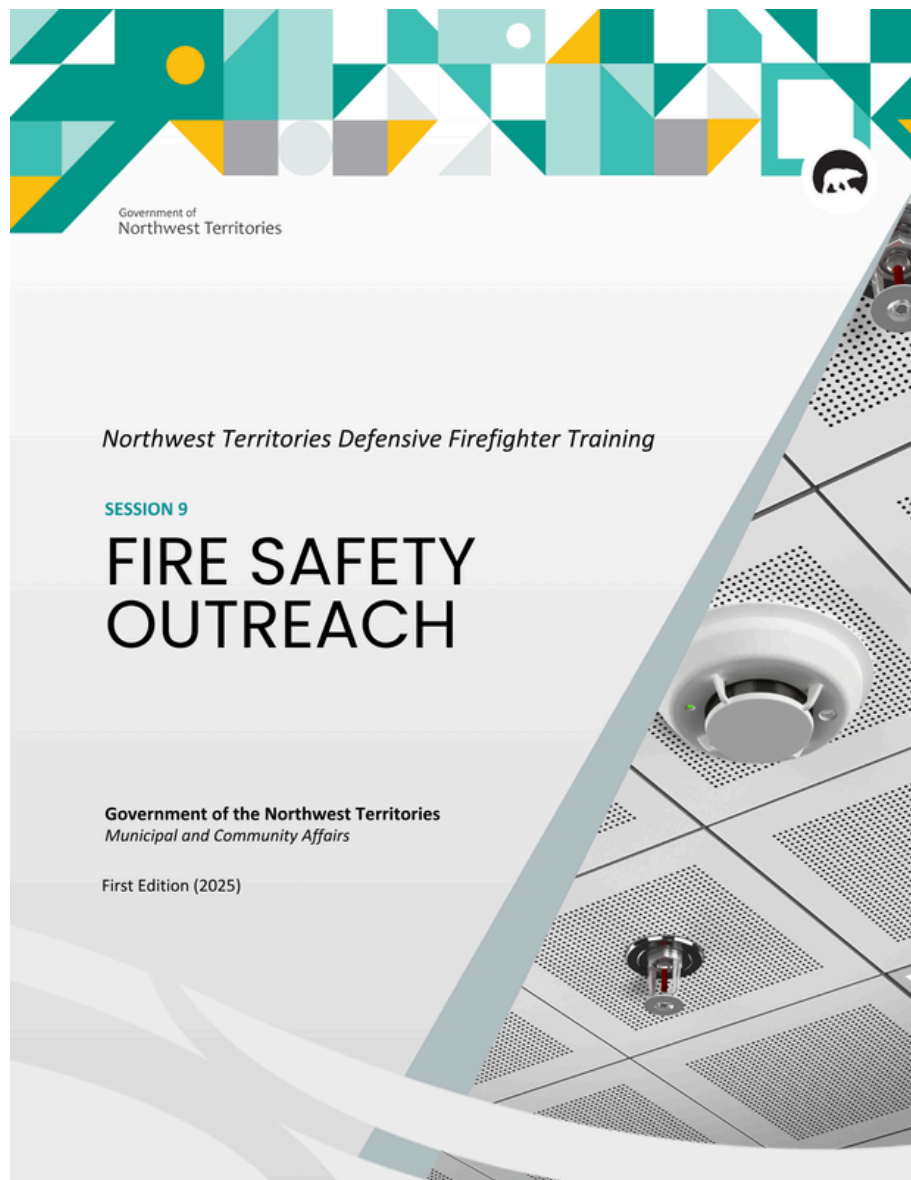
Consider reflecting on your job as a facilitator:

What went well and why?	
What areas can you improve on and how?	
Do you have questions to ask your regional MACA-CGLD Learning and Development Advisor?	

SESSION 9

FIRE SAFETY

OUTREACH



Session Overview

This module is designed to help firefighters deliver fire prevention and life safety educational programming to the public that is aligned with codes and standards applicable to the NWT.

Learning Outcomes

After this training session, learners should be able to:

- Explain why public outreach is part of a firefighter's role
- Describe how codes and standards relate to training and life safety programs
- Describe six areas of fire prevention and life safety programming
- Explain the TELL-SHOW-DO method of teaching
- Skill Drill 9-1: Practice delivering training on Exit Drills In The Home (EDITH)
- Skill Drill 9-2: Practice delivering a smoke alarm presentation
- Skill Drill 9-3: Practice conducting a home safety survey in a residence

Session Time

The estimated time for this training session is: **2-2.5 hours**

Session Materials

- Facilitator Guide
- Student workbook (Session 9)
- Cell phones
- Pens, pencils
- Speaker (QR codes)
- Smoke alarms with manufacturer's instruction manuals
- Screws and anchors (usually included with the alarm)
- Drill with appropriate bits and wall anchors
- Screwdriver
- Ladder or step stool
- Batteries (if applicable)
- Vacuum or canned air for cleaning
- Teaching kit per learner:
 - Chart paper or whiteboard
 - Markers
 - Copies of a simple floor plan of a home (for each student)
 - Crayons or colored pencils
 - Fire safety videos (optional)
 - Role-playing props (e.g., a toy phone to simulate calling 911)

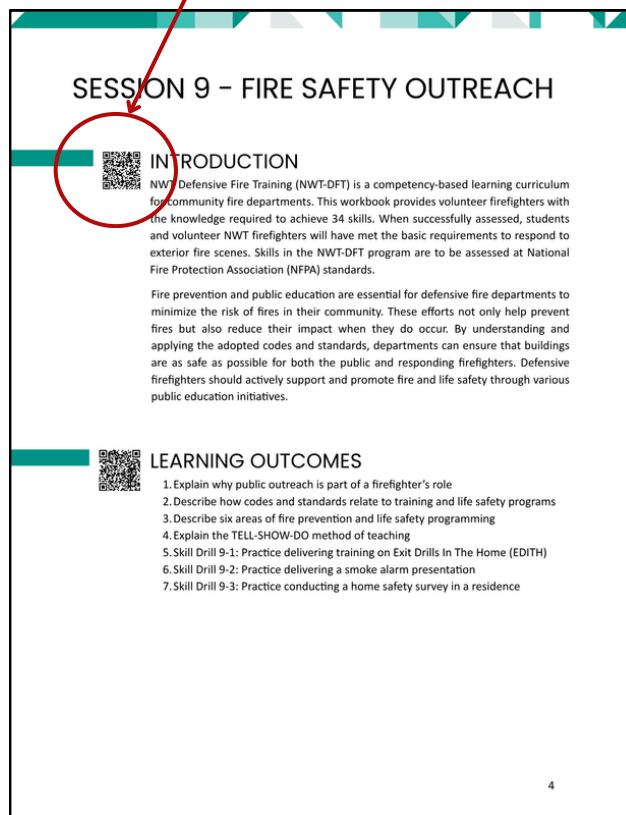
INTRODUCE THE SESSION

Estimated time	• 5 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones

Facilitation Instructions

1	Start by telling participants what this module is about “In this module, you’ll learn how to teach fire prevention and life safety to the public in a way that follows the codes and standards used in Canada and the Northwest Territories.”
2	Tell participants to follow along in their workbook on page 4: Let them know they can use the QR code
3	Go over learning outcomes: After this session, you should be able to: • Explain why public outreach is part of a firefighter’s role • Describe how codes and standards relate to training and life safety programs • Describe six areas of fire prevention and life safety programming • Explain the TELL-SHOW-DO method of teaching • Skill Drill 9-1: Practice delivering training on Exit Drills In The Home (EDITH) • Skill Drill 9-2: Practice delivering a smoke alarm presentation • Skill Drill 9-3: Practice conducting a home safety survey in a residence

Scan for audio narration



PUBLIC OUTREACH OVERVIEW

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 5: Let them know they can use the QR code
2	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



PUBLIC OUTREACH OVERVIEW

Defensive firefighters in the NWT do more than fight fires. They also help stop fires before they start. They teach people how to stay safe and protect their homes. Fire prevention is very important in the NWT. With many homes being older or using alternative heat like wood stoves, fire safety is a must. Fire prevention and life safety education is critical when most of our communities have few resources and assistance may be far away or unavailable. Here are some common programs firefighters teach to the public as part of your fire department's service to the community.

Smoke Alarm Checks and Installs	Firefighters go to homes to check smoke alarms. They help people put in new ones if needed. Smoke alarms warn people early so they can escape a fire.
Fire Safety at Schools	Firefighters teach children how to stay safe. They talk about what to do if there is a fire. Kids can also share what they learn with their families.
Community Fire Drills	Firefighters help plan and lead practice drills. These drills help people know where to go and what to do in a fire. This is very important in small communities with few roads.
Home Safety Visits	Firefighters visit homes to look for fire dangers. They check things like heaters, wood stoves, and exits. They give tips to make homes safer.
Public Safety Messages	Firefighters share fire safety tips on the radio, posters, and at meetings. They remind people to be safe in winter and in wildfire season.
Fire Extinguisher Training	Firefighters teach adults how to use fire extinguishers. They can also teach how to find and fix fire risks at home or at work.



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CODES AND STANDARDS

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	Describe how codes and standards relate to training programs

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 6: Let them know they can use the QR code
2	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



CODES AND STANDARDS

When teaching fire prevention and life safety, it's important to use the right codes and standards. These are the rules that guide how we do things safely. If we don't use the correct information, we might teach something that's not safe or correct. This can confuse people or lead to mistakes in an emergency. Using the proper codes and standards helps defensive firefighters share clear, correct, and up-to-date safety steps. It also makes sure everyone in the community gets the same message, no matter who is teaching. Programs used to teach the public about fire prevention must reflect these codes and standards.

National Building Code of Canada (NBC)	Federal sets safety rules for new buildings and major repairs. It makes sure safe materials are used, alarms and sprinklers are installed properly, and buildings are properly designed. It also ensures fire can't spread easily and that people can exit safely in an emergency.
National Fire Code of Canada (NFC)	The National Fire Code (NFC) works with the National Building Code (NBC) to keep people safe after a building is built. The federal NFC makes sure buildings are maintained safely by setting rules for fire exits, alarms, sprinklers, and storing fuel or chemicals. It also includes rules for fire drills and safety plans. In the NWT, both the Building Code and Fire Code are required by the Fire Prevention Act and Regulations, meaning all buildings must follow these safety rules.
NWT Fire Prevention Act and Regulations	The NWT Fire Prevention Act and Regulations ensures building and fire safety is maintained throughout the NWT. The Office of the Fire Marshal (OFM), part of the Government of the Northwest Territories (GNWT), ensures the rules are followed. The OFM is responsible for enforcing fire safety rules, inspecting buildings for hazards, and investigating fires to find their causes. These rules help keep people, homes, and communities safe.
Local Bylaws	Communities in the NWT can create their own fire protection bylaws, but these must follow territorial laws. Local fire bylaws can add extra fire prevention rules, set safety inspection guidelines, and help plan responses to fires and emergencies. These bylaws help each community stay safe based on their specific needs.
Safety Act (NWT)/ Firefighter Code of Practice	Employers must follow safety rules to keep workers safe and healthy, including volunteer firefighters. These territorial rules ensure there are clear steps to prevent injuries, use safety equipment correctly, and follow safe work practices. Everyone, both employers and workers, plays a role in workplace safety.

When in conflict, the legislation of the higher level of government is followed (NWT legislation would be followed if in conflict with a local bylaw, for example).

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In small communities, there may not be local inspectors to enforce these rules. You could mention here that the local knowledge firefighters have —like knowing which homes have wood stoves or where people store fuel—can be just as important as the codes themselves.

You might ask learners if they remember learning about the right and responsibility to refuse unsafe work in Session 1-Firefighter Safety. This is the Act and code and that ensures they have that right.

TEACHING RESOURCES

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	Describe how codes and standards relate to training and life safety programs Describe six areas of fire prevention and life safety programming

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 7: Let them know they can use the QR code
2	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



TEACHING RESOURCES

There are several fire prevention and life safety educational programs available across Canada that are already built using correct codes and standards (like NFPA and provincial/territorial fire codes). These programs are designed to be adapted for communities across the country, including remote communities in the NWT. Here are some reliable sources:

NFPA Public Education Programs (Canada-compatible)	Programs well-tested and used across North America. They follow proper codes and have been adapted for Canadian use. • Learn Not to Burn (for children) • Remembering When (for older adults) • Fire Prevention Week toolkits	
FireSmart Canada and FireSmart NWT	FireSmart is supported by all provinces and territories, including the NWT. It follows national wildfire protection standards. • FireSmart 101 • Neighbourhood Recognition Program • Home Ignition Zone training	 
Partners in Protection (for Indigenous communities)	FireSmart for Indigenous Communities: Offers culturally adapted, standards-based wildfire education and home safety programming.	
Canadian Fire Safety Association (CFSA)	The CFSA promotes fire prevention based on building codes, fire codes, and national standards. • Training modules and presentations for the public and firefighters • Community safety education materials	
NWT Office of the Fire Marshal (OFM)	Each province or territory has an Office of the Fire Marshal (or similar authority) that offers fire prevention material.	

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Let participants know that they can easily access these resources at the organization websites at any time on their phones

EDUCATIONAL PROGRAMS

Estimated time	• 5-10 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	Describe six areas of fire prevention and life safety programming

Facilitation Instructions

1	Tell participants to follow along in their workbook on pages 8 and 9: Let them know they can use the QR code
2	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.



EDUCATIONAL PROGRAMS

Good fire prevention and life safety trainers take time to learn each step of the program they're using to teach it properly. Firefighters teach both how to stop fires from starting, and what to do if one happens. It's also important to adjust how you teach depending on your audience—kids, adults, or Elders—so everyone can learn in a way that makes sense to them. These are common programs to teach in your community.



Exit Drills In The Home (EDITH)

Exit Drills in the Home (EDITH) help everyone in the house learn how to escape safely in a fire or emergency. By practicing, it helps people stay calm, make good decisions and remember the best way out.

- Sleep with doors closed to keep out smoke and fire longer.
- Plan two ways out of each room in case one is blocked.
- Roll out of bed and crawl low. Smoke rises, so air is safer near the floor.
- Check doors for heat. If a door is warm, don't open it—fire may be behind the door.



Installing, maintaining smoke alarms

Learning about installing and maintaining smoke alarms is important because these alarms alert people to smoke or fire early on. This gives them more time to escape safely if there's a fire. Fire prevention programs also help create a culture of safety, encouraging regular maintenance and inspections of smoke alarms. Regular testing (twice per year minimum) and replacing the batteries ensures the alarms work properly and can help save lives.

REQUIREMENTS

In Canada, new homes must have interconnected, hard-wired smoke alarms with battery backup. These alarms should be in every bedroom, outside each sleeping area, and on every floor. It is also highly recommended to install CO alarms outside mechanical or furnace rooms, or spaces with fuel-burning appliances.

Homes are not required to have residential sprinkler systems, but adding them where possible is strongly recommended. Testing and maintaining these systems regularly is key to keeping them working well and protecting lives and property.

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EDUCATIONAL PROGRAMS

Home safety surveys

Firefighters should know how to do home fire safety checks. This means being ready, knowing what to look for, and talking clearly with the people who live there. These checks help spot fire risks and teach safety tips.

- Make sure the house number is easy to see so responders can find the home fast.
- Clear away trash, big bushes, and anything blocking doors or paths.
- Check that smoke alarms and fire equipment are working properly.
- Talk about safe cooking to prevent kitchen fires.
- Look at heaters and fireplaces—they are a fire risk if not properly maintained and used right.
- Watch for things like bad wiring, lit candles, or signs of smoking.
- Ensure safe and proper storage of any flammables (gasoline, propane, etc).

Portable fire extinguishers

Fire extinguisher training teaches people how to pick the right extinguisher for their needs, where it should be located, and how to use it properly and safely. This can help stop small fires from spreading.

- Different fires need different types of extinguishers.
- Adults can use extinguishers only if the fire is small and it's safe to do so.
- Children should not use extinguishers. They should focus on getting out safely and quickly.
- Fire extinguishers must be checked monthly, tested once a year and kept in good working order.




Fire station tours

A fire station tour can be a great way for individuals or groups to learn about fire safety, see the equipment firefighters use, and gain a better understanding of the role firefighters play in the community. This can also be a great opportunity to recruit new volunteers.

Children's programming

Firefighters teach children important fire safety skills to help them stay safe during an emergency.

- How to safely leave a building during a fire
- To stay low under smoke.
- To test doors for heat before opening them
- How to call 9-1-1 and give their address
- Why working smoke alarms are important
- Not to hide during a fire



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HOW WE LEARN

Estimated time	• 20-25 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcome(s)	Explain the TELL-SHOW-DO method of teaching

Facilitation Instructions

1	Tell participants to follow along in their workbook on page 10: Let them know they can use the QR code
2	Optional: If students are interested in finding out what their dominant learning styles are you could get them to do this quiz online: https://vark-learn.com/the-vark-questionnaire/. This is linked the QR code in their books for scanning.
3	Ask if anyone has questions or comments before moving on. • If discussion starts, let it flow but keep on topic. • If discussion takes up too much time, politely stop it and remind participants there will be time for more discussion at the end.

HOW WE LEARN

When firefighters deliver public education, how they teach matters as much as what they teach. By adapting to different learning styles, firefighters can train others more effectively and make safety messages easier to remember.

Learning Styles: TELL-SHOW-DO

People usually learn in three main ways. Most of us use all three, each person tends to prefer one or two.

Auditory Learning	Learning by hearing (like listening to a classroom lecture)	
Visual Learning	Learning by seeing (such as diagrams, pictures, or demonstrations)	
Tactile Learning	Learning by doing (like practicing skills in the Defensive Firefighting Training Program)	

That's why, when we teach, we often use the TELL-SHOW-DO method. This approach includes all three learning styles: we tell (auditory), show (visual), and do (tactile). It also repeats the information in three ways, which helps learners understand and remember it better.

TELL

So, first pull the pin....

Explain the steps using the PASS method: Pull the pin, Aim at the base of the fire, Squeeze the handle, Sweep side to side.

SHOW

Demonstrate each step with a real fire extinguisher so learners can see how it's done.

DO

Have learners practice using an extinguisher themselves to build skill and confidence.

What's your dominant learning style?
Scan the QR code to find out

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Learning style link

SKILL DRILL 9-1

TEACH EDITH

Estimated time	• 30-35 mins
Materials needed	• Facilitator Guide • Student workbook (session 9) ◦ Appendix: Sample Lesson Plan (EDITH) ◦ Appendix: Sample Floor Plan • Whiteboard • Markers • Copies of simple home floor plan (per student) See facilitator appendix 2 • Crayons or coloured pencils • Fire safety videos (optional) • Role-playing props (e.g., a toy phone to simulate calling 911)
Learning Outcome(s)	Skill Drill 9-1: Practice delivering training on Exit Drills In The Home (EDITH)

Facilitation Instructions

1	TELL Read out loud each step in Skill Drill 9-1 in the workbook Let them know they can follow the sample lesson plan for this drill in Appendix 2 of their books Let them know they can use the sample floor plan found in the Appendix if needed Ask if there are any questions before showing them the drill
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step.
3	DO • Break the group into pairs or small teams. • Assign each person a turn to lead one part of the EDITH lesson as if teaching a family or a classroom. • After each round, provide feedback

STEP1 – Smoke Alarms and Closed Doors

- Show how to explain where smoke alarms go:
 - “You need one inside every bedroom, one outside each sleeping area, and one on every level of the home—including the basement.”
 - Use diagrams or posters to show proper placement.
- Demonstrate how to explain the value of sleeping with the bedroom door closed:
 - “It keeps out smoke and gives you more time to escape.”

Step2 – Escape Route Planning

- Show learners how to guide families through drawing a floor plan:
- Use a sample layout on a whiteboard or handout.
- Mark all doors and windows.
- Identify two exits from each room.
- Explain how to check that windows and doors open easily and are not blocked.
- Point out adaptations for people with mobility challenges or small children.

Step3 – Practice the Drill

- Act out a sample EDITH drill:
- Pretend the smoke alarm sounds.
- Crawl low under imaginary smoke.
- Check a mock door for heat.
- Use a second exit if needed.
- Move to a mock meeting place.
- Remind everyone: “Call 9-1-1 from outside. Never go back in.”

**Note: You could consider searching for online videos to help show learners how to teach this drill.*

SKILL DRILL 9-2

DELIVER SMOKE ALARM PRESENTATION

Estimated time	• 30-35 mins
Materials needed	• Facilitator Guide • Student workbook (session 9) ◦ Appendix: Sample Lesson Plan (Smoke alarms) ◦ Appendix: Sample Floor Plan • Smoke alarms (one per participant) • Screwdrivers (flathead and Phillips) • Drill and drill bits • Wall anchors • Screws • Pencils • Ladders or step stools • Batteries (for battery-operated alarms) • Manufacturer's instruction manuals • Compressed air (can)
Learning Outcome(s)	Skill Drill 9-2: Practice delivering a smoke alarm presentation

Facilitation Instructions

1	TELL • Read out loud each step in Skill Drill 9-2 in the workbook • Let them know they can follow the sample lesson plan for this drill in their books • Ask if there are any questions before showing them the drill
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step.
3	DO Each trainee should: • Test a smoke alarm. • Demonstrate a battery change (or explain what they'd do if it's a 10-year sealed battery). • Check the manufacture date and determine if replacement is needed. • Show how to clean it. • Practice explaining the key points to a mock public audience (partner or group). <i>After each round, provide feedback</i>

Show testing a smoke alarm

- Use the test button.
- Explain what a working alarm should sound like.
- Say: "You should hear a loud beep. If not, replace the batteries or the unit."

Show changing batteries

- Open the alarm and show where the battery goes.
- Explain: "If this has a regular 9V or AA battery, it should be replaced every 6 months."

Show replacing the unit

- Show the date on the back of the alarm.
- Say: "This shows when it was made. If it's more than 10 years old—it must be replaced."

Show cleaning the alarm

- Use a can of compressed air or a vacuum attachment.
- Say: "Clean around the sensor openings to remove dust and cobwebs."

Show proper mounting

- Show correct locations: ceiling, high on a wall, away from vents and kitchens.
- Mention: "Always follow the installation guide from the manufacturer."

SKILL DRILLS

Practice the following skills. Each step will be assessed in the NWT Defensive Firefighter Training program



SKILL DRILL 9-1: Teach Exit-Drills-In-The-Home (EDITH)

1	TELL: Explain the importance of having a sufficient number of working smoke alarms throughout the house and making a quick exit when a fire occurs.
2	TELL: Explain that there should be a smoke alarm in every sleeping room, outside each sleeping area, and on every level of the house, including the basement (NFPA, EMAC, 2017).
3	TELL: Explain why residents should sleep with bedroom doors closed
4	SHOW: Show an actual emergency home escape plan
5	DO: Have participants draw a map of each level of their house, showing all windows and all doors. Have them plan two escape routes from each room, making sure all doors and windows are operable and accessible.
6	SHOW/DO: Show participants how to follow their own plans: - Show participants how to roll out of bed and crawl to the exit when they hear a smoke alarm or smell smoke <i>Have them do the above</i> - Show participants how to check exit doors for heat and to not open a door if it is hot <i>Have them do the above</i> - Show participants how to follow the escape route to the pre-established meeting place (muster point). <i>Have them do the above</i> - Show participants ways to ensure that the fire department has been called. <i>Have them mimic the above</i>
7	TELL: Emphasize the importance of never re-entering a burning building.



SKILL DRILL 9-2: Deliver smoke alarm presentation

1	TELL: Explain importance of properly installing and maintaining smoke alarms as recommended by manufacturer.
2	TELL: Stress the importance of testing smoke alarms once a month using the test button: <i>Show them how to do the above</i> <i>Have them do the above</i>
3	TELL: Explain that alkaline batteries in alarms should be changed every six months: <i>Show them how to do the above</i> <i>Have them do the above</i>
4	TELL: Explain that all smoke alarms should be replaced every 10 years.
5	TELL: Emphasize the need to clean smoke alarms regularly: <i>Show them how to do the above</i> <i>Have them do the above</i>

SKILL DRILL 9-3

CONDUCT A HOME SAFETY SURVEY

Estimated time	• 30-35 mins
Materials needed	• Facilitator Guide • Student workbook (Session 9) ◦ Appendix: Home safety survey • Pens, pencils
Learning Outcome(s)	Skill Drill 9-3: Practice conducting a home safety survey in a residence

Facilitation Instructions

1	TELL • Read out loud each step in Skill Drill 9-3 in the workbook • Let them know they can use the home safety survey template in books • Ask if there are any questions before showing them the drill	Show how you would knock and introduce yourself. • Say: “We’re here to offer a free home fire safety check to help reduce fire risks and keep your home safer.”
2	SHOW Show the drill yourself: Talk as you are doing each step, explaining what you are doing. Ensure you cover each step.	Show how you would point out the house number and outside hazards. Enter the home and explain what you’re doing at each step. • Example: “We’re checking to make sure your smoke alarms are working properly and that exits are clear.”
3	DO Each trainee should: • Work in pairs or small groups. • Take turns as: firefighter, resident, observer. • Use a checklist or inspection form provided by your department. • Practice introducing the survey, inspecting the home, filling out the form, and talking through the results. <i>After each round, provide feedback</i>	Show how you would test alarms, check for extinguishers, ask about heaters and cooking practices. Show how you would note issues on the inspection form Show how you would review results with the resident in plain language. • Say: “We noticed the space heater is very close to curtains. We recommend moving it at least three feet away.” Show how you would provide safety tips and brochures, thanking residents and filing the report

LEARNING DEBRIEF

Estimated time	• 20 mins
Materials needed	• Workbooks • Pens/pencils • Personal cell phones • Timer for discussions (good to have on hand)
Learning Outcomes	• Explain why public outreach is part of a firefighter's role • Describe six areas of fire prevention and life safety programming • Explain the TELL-SHOW-DO method of teaching • Describe how codes and standards relate to training and life safety programs

Facilitation Instructions

1	Ask participants to turn to page 14 in their workbook
2	Let participants know they can write down ideas in their workbooks.
3	Use Appendix 3 in this guide for helpful tips on facilitating discussions.
4	Ask participants to share stories or experiences related to this question: Why is it important for firefighters to teach people how to stay safe during a fire?
5	Ask participants to share stories or experiences related to this question: How can practicing EDITH and doing home fire safety checks help protect families?
6	Ask participants to share stories or experiences related to this question: What do you think is the most important message to share with the public as a firefighter, and how would you make sure people understand and remember it?

LEARNING DEBRIEF

REMEMBER

- Developing the proper work habits during training in this course helps ensure safety later
- Do not change anything you feel is based on your ability or knowledge
- Tell someone if you see something that you feel is an unsafe practice
- Continue to learn, research and practice working as a team
- A firefighter engaged during training should not return until verbally cleared for duty

Reflect on the following questions. Write down notes or sketches in the spaces provided.

Why is it important for firefighters to teach people how to stay safe during a fire?	
How can practicing EDITH and doing home fire safety checks help protect families?	
What do you think is the most important message to share with the public as a firefighter, and how would you make sure people understand and remember it?	

14

Participants can use the spaces provided to write or sketch out their thoughts.

AFTER THE SESSION

- Ask participants for feedback about the session. If they enjoyed it, encourage them to share with others if you are trying to increase participation in your department.
- If participants mention anything they didn't enjoy or found too difficult, try to adjust the training in the future. Also, let your MACA regional AFM know about their feedback.
- Fill out the attendance sheet (Appendix 4).
- Share details about the next training session, if possible.
- Encourage participants by telling them they did a great job if they were engaged and participated.
- Give yourself credit as the trainer—you did a great job too!

Consider reflecting on your job as a facilitator:

What went well and why?	
What areas can you improve on and how?	
Do you have questions to ask your regional MACA-CGLD Learning and Development Advisor?	

NWT-DEFENSIVE FIREFIGHTER TRAINING
**FACILITATOR
GUIDE
APPENDICES**

APPENDIX 1

Equipment Carry Challenge

The Equipment Carry is one of the eight events in the Candidate Physical Ability Test (CPAT). This event simulates the critical task of carrying tools or equipment from a fire apparatus to the fireground.

Before you begin

- Ensure firefighters are wearing PPE. At minimum: work gloves; work boots with foot protection; and bunker or work pants
- Remind participants to use proper lifting techniques
- Ensure the path (e.g., the U-shaped course) is clearly marked on a non-slip surface
- Emphasize good control of the saws while walking
- Any adjustments to equipment placement (e.g., ensuring saws are secure on the shelf) must align with good safety practices.
- Make sure to monitor participants for signs of overexertion or unsafe practices.
- Use safety guards on chainsaws.

Step 1: Start position

- Stand behind the designated starting line, facing a simulated fire apparatus (often represented by a cabinet containing the equipment).
- The two 35-pound (15.88 kg) saws should be positioned on shelf 5 feet (1.52 meters) high.

Step 2: Pick up saws

- Upon the start signal, walk forward to the cabinet and pick up the saws, one in each hand.
- Ensure that you grasp each saw by its handle firmly. Use proper lifting techniques: bend your knees, keep your back straight, and lift with your legs.

Step 3: Carry saws

- Turn and walk 75 feet (22.86 meters) around the marked course, typically a U-shaped path.
- Maintain control of the saws, ensuring that you do not drop them. If you drop a saw, you must pick it up immediately.
- The entire weight of the saws must be carried by the candidate's hands. Do not rest the saws against your legs or use any other body part to support them.

Step 4: Return and place saws on cabinet

- Upon completing the 75-foot course, return to the starting cabinet and place the saws back on the shelf in their original position.
- Make sure both saws are placed securely back on the shelf. If you fail to place them correctly, you will need to adjust them before continuing.

Step 5: Complete the event

- Once the saws are properly returned, the event is complete.
- You will be judged on your ability to perform this task safely and without dropping the equipment.

APPENDIX 2

Firefighter Rehabilitation Station

Consider adding items for a rehabilitation station during the Equipment Carry Challenge activity.

- Water/electrolyte drinks (hydration is essential)
- Snacks with carbohydrates and protein (granola bars, fruit, or nuts)
- Chairs or benches for rest and recovery
- Shade or shelter (small tent or tarp) to protect from sun or rain.
- Cooling supplies (cold packs, fans, or misting devices) for hot weather
- Warming supplies (blankets or portable heaters) for cold weather
- First aid supplies for minor injuries
- Medical equipment to monitor vitals (blood pressure cuff, pulse oximeter)
- Towels or wipes for cleaning off sweat/debris
- Trash bags for waste disposal
- Accountability log to track personnel

Appendix 1: FIREFIGHTER REHABILITATION

Firefighter rehabilitation (referred to as rehab) defines the rest and recovery period that is required after physical and mental exertion that occurs on emergency scenes. Without appropriate rehab breaks, firefighters can become less efficient, putting them and their team at greater risk of injury or illness. Rehab procedures are one of the safety measures that departments can put in place to help reduce risks.

Reasons for rehabilitation

Physical Exhaustion

Firefighting is physically demanding, and carrying heavy gear can be exhausting. Rehab gives firefighters a chance to rest and regain their strength.

Cardiovascular Strain

Firefighting puts a strain on the heart. Rehab monitors vital signs to help prevent issues like heart attacks.

Toxin Exposure

Firefighters are exposed to smoke and harmful chemicals. Rehab helps limit exposure to these toxins, protecting their health.

Weather

In cold weather, firefighters risk hypothermia and frostbite. In hot weather, they can overheat due to their gear. Rehab offers a sheltered space with seating for them to rest safely away from the elements.

Heat Stress and Dehydration

Firefighters work in hot conditions while wearing heavy gear, which can cause heat stress and dehydration. Rehab helps them cool down and rehydrate.

Mental and Emotional Stress

Firefighting is mentally and emotionally tough. Rehab gives time to decompress, get support, and lower the risk of long-term stress.

Injury Prevention

Without proper rest, firefighters are more likely to get injured. Rehab gives time to rest and spot any injuries early to prevent further harm.



Essential item list

Essential items for small rehabilitation stations (NFPA guidelines) include:

- Water/electrolyte drinks (hydration is essential)
- Snacks with carbohydrates and protein (granola bars, fruit, or nuts)
- Chairs or benches for rest and recovery
- Shade or shelter (small tent or tarp) to protect from sun or rain.
- Cooling supplies (cold packs, fans, or misting devices) for hot weather
- Warming supplies (blankets or portable heaters) for cold weather
- First aid supplies for minor injuries
- Medical equipment to monitor vitals (blood pressure cuff, pulse oximeter)
- Towels or wipes for cleaning off sweat/debris
- Trash bags for waste disposal
- Accountability log to track personnel

The list above is also found in the student workbook.

APPENDIX 3

Facilitating Discussions

Discussions allow participants to learn from each other. The facilitator guides the discussion by:

- Asking key questions
- Removing barriers
- Keeping track of time

REMOVING BARRIERS	
Keep it Private Let participants know that what is shared stays private unless people say it's okay to share.	
Respect • Encourage respect for each person's experience each person's experience and perspective even if others disagree. • Encourage giving the person speaking all the attention. Don't use phones or be distracted.	
Ownership Let people choose what to share and how they share it.	
Emotional Safety Create a space where no one feels judged.	
Be Positive Give helpful comments on what people say, focusing on learning.	
TIME CONTROL	
Time Limits • Set time limits for each person. • Use a visible timer so everyone knows.	
No interruptions • Let each person finish before others talk. Others can ask questions only once the speaker is finished. • Others can share their own story when it's their turn.	
Stay on topic • Write down the main topic so everyone stays on track. • If someone goes off-topic, gently bring them back to the main subject.	

APPENDIX 4

Attendance Sheets

Attendance Sheet

NWT Defensive Firefighter Training

Session Name: _____

Date: _____

Full Name of Participant	Participant Signature

Attendance Sheet

NWT Defensive Firefighter Training

Session Name: _____

Date: _____

Full Name of Participant	Participant Signature

Attendance Sheet

NWT Defensive Firefighter Training

Session Name: _____

Date: _____

Full Name of Participant	Participant Signature

Attendance Sheet

NWT Defensive Firefighter Training

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Session Name: _____

Date: _____

Full Name of Participant	Participant Signature

Attendance Sheet

NWT Defensive Firefighter Training

Session Name: _____

Date: _____

Full Name of Participant	Participant Signature

Attendance Sheet

NWT Defensive Firefighter Training

Session Name: _____

Date: _____

Full Name of Participant	Participant Signature

APPENDIX 5

Skill Drill Scripts for Facilitator and Assistants

Facilitator note: Make photocopies. Provide to assistants/helpers.

Skill Drill 3-1: Taking emergency calls

- Use this script to act out a scenario for learners to practice taking emergency calls.
- Call the student firefighter you are working with on their cell phone.

The student should say something similar to:	Your response:	Confirmation
This is (student's name) with the (community name) fire department. What is your emergency?	There's a house on fire down my street!	The student should confirm all of your responses by repeating the information you provided back to you. Correct them if they did not hear you correctly.
Can you provide me an address or any landmarks?	Yeah, it's beside the old school. I think it is 16 Shilo Road.	
So, this is a house fire. Can you tell me more about what is happening there right now?	The whole house in on fire. There is fire coming out of the windows!	
Do you know if anyone is in immediate danger?	I have no idea!	
Are there any fuels of other hazards near the fire?	Yes, it is right beside the diesel generator!	
Do you know when it started?	No, I don't	
What is your first and last name?	(provide your actual name)	
And, where are you calling from?	My house.	

Skill Drill 3-3: Initiate a response

- Use this script to act out a scenario for learners to practice initiating a response.
- Respond to the student firefighter you are working with using an emergency radio.

	The student should say something similar to:	You say this:
Notify	"Attention all units, this is (firefighter name). We've got a report of a fire at 16 Shilo Road. That's 1-6-Sierra-Hotel-India-Lima-Oscar Road. Caller reports a home fully engulfed, very near the diesel plant. Not aware of any occupants. Over."	" Copy that, (firefighter name). All units, this is Command. Respond to 16 Shilo Road. Be advised the structure is fully involved. Prioritize defensive operations only. Ensure protection of exposures, especially the diesel plant nearby. Maintain a safe distance and monitor for any signs of structural collapse. Over. "
Mobilize	"(Firefighter name) to Command. I am En route to station to take the truck to the scene. Requesting backup. Over."	" Copy that, (firefighter name). Proceeding to the station and bring the truck to the scene. Backup units are on the way. Maintain communication and update your ETA. Over. "
En Route	"(Firefighter name) to Command. Truck 1 is en route to 16 Shilo Road. ETA approximately 5 minutes. Over."	" Copy that, (firefighter name). Truck 1 en route to 16 Shilo Road, ETA 5 minutes. Acknowledge when on scene. Over. "

APPENDIX 6

Fire Hose Testing Standards and Safety Margins

All fire hoses in Canada must meet NFPA 1961 standards or the ULC S511 (Canadian) standards. Safety margins are built into hose design to prevent failure under sudden pressure spikes. Regular inspection and pressure testing are required annually by most fire departments to ensure hoses stay within safety limits.

Service Test Pressure

- Attack Hose 400 psi (2,758 kPa)
- Supply Hose Between 200–300 psi (1,379–2,068 kPa)

IMPORTANT: Varies by manufacturer, hose size and fire department policy. Must check manufacturer guidelines

APPENDIX 7

Fire Extinguisher Signs

Print or photocopy the signs on the following pages to post at different locations in your learning space for *Activity: Choose the correct fire extinguisher* (Session 5-Extinguishing Fire)

1



Type:

- Dry Chemical

Classification:

- Class A-B-C

Volume:

- **5 pounds**

2



Type:

- CO2

Classification:

- Class B-C

Volume:

- **15 pounds**



Type:

- Dry Chemical

Classification:

- Class A-B-C

Volume:

- **20 pounds**

4



Type:

- Water

Classification:

- Class A

Volume:

- **2.5 litres**



5

Type:

- Water

Classification:

- Class A

Volume:

- **60 litres**

APPENDIX 8

Tips for Emotional Group Discussions

Normalize the Emotions

Let participants know up front that it's okay to feel upset, angry, or helpless when talking about these situations. Say something like:

- *"This is a hard topic. It's normal to feel emotional when we talk about not being able to save someone. You're not alone in those feelings."*

Use Silence and Space

Don't rush to fill silences. Let people sit with their feelings for a moment. Give time for reflection and don't pressure anyone to speak.

- *Tip: Offer paper or whiteboards if some people prefer writing over talking.*

Ground the Conversation in Purpose

Remind the group why you're discussing it: to prepare them, not to scare or shame them. Say something like:

- *"We're not here to say this will happen, or to scare you. We're here to be ready, to understand our role, and to protect each other."*

Encourage Peer Support

Create a space where firefighters can speak from experience and support each other. Prompt:

- *"If anyone here has had a tough call or decision on scene, what helped you get through it?"*

Be Aware of Triggers

Recognize that some learners may have personal or community trauma. Always give people the choice to step outside or take a break if needed. Say:

- *"If this hits too close to home, it's okay to step out or talk to me after. We all carry different things into the room."*

Offer Follow-Up Support

Let people know who they can talk to if they feel overwhelmed—whether it's the trainer, a senior firefighter, a local mental health worker, or peer support. Say:

- *"If this topic sticks with you after the session, that's okay. I'm around if you want to talk later. We also have [name/resource] you can reach out to."*

End with Strength and Solidarity

Close the session on a positive, team-based note. Say:

- *"We train so that in the worst moments, we make the best decisions possible. You're not alone in this work—we have each other's backs, and that matters."*

