Basic Fire Knowledge & Extinguishing Toolkit

Module 3 - Wildfire & Industrial Fire Safety Command & Emergency Response

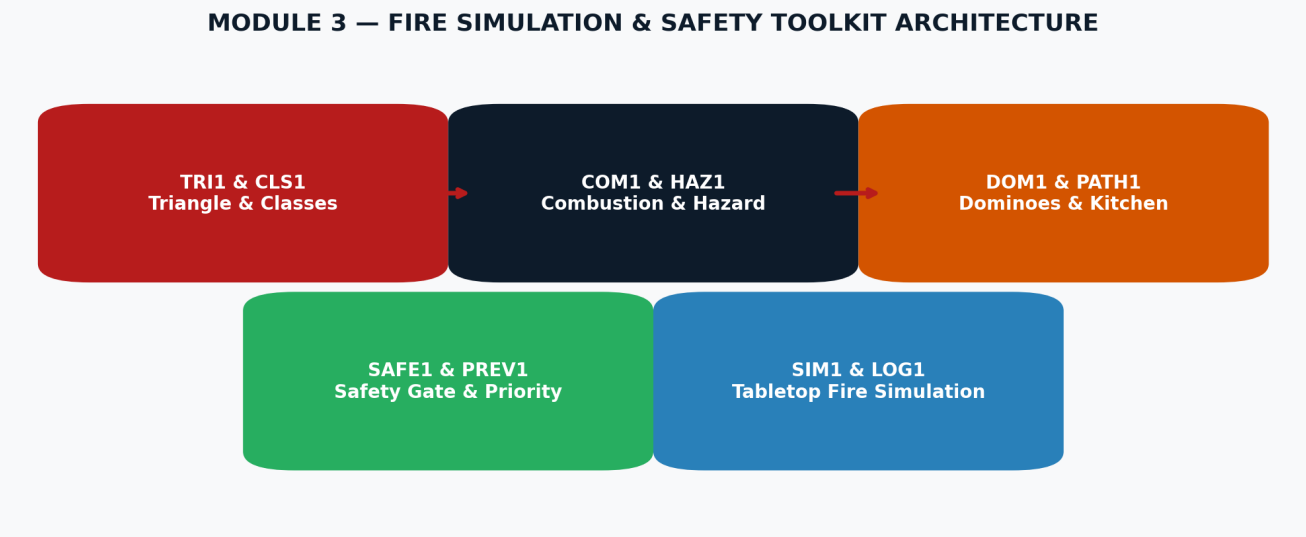


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Toolkit Map & Operational Scope



Toolkit Section	Core Operational Focus	Target Participant Task
TRI1 - Fire Triangle Breaker	Connect heat/fuel/oxygen to extinguishing	Match fire triangle elements with methods
CLS1 - Fire Class Selection	Classify Class A, B, C, F fires	Select appropriate extinguisher per fire class
COM1 - Combustion Sort	Differentiate slow, rapid & explosive fire	Sort fire descriptions by combustion type
HAZ1 - Fire Hazard Hunt	Inspect building plans & identify risks	Locate preventable hazards on facility plan
DOM1 - Cause & Prevention	Pair fire causes with preventive controls	Connect electrical & heat risks to controls
PATH1 - Kitchen Fire Path	Tabletop kitchen fire decision tree	Execute pan fire safety protocol
SAFE1 - Safety Gate	Go / Hold / Evacuate decision gate	Evaluate small-fire safety before action

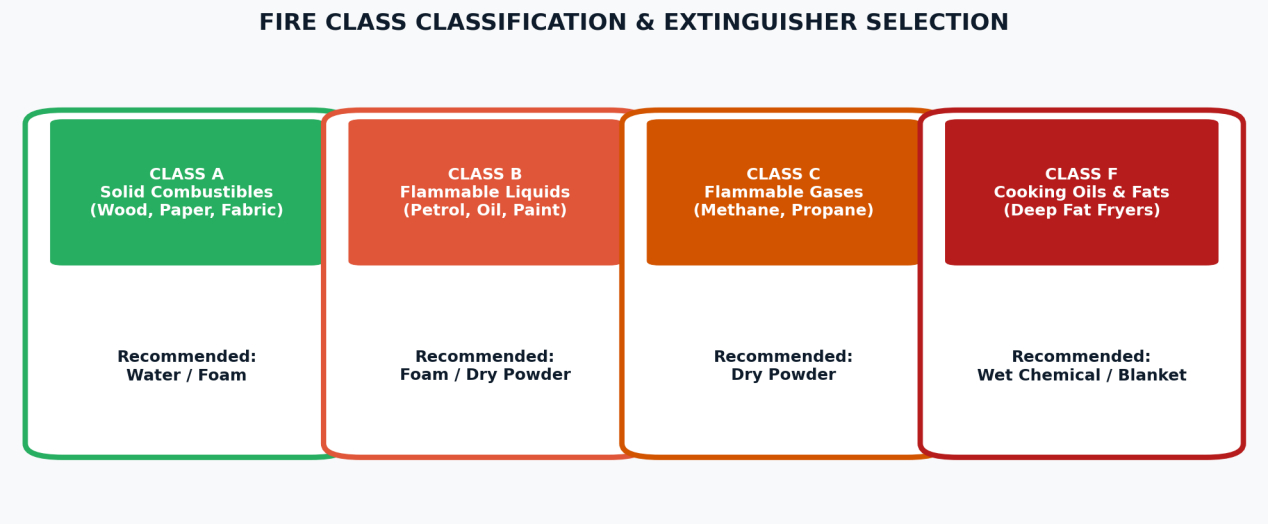
TRI1 — Fire Triangle Breaker

FIRE TRIANGLE & EXTINGUISHING PRINCIPLES

HEAT (Cooling Method)	FUEL (Starvation Method)	OXYGEN (Smothering Method)
Water / Mist Extinguisher Lowers temperature below ignition point	Remove combustible material Isolate gas valve / flammable liquids	CO2 / Foam / Fire Blanket Excludes oxygen from fire surface



CLS1 — Fire Class & Extinguisher Selection



Fire Class	Combustible Material Type	Recommended Extinguisher	Prohibited Extinguisher
Class A	Solid organic materials (Wood, Paper, Textiles)	Water / Water Mist / Foam	CO2 (Incomplete cooling)
Class B	Flammable liquids (Petrol, Oil, Paint, Solvents)	Foam / Dry Powder / CO2	WATER (Causes explosion!)
Class C	Flammable gases (Methane, Propane, Butane)	Dry Powder (Shut gas off first!)	Water
Class F	Cooking oils & deep fat fryers	Wet Chemical / Fire Blanket	WATER (Causes massive fireball!)

COM1 — Combustion Type Classification



Slow Combustion (Low Velocity)

Smoldering without active flame, high carbon monoxide generation.

Field Example: Charcoal embers / smoldering insulation

Rapid Combustion (High Velocity)

Visible flame, rapid heat emission, rapid fuel consumption.

Field Example: Wood structure / paper fire

Explosive Combustion (Extreme Velocity)

Rapid gas expansion, pressure wave, instantaneous release.

Field Example: Gas leak ignition / dust explosion

HAZ1 — Fire Hazard Hunt



Facility Hazard Zone	Identified Risk Factor	Required Preventive Action
Main Exit Corridor	Corridor blocked by stored cardboard boxes.	Immediately clear exit pathway and post high-vis egress signage.
Electrical Panel Room	Multi-plug extension cords overloaded.	Remove daisy-chained adapters; inspect circuit breaker capacity.
Kitchen Workshop	Flammable cleaning solvents stored near stove.	Relocate flammable liquids to ventilated metal safety cabinet.

DOM1 — Cause-Prevention Dominoes

Fire Ignition Cause	Domino Effect Mechanism	Preventive Control Barrier
Damaged appliance cable	Frayed insulation causes electrical arc.	Routine portable appliance testing (PAT) & inspection.
Unattended cooking pan	Oil reaches auto-ignition temp (300°C+).	Install kitchen heat detector & automatic stove shutoff.
Accumulated grease filters	Hot vapors ignite flammable grease build-up.	Weekly degreasing of commercial exhaust hoods.



PATH1 — Kitchen Fire Decision Path

KITCHEN PAN FIRE DECISION PATHWAY

1. IGNITION DETECTED	2. SAFETY RULE	3. ACTION GATE	4. EVACUATION
Pan ignites on stove	NEVER use water on oil fire!	Cover with metal lid or fire blanket	Turn off heat & evacuate if spreading



SAFE1 — Small-Fire Safety Gate



Safety Verification	Critical Assessment Criteria	Decision Gate (Go / Evacuate)
1. Fire Size Check	Fire smaller than a standard waste bin?	[GO] if small / [EVACUATE] if larger
2. Egress Pathway	Clear unblocked exit behind responder at all times?	[GO] if clear path
3. Correct Extinguisher	Correct extinguisher class verified and charged?	[GO] if class verified
4. Toxic Smoke Level	Room free of thick toxic black smoke?	[GO] if low smoke / [EVACUATE] if dense

PREV1 — Prevention Priority Ladder



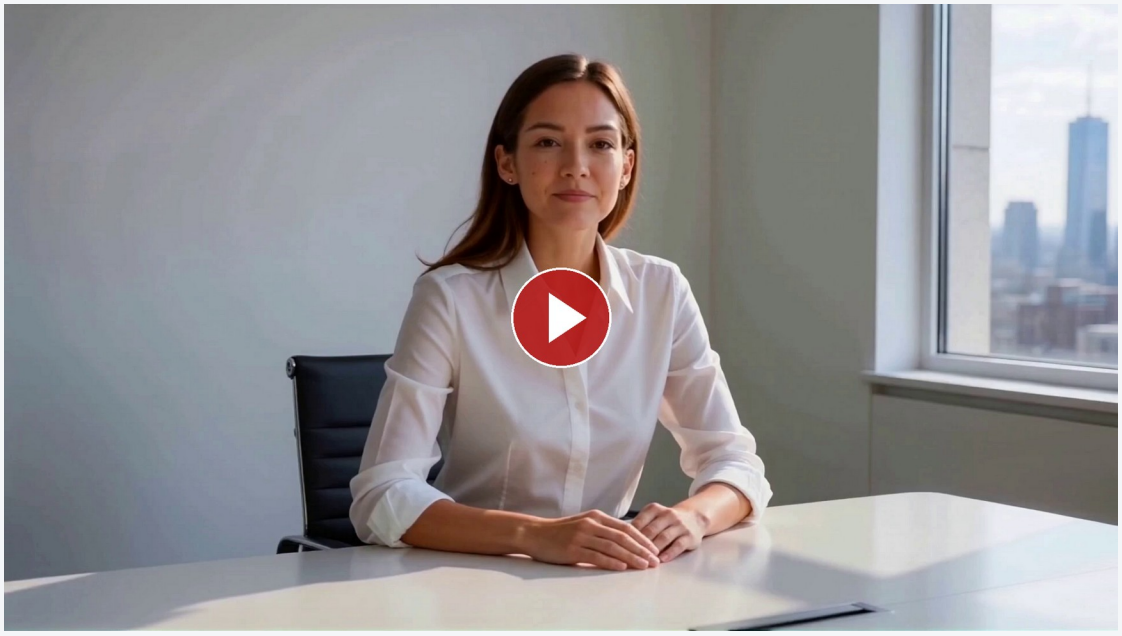
Priority Tier	Control Measure Category	Operational Implementation
Tier 1 (Highest)	Elimination / Substitution	Replace halogen lamps with cool LEDs; remove combustible waste.
Tier 2	Engineering Controls	Install automatic fire dampers, heat sensors, and fire doors.
Tier 3	Administrative Controls	Conduct monthly fire drills, train fire wardens, enforce hot work permits.
Tier 4	Personal Protective Equipment	Provide thermal fire blankets, smoke masks, and heat-resistant gloves.

SIM1 — Fixed Simulation: Youth Centre Fire Response

Title: Youth Centre Fire - First 10 Minutes Emergency Command
Format: Tabletop Fire Simulation & Evacuation Command
Duration: 60 minutes execution + 30 minutes AAR
Setting: A youth centre hosts a workshop; burning smell reported in kitchen corridor.

Simulation video

Open the linked file in your browser or media player.



[OPEN VIDEO — CLICK TO PLAY]

Fixed objectives

1. Rapidly identify fire source and verify small-fire safety gate.
2. Execute immediate building evacuation alert and roll-call.
3. Select correct extinguisher class for initial suppression.
4. Manage secondary electrical hazard escalation during evacuation.
5. Conduct formal handover brief to incoming fire brigade emergency responders.

Simulation rule: Participants act in assigned emergency response roles. Facilitator releases rounds at stated times and records tactical decisions without coaching.

LOG1 — Simulation Decision Log

Round	Inject Description	Tactical Decision Logged	Assigned Role
Round 1 (14:10)	Smoke detected in kitchen corridor	Activate fire alarm & dispatch incident lead	Facility Lead
Round 2 (14:12)	Class F grease fire reported in pan	Pass safety gate; deploy wet chemical extinguisher	Fire Warden
Round 3 (14:14)	Smoke spreading in main exit corridor	Initiate secondary egress route via North exit	Evacuation Marshal
Round 4 (14:16)	Electrical panel overload reported	Isolate main circuit breaker before entry	Safety Officer

AAR1 — After-Action Review



Review Category	What Was Expected	What Actually Occurred	Corrective Action Needed
Evacuation Time	Clear building within 3 minutes	Completed in 4.5 minutes due to exit blockage	Clear exit corridor daily & repaint signs
Extinguisher Match	Use Class F wet chemical	Initial team searched for Class A water unit	Conduct monthly extinguisher placement review
Fire Handover	Provide written headcount brief	Verbal brief given to arriving fire brigade	Implement standardized Fire Handover Form

EV1 & EV2 — Observer Rubric & Knowledge Check



Evaluation Criterion	1 - Weak	2 - Developing	3 - Effective	4 - Strong
Fire Safety Gate	Safety gate ignored	Partial safety check	Full gate verification	Rigorously enforced gate
Extinguisher Choice	Wrong extinguisher used	Delayed selection	Correct extinguisher class	Immediate flawless selection
Evacuation Command	Uncoordinated exit	Partial headcount	Clear evacuation order	Flawless roll-call & handover

Observer Scoring Note: Fire simulation rubric scores of 3 or 4 indicate institutional readiness for facility fire warden designation.

FAC & References — Facilitator Quick Guide

- NFPA 10 (2021). Standard for Portable Fire Extinguishers. National Fire Protection Association.
- ISO 7010 (2020). Graphical Symbols — Safety Colours and Safety Signs.
- OSHA (2019). Fire Safety and Emergency Evacuation Planning in Community Facilities.
- IFRC (2018). Fire Safety in Humanitarian Shelters and Community Centers.

Digital adaptation note: Each worksheet, fire class selector, safety gate checklist, and AAR rubric can be published as an independent web component under WP3. SIM1 is suitable for timed online scenario updates, role selection, and post-simulation reflection.

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