

FIRE GENERAL KNOWLEDGE

Study Guide for Competition Preparation

This study guide is designed to help students prepare for the general knowledge portion of the Fire competition. Topics are based on standards tied to firefighting fundamentals, safety, equipment, and procedures.

1. Fire Behavior and Heat Transfer

- Review the basic principles of heat, heat transfer, and the fire triangle/tetrahedron.
- Know how heat moves through conduction, convection, and radiation.
- Understand the relationship between heat buildup and fire behavior in emergency scenes.

2. Firefighting Safety and NFPA Standards

- Study general fire service safety rules and why they matter on scene and during training.
- Become familiar with commonly referenced NFPA standards and their role in firefighter safety and operations.
- Understand the importance of situational awareness, command presence, and safe work habits.

3. Personal Protective Equipment (PPE)

- Identify the main components of firefighter PPE, including helmet, hood, coat, pants, gloves, boots, and SCBA face piece.
- Know the purpose of each piece of PPE and how it protects the firefighter.
- Review proper use, care, inspection, and limitations of PPE.

4. Common Firefighting Equipment

- Study the proper use of common firefighting equipment such as hoses, ladders, ropes, hand tools, salvage covers, and engine company equipment.
- Know which tools are commonly used for lifting, pulling, forcing entry, and overhaul.
- Be ready to explain safe handling and general purpose for each major tool type.

5. General Firefighting Procedures

- Review the basic order of operations at a fire scene, including arrival, size-up, PPE readiness, equipment use, and task completion.
- Understand why communication, following commands, and scene discipline are important.
- Know the role of standard operating procedures in safe and effective response.

6. Ropes, Knots, and Tool Handling

- Practice the major knots listed in the competition description, including half hitch, clove hitch, bowline, figure-eight variations, sheet bend, and girth hitch.
- Understand how knots are used to raise or lower tools safely.
- Review correct knot placement, dressing the knot, and use of a tagline.

7. Ladder Knowledge and Fireground Awareness

- Study the basic parts and safe handling of fire service ladders.

- Review ladder raising, lowering, and positioning concepts, along with the importance of verbal commands and firefighter coordination.
- Understand when a ladder spotter or heel is used and why audible commands matter.

8. Search, Rescue, and Victim Removal

- Review basic search concepts, including crawling through low-visibility areas and using right- or left-hand search patterns.
- Understand the purpose of listening for victims and maintaining orientation in a structure.
- Study general victim removal concepts, including rescue drag techniques.

9. Forcible Entry, Ceiling Pull, and Task Mechanics

- Know the basic purpose of forcible entry tasks and the safe use of tools to gain access.
- Review how firefighters open ceilings with a pike pole or ceiling hook while protecting themselves from debris.
- Understand body mechanics, control, and safe positioning during physical fireground tasks.

10. Physical Readiness and CPAT-Related Awareness

- Students should prepare for physically demanding tasks such as stair climb, hose drag, equipment carry, ladder raise, forcible entry, search, rescue drag, and ceiling pull.
- Build endurance, grip strength, balance, and safe movement patterns.
- Understand that speed matters, but safety, control, and correct form matter just as much.

Practice Tips for Students

- Do more than memorize terms — practice explaining why a tool, standard, or safety step matters.
- Pair written test prep with hands-on review whenever possible.
- Use flashcards for PPE, NFPA references, knots, fire behavior, and equipment identification.
- Practice speaking in clear fire service language so students are comfortable with oral questions and instructions.
- Review both safety and task sequence, since strong competitors usually know not just what to do, but why it is done that way.

Teacher Note: This guide is intended as a general prep resource and should be used alongside classroom instruction and hands-on skill practice.