

# Instructional Terminology

## Fire Service 43.0202.00

This Instructional Terminology is aligned to both the Program Blueprint for Instruction and Assessment and the Instructional Framework. It corresponds with the technical standards adopted on July 16, 2023. Use of content-specific terminology is provided to help identify consistent definitions.

### 1, 2, 3

**10 Standard Firefighting Orders** - Essential guidelines established to ensure the safety and effectiveness of wildfire firefighting operations

**18 Watch Out Situations** - Critical safety guidelines for wildland firefighters, designed to help them recognize and respond to dangerous conditions

**911 dispatcher/telecommunicator** - A critical role in emergency response systems, responsible for receiving and processing emergency calls, dispatching appropriate resources, and providing vital information to both responders and callers

### A

**Abrasion** - Loss of skin as a result of a body part being rubbed or scraped across a rough or hard surface

**Accelerator** - A device used in a fire sprinkler system; its purpose is to speed up the activation of the dry pipe sprinkler system by rapidly relieving air pressure in the pipes

**Accidental fire** - An unintentional fire that occurs due to negligence, human error, equipment failure, or natural causes, rather than deliberate or malicious intent

**Accordion hose load** - Method of loading fire hoses onto an apparatus, such as a fire engine, for quick and efficient employment; it is named for its resemblance to the folds of an accordion

**Acid** - A substance with a pH value less than 7

**Acquired Immune Deficiency Syndrome (AIDS)** - An immune disorder caused by infection with the human immunodeficiency virus (HIV), resulting in an increased vulnerability to infections and a certain rare cancer

**Acute exposure** - Situation where an individual comes into contact with a hazardous substance or environmental condition over a short period of time, typically defined as 24 hours or less

**Acute health effects** - Immediate and often severe health impacts that occur after a short-term exposure to a harmful substance or environmental condition

**Adapter** - A device designed to join two components, such as hoses or pipes, which have different diameters, threads, or connection types

**Adjustable fog-stream nozzle** - A type of firefighting nozzle that allows the user to control both the pattern and flow of water being discharged

**Adjustable-gallonage fog nozzle** - A firefighting nozzle that allows the operator to manually set the flow rate (gallonage) and adjust the water stream pattern from a straight stream to a fog

**Adolescent fire setters** - Young individuals, typically between the ages of 10 and 18, who deliberately set fires

**Advanced high-strength steel** - A category of steels that exhibit superior strength and durability while maintaining a relatively low weight

**Aerial ladder** - A specialized firefighting apparatus designed to reach high or difficult-to-access areas by extending vertically or horizontally to provide access to elevated locations

**A-frame ladder** - A type of ladder commonly used in firefighting and other emergency services

**Air cylinder** - Component of Self-Contained Breathing Apparatus (SCBA) systems used primarily in firefighting, hazardous material handling, and other environments where breathable air is not available

**Air management** - Strategic and efficient use of breathing air supplied by a Self-Contained Breathing Apparatus (SCBA)

**Air-aspirating nozzle** - A firefighting nozzle that introduces air into a foam solution to create a foam with larger, stable bubbles, allowing the foam to expand and be more effective at suppressing fires

**Aircraft/crash rescue fire fighter (ARFF)** - A specialized field within fire protection and emergency response that focuses on responding to and managing emergencies involving aircraft crashes, fires, and hazardous materials spills at airports and related facilities

**Air-purifying respirator (APR)** - A type of respiratory protective equipment designed to filter out contaminants from the air before it is inhaled

**Airway** - The passages from the openings of the mouth and nose to the air sacs in the lungs through which air enters and leaves the lungs

**Airway obstruction** - Partial or complete obstruction of the respiratory passages as a result of blockage by food, small objects, or vomitus

**Alarm initiating device** - Component of a fire alarm system that detects a fire, hazardous condition, or emergency, and sends a signal to the fire alarm control panel

**Alarm valve** - Component in a fire sprinkler system, specifically in wet pipe systems that controls the flow of water into the sprinkler system and activates an alarm when the system is triggered

**Alternative-fuel vehicle** - A type of vehicle that uses fuel other than conventional gasoline or diesel

**Alveoli** - The air sacs of the lungs where the exchange of oxygen and carbon dioxide takes place

**Ammonium phosphate** - Used in fire extinguishers, particularly in dry chemical extinguishers by smothering flames and interrupting the chemical reactions of combustion

**Anaphylactic shock** - Severe shock caused by an allergic reaction to food, medicine, or insect sting

**Anaphylaxis** - Anaphylaxis is a severe and potentially life-threatening allergic reaction that needs immediate treatment

**Anchor point** - A secure, safe location from which firefighters can begin building a fire line to contain or control a wildfire

**Annunciator** - Component in a fire alarm system that visually or audibly displays the status of the system, allowing for quick identification of alarms or trouble conditions

**A-post** - The structural support located on either side of the front windshield of a car

**Aqueous film-forming foam (AFFF)** - A type of firefighting foam used to suppress flammable liquid fires, particularly those involving hydrocarbons such as gasoline, diesel, and jet fuel

**Arson** - The intentional act of setting fire to property with malicious intent

**Arson reporting immunity laws** - Legal provisions that protect individuals or entities, such as insurance companies or their representatives, from civil or criminal liability when they report suspected arson or suspicious fire-related activities to law enforcement or fire officials

**Arterial bleeding** - Serious bleeding from an artery in which blood frequently pulses or spurts from an open wound

**Aspect** - Refers to the direction a slope faces relative to the sun

**Assistant or division chief** - A senior-level position within an organization, typically found in fire departments, police departments, or other large organizations

**Attack engine** - A type of firefighting apparatus specifically designed for fire suppression and initial attack on fires

**Attack hose** - A high-pressure hose used to carry water or firefighting foam from a pump (usually mounted on a fire engine) directly to a fire

**Attack hose lines** - Used to deliver water or other extinguishing agents directly onto a fire in order to suppress or extinguish it

**Authority Having Jurisdiction (AHJ)** - Refers to an organization, office, or individual responsible for enforcing codes, standards, and regulations, and for approving equipment, materials, installation, and procedures within a specific area or project

**Automatic dry standpipe system** - A type of fire protection system typically found in buildings with multiple floors or large areas; the term "automatic dry" refers to the fact that the standpipe is dry (contains no water) under normal conditions but can automatically fill with water during an emergency

**Automatic location identification (ALI)** - A system used in emergency services, particularly in 911 call centers, to automatically determine and display the location of a caller

**Automatic sprinkler head** - Component of fire sprinkler systems, designed to detect and control or extinguish fires automatically

**Automatic sprinkler systems** - Fire protection systems designed to detect and suppress fires automatically through a network of pipes and sprinkler heads

**Automatic wet standpipe system** - Type of fire protection system designed to supply water for firefighting operations in buildings; Unlike a dry standpipe system, the pipes in a wet standpipe system are always filled with water, making it immediately available for use in an emergency

**Automatic-adjusting fog nozzle** - A nozzle that automatically adjusts its internal mechanism to maintain a steady flow rate of water, even when water pressure fluctuates

**Avulsion** - An injury in which a piece of skin is either torn completely loose from all of its attachments or is left hanging by a flap

**Awareness-level personnel** - Individuals who are trained to recognize hazardous situations but are not qualified to engage in direct emergency response

**Awning windows** - A type of window design characterized by their outward-opening mechanism, where the window sash is hinged at the top and swings outward from the bottom

## **B**

**Backdraft** - A dangerous and explosive event that can occur in a fire situation when a sudden influx of oxygen is introduced into a confined space that has been starved of air

**Backfire** - A controlled, intentionally set fire used by firefighters to consume fuel in the path of an approaching wildfire

**Bacteria** - Tiny organisms that may cause certain infections

**Bag mask device** - A victim ventilation device that consists of a bag, one-way valves, and a face mask

**Bale** - A lever on a firefighting nozzle that allows firefighters to control the flow of water or firefighting foam

**Balloon-frame construction** - A framing system where the vertical studs extend from the foundation to the roof, creating a continuous framework of vertical members

**Bangor ladder** - A type of aerial ladder used primarily in firefighting operations; named after Bangor, Maine, where it was developed, this ladder design is known for its stability and effective reach

**Base** - A substance that has a pH greater than 7

**Battalion Chief** - A mid-to-senior level officer in a fire department or similar emergency service organization; this role typically involves overseeing a battalion, which is a group of fire stations or units within a designated area or district

**Beam** - Refers to a horizontal structural component that is part of the ladder's design

**Beam raise** - The process of elevating the beam or ladder section in firefighting apparatus, particularly in aerial ladder operations

**Bed section** - Refers to the base or lower section of the ladder, this part of the ladder is crucial for providing stability and support for the extended sections

**Bend knot** - A type of knot used to join two ropes together, it is particularly useful when you need to extend the length of rope or connect two ropes of different diameters

**Bight** - A term used in ropework to describe a loop or curve in a rope

**Blitz attack** - An aggressive firefighting tactic used to quickly knock down a large volume of fire in a short period of time

**Block creel construction** - A method of rope construction that does not include knots or splices

**Blood pressure** - The pressure exerted by the circulating blood against the walls of the arteries

**Blood-borne pathogens** - Microorganisms in human blood that can cause disease in humans, such as Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV)

**Body Systems** - Groups of organs and tissues that work together to perform specific functions necessary for maintaining overall health and homeostasis

**Body-over-frame construction** - A traditional vehicle architecture where the body of the vehicle is built separately and then mounted on a rigid frame or chassis

**Boiling liquid/expanding vapor explosion (BLEVE)** - A type of explosion that occurs when a pressurized container containing a liquid is heated to the point where the liquid boils and rapidly expands

**Booster hose** - A high-pressure, rubber-covered, smaller-diameter fire hose (often  $\frac{3}{4}$  inch or 1 inch in diameter) used for small fires or overhaul operations; it is typically stored on a reel for quick, easy deployment

**Bored locksets** - A type of door lock assembly that is designed for ease of installation and use; they are commonly used in residential and commercial settings for securing doors

**Bowline** - A versatile and essential knot used in various applications, particularly in rope work and rescue operations

**Bowstring truss** - A truss design where the top chord forms a curved or arched shape, resembling a bowstring, and the bottom chord is typically straight or slightly curved; the diagonal members connect the top and bottom chords, forming a web that distributes loads

**Box crib** - A method used in emergencies such as vehicle extrication or building collapses to temporarily support, raise, or stabilize heavy loads by stacking wooden or plastic blocks in a square or rectangular pattern

**B-post** - The vertical structural support located between a vehicle's front and rear doors

**Brachial artery** - The major vessel in upper extremity that supplies blood to the arm

**Brachial pulse** - Pulse located on the arm between the elbow and shoulder; used for checking the pulse on infants

**Braided rope** - A type of rope constructed by weaving or interlacing multiple strands of fiber together

**Branch** - A section established in the ICS to provide a span of control of the operating members

**Bresnan distributor nozzle** - A nozzle that releases water in a 360-degree circular spray pattern, designed for use in confined spaces, such as basements or attics, where firefighters cannot easily access the fire

**British thermal unit (BTU)** - The amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit at a constant pressure of one atmosphere

**Bronchi** - The two main branches of the windpipe that lead into the right and left lungs

**Bruise** - An injury caused by a blunt object striking the body and crushing the tissue beneath the skin; also called a contusion

**Building Construction** - The process of designing and erecting structures and is a critical aspect of fire safety and firefighting

**Building Materials/Construction Features** - Factors that play a crucial role in determining a building's fire behavior, structural integrity, and safety

**Burning edge** - The leading boundary of an active fire where combustion is taking place

**Butt spurs** - Metal components used in the construction and operation of ladders, particularly in firefighting and rescue operations

**Butterfly valve** - A type of flow control device commonly used in fire protection systems, including sprinkler and standpipe systems, to regulate or isolate the flow of water

## **C**

**Cancer Awareness** - Involves understanding, educating, and promoting information about cancer, its risk factors, prevention, detection, and treatment

**Candidate Physical Ability Test (CPAT)** - A standardized physical performance test used to assess the physical capabilities of candidates applying for firefighter positions

**Capillaries** - The smallest blood vessels that connect small arteries and small veins through which the exchange of oxygen and carbon dioxide takes place

**Capillary bleeding** - Bleeding in which blood oozes from the open wound

**Captain** - A key leadership position in various organizations, such as fire departments, police departments, and military units

**Carbon Dioxide (CO<sub>2</sub>)** - A colorless, odorless gas that is a natural component of Earth's atmosphere that plays a crucial role in various biological and chemical processes

**Carbon Monoxide (CO)** - A colorless, odorless, and tasteless gas that can be highly dangerous to human health, it is produced by the incomplete combustion of carbon-containing fuels

**Carbon Monoxide detector** - A safety device designed to detect the presence of carbon monoxide gas in the air and alert occupants when levels become dangerous

**Carcinogen** - Substance or agent that can cause cancer or promote its development

**Cardiac arrest** - A sudden ceasing of heart function

**Cardiopulmonary resuscitation (CPR)** - The artificial circulation of the blood movement of into and out of the lungs in a pulseless, nonbreathing victim

**Cardiovascular Endurance** - The ability of the heart, lungs, and circulatory system to supply oxygen-rich blood to working muscles during sustained physical activity

**Career Tracks** - The various paths or progressions that individuals can follow in their professional journey within a particular field or industry

**Carotid artery** - The major artery that supplies blood to the head and brain

**Carotid pulse** - A pulse that can be felt on each side of the neck where the carotid artery is close to the skin

**Carryalls** - Tools used in firefighting and emergency response for transporting equipment, tools, and other items

**Cascade System** - Used to manage and distribute compressed air for the refilling of SCBA air cylinders

**Case-hardened steel** - A type of steel treated for increased surface hardness while keeping a tougher, more ductile core; this process improves wear resistance and durability, ideal for applications requiring strong, hard surfaces

**Catchalls** - Tools or equipment used to collect, contain, and manage debris, waste, or other materials

**Cause and Origin** - The process of determining the reason a fire started (cause) and the location where it began (origin)

**Central station service alarm system** - A fire alarm system that connects to a central monitoring service, enabling real-time monitoring of alarms and emergencies for enhanced building safety

**Chafing block** - A protective pad or device placed under fire hoses to prevent wear and damage from friction or abrasion when the hose is pulled across rough or sharp surfaces

**Chain** - A unit of measurement used to describe distance; one chain is equal to 66 feet (about 20.12 meters)

**Chain of command** - A hierarchical structure that shows how authority flows through an organization, such as a company or military

**Chain of custody** - The documented and unbroken transfer of evidence from the moment it is collected during an investigation until it is presented in court

**Check valve** - A valve used in piping systems, including fire protection, to prevent backflow by allowing fluid to flow in only one direction

**Chemical burns** - Burns that occur when any toxic substance, such as acid, comes in contact with the skin

**Chief of the department** - The highest-ranking officer in a fire department, police department, or similar organization that carries the ultimate responsibility for the overall leadership, management, and direction of the department

**Child fire setters** - Young children (usually under the age of 7) who engage in fire-setting out of curiosity about fire's properties, without understanding its potential dangers

**Chinook winds** - Warm, dry winds descending the eastern slopes of the Rocky Mountains in North America can cause rapid temperature increases, sometimes by tens of degrees, through a process known as adiabatic heating

**Chronic exposure** - Long-term or repeated exposure to a harmful substance or environmental condition over an extended period

**Chronic health hazard** - Substance, condition, or factor that poses a long-term risk to health due to prolonged or repeated exposure

**Circulatory system** - The heart and blood vessels, which together are responsible for the continuous flow of blood throughout the body

**Circumstantial evidence** - Evidence that indirectly suggests a fact or a set of facts but does not directly prove it

**Clapper valve** - A valve that allows water to flow in one direction and prevents backflow, typically used in fire hydrants, standpipe systems, and some water distribution systems

**Classifications of Fire** - The different types of fires based on the materials involved and their burning characteristics

**Clean agent** - A type of fire extinguishing agent that does not leave a residue after use and is safe for sensitive electronic equipment, documents, and other valuable items

**Closed wound** - An injury in which soft-tissue damage occurs beneath the skin, even though there is no break in surface of the skin

**Closed-circuit self-contained breathing apparatus** - A type of respiratory protective equipment that provides a self-contained supply of breathable air in a closed system

**Clove hitch** - A knot used to fasten a rope or line to a cylindrical object, such as a post, rail, or pipe

**Code of Federal Regulations (CFR)** - A collection of rules published in the Federal Register by the executive departments and agencies of the United States federal government (i.e. Title 29 deals with labor, including OSHA regulations)

**Collapse zone** - An area around a structure that is considered dangerous due to the potential for structural failure or collapse during a fire or other emergency incident

**Combination attack** - A firefighting tactic combining direct and indirect suppression methods, using water streams to quickly cool the fire environment, control spread, and extinguish the fire while minimizing water damage and heat buildup

**Combination ladder** - A versatile type of ladder that can be used in various configurations to perform different tasks

**Command staff** - The group of individuals responsible for overseeing and managing various aspects of an incident; this includes Public Information Officer, Incident Safety Officer, and Liaison Officer, who report directly to the Incident Commander

**Common Infectious Diseases** - Illnesses caused by pathogenic microorganisms, such as bacteria, viruses, fungi, and parasites

**Community Agencies** - Organizations or entities that operate within a community to provide various services, support, and resources to residents

**Community Risk Reduction (CRR)** - A proactive approach used by fire departments and other public safety organizations to identify, assess, and reduce risks within a community

**Company Officer** - A key leadership role within a fire department, typically responsible for overseeing a single unit or crew, often referred to as a "company;" a Lieutenant or Captain commonly holds this position, depending on the department's structure

**Competent ignition source** - An ignition source that has the capability to produce sufficient energy and conditions to ignite a combustible material or fuel and sustain a fire

**Compressed Air Foam System (CAFS)** - A firefighting tool that mixes foam concentrate, water, and compressed air to produce firefighting foam

**Computer-Aided Dispatch (CAD)** - A system that use computer technology to automate the dispatch process, improve coordination, and enhance the ability of emergency services to respond effectively to incidents

**Concentration** - The amount of a substance present in a given quantity of a mixture, solution, or environment

**Concrete** - A widely used construction material composed of a mixture of cement, water, aggregates (such as sand, gravel, or crushed stone), and sometimes additives or admixtures

**Conduction** - One of the three primary modes of heat transfer by which heat energy is transferred through a material or between materials in direct contact without the movement of the material itself

**Confined Space Rescue** - The specialized procedures and techniques used to safely rescue individuals who are trapped or incapacitated in confined or enclosed spaces

**Construction Terminology** - The specialized language and terms used in the field of building construction

**Contamination** - The introduction or presence of unwanted or harmful substances into a medium, such as air, water, soil, or food

**Contemporary Construction** - Refers to modern building practices and design approaches that reflect current trends, technologies, and materials in the construction industry

**Contusion** - The medical term for a bruise, which occurs when small blood vessels (capillaries) under the skin are damaged due to a blow or impact, causing blood to leak into the surrounding tissue

**Conventional forcible entry** - Traditional methods and techniques used by firefighters to gain access to structures during emergencies

**Core Strength Exercises** - Focus on developing the muscles around the abdomen, lower back, and pelvis

**Corrosivity** - The ability of a substance to cause damage or deterioration to materials, typically metals, through a chemical reaction

**Council rake** - A specialized hand tool with a long handle and metal rake head used in wildland firefighting to clear vegetation and create firebreaks

**Coupling** - A device attached to the ends of fire hoses, allowing them to be connected to other hoses, hydrants, nozzles, or firefighting equipment

**C-post** - The structural support located at the rear of a vehicle, connecting the roof to the rear quarter panels and body

**CPR Certification** - Involves training and certification in Cardiopulmonary Resuscitation (CPR), a life-saving technique used in emergencies when someone's breathing or heartbeat has stopped

**Crew** - A group of personnel who work together to perform tasks and manage incidents

**Crew Resource Management (CRM)** - A set of training, communication, and management techniques designed to improve teamwork, decision-making, and overall effectiveness in high-pressure environments, such as firefighting, aviation, and emergency response

**Cribbing** - A method of stabilizing heavy objects by stacking blocks of wood or plastic in a crisscross pattern to create a stable platform

**Critical Fire Ground Factors** - The key elements and conditions that firefighters and incident commanders must assess and consider when responding to a fire

**Critical Incident Stress Management (CISM)** - A comprehensive, multi-component system designed to assist individuals who have experienced significant stress or trauma as a result of critical incidents, such as emergencies, disasters, or other high-stress events

**Cross-contamination** - The transfer of harmful substances, microorganisms, or contaminants from one surface, substance, or environment to another, which can result in adverse health effects or degradation of product quality

**Crown fire** - A type of wildfire where flames spread rapidly through tree canopies, fueled by surface fires, and burning treetops, making it intense and difficult to control



**Cutting tools** - Tools help firefighters cut through various materials such as wood, metal, and roofing to facilitate rescue operations and improve fire suppression efforts

**Cyanide** - A highly toxic chemical compound that can cause severe health effects or death even at low concentrations

## **D**

**Dash lift** - A vehicle extrication technique used in frontal collisions to raise and move the dashboard away from a trapped victim, creating enough space for safe removal without fully removing the dashboard

**Dash Reinforcement Bar** - A structural component located behind the dashboard of a vehicle designed to provide additional strength and support to the dashboard assembly and to maintain the structural integrity of the vehicle's cabin, particularly in the event of a collision

**Dash roll** - A vehicle extrication technique that moves the dashboard forward and upward to free a trapped occupant, typically after a severe frontal collision where the dashboard has collapsed into the passenger compartment

**Dead load** - Permanent, unchanging loads a structure must support, including the weight of its structural elements and fixed equipment, as opposed to dynamic live loads

**Dead-end water main** - A type of water distribution pipeline that terminates at one end without looping back into the main water supply network

**Deck gun** - A large, mounted firefighting nozzle or water cannon that is installed on the deck of a fire truck, fireboat, or other firefighting vehicle, used to discharge large volumes of water or foam for fire suppression

**Decontamination** - The process of removing or neutralizing contaminants from people, equipment, surfaces, or environments to prevent harm and ensure safety

**Defensible space** - The area around a structure or property that has been modified or cleared to reduce the risk of fire spreading to or from the structure

**Defensive operation** - A strategy used when fire conditions or safety concerns prevent firefighters from conducting an interior attack or directly engaging the fire

**Defibrillator** - A medical device used to restore a normal heart rhythm by delivering a controlled electric shock to the heart

**Dehydration** - Occurs when the body loses more fluids than it takes in, leading to an imbalance that can impair bodily functions

**Deluge head** - Component of a deluge fire protection system, which is designed to provide a rapid and extensive water discharge in response to a fire

**Deluge sprinkler system** - A specialized fire suppression system designed to quickly deliver a large volume of water over an extensive area in response to a fire

**Deluge valve** - Component of a deluge fire protection system, which is designed to quickly discharge a large volume of water to combat fires

**Demonstrative evidence** - Evidence used in a trial or legal proceeding to help illustrate, explain, or clarify facts and issues for the judge or jury

**Department of Transportation (DOT)** - A federal agency of the United States government responsible for ensuring a safe, efficient, and accessible transportation system

**Depth of char** - The thickness or extent of the burned or charred layer on the surface of a material, particularly wood, after a fire

**Dewatering devices** - Tools and equipment used to remove water from an area, typically after a fire, flood, or other incident that has caused significant water accumulation

**Diabetes** - A condition caused by high levels of glucose (a form of sugar) in the blood

**Diaphragm** - A muscular dome that separates the chest from the abdominal cavity that brings air into the lungs when it contracts; relaxation expels air from the lungs

**Dimensional lumber** - Refers to standard-sized wooden beams or boards that are used in construction and woodworking

**Direct attack** - A firefighting strategy where firefighters engage the fire directly from the perimeter, working to suppress or extinguish the fire right at its edge

**Direct evidence** - Evidence that directly proves a fact without the need for inference or presumption

**Discipline** - The practice of training people to obey rules or a code of behavior

**Disease** - An abnormal condition in the body causing harm

**Disentanglement and Patient Management** - Techniques ensure the safe removal of individuals without causing further injury, while proper patient management involves providing appropriate medical care throughout the rescue process

**Distributor pipe** - A smaller-diameter pipe in a water distribution network branches off from a larger main pipe to distribute water to residential, commercial, industrial properties, and fire hydrants within a service area

**Division** - Designated section of an incident that is managed by a division supervisor; it is part of the Incident Command System (ICS) structure and is used to organize and coordinate resources and operations within a specific area or functional area of the incident

**Division of labor** - The process of separating tasks in an organization or economic system so that participants can specialize

**Division supervisor** - One who manages the division under the Incident Command System

**Documentary evidence** - Written or recorded materials that are presented in court to support claims or establish facts

**Documentation and Incident Reporting** - Components of firefighting operations, providing a detailed record of events, decisions, and actions taken during an incident

**Donning and Doffing PPE** - Critical procedures in ensuring that personal protective equipment (PPE) is worn and removed correctly to maximize safety and effectiveness

**Donning and Doffing SCBA** - Procedures for properly putting on and removing the SCBA to ensure safety and functionality

**Double-action pull station** - A type of manual fire alarm activation device designed to enhance safety by requiring two distinct actions to trigger an alarm

**Double-female adapter** - A coupling fitting with female threads on both ends, used to connect two hoses or pieces of equipment that have male-threaded fittings

**Double-hung windows** - A popular style of window characterized by two vertically sliding sashes; both sashes can be moved up and down independently, allowing for versatile ventilation and ease of use

**Double-jacket hose** - A fire hose consisting of two layers of material—an inner lining and an outer jacket—designed to offer superior durability and performance in demanding firefighting conditions

**Double-male adapter** - A coupling fitting with male threads on both ends, used to connect two hoses or pieces of equipment with female-threaded fittings

**Drafting** - The process of drawing water from a static water source and delivering it through a fire hose or pump to support firefighting operations

**Drafting hydrant** - A connection point, usually installed near a static water source, which allows firefighters to connect a pump to draw (or draft) water

**Dressing** - A bandage

**Dry barrel hydrant** - A type of fire hydrant designed for use in cold climates where freezing temperatures could cause water inside the hydrant to freeze, rendering it inoperable

**Dry chemical extinguishing system** - A type of fire suppression system that uses a dry chemical powder to extinguish fires by interrupting the chemical reaction of the fire

**Dry hydrant** - A type of non-pressurized hydrant that allows firefighters to access water from a static water source, such as a pond, lake, or reservoir, especially in rural or remote areas where traditional pressurized fire hydrants are not available

**Dry pipe sprinkler system** - A type of fire suppression system designed for environments where there is a risk of freezing

**Dry standpipe system** - A type of fire protection system designed to provide a readily available water supply for firefighting operations within large buildings, particularly in high-rise structures

**Dry-powder fire extinguisher** - A type of fire extinguisher that uses a dry powder to suppress fires and is particularly effective on fires involving flammable liquids, gases, and metals

**Duckbill padlock breaker** - A specialized tool used in emergency situations to cut through or break padlocks; its name comes from the shape of the tool, which resembles a duck's bill

**Dump valve** - A valve used primarily in firefighting, emergency water management, and tanker truck operations to quickly release large volumes of water from a water tanker or tender

**Dynamic rope** - A type of rope designed specifically to absorb and dissipate the energy of falls or impacts

## **E**

**Edema** - The medical term for swelling caused by the accumulation of excess fluid in the tissues of the body

**Electrical burns** - Burns caused by contact with high- or low-voltage electricity; They have both an entrance wound and an exit wound

**Elevated master stream appliance** - A firefighting device mounted on an elevated platform, such as a ladder or aerial device, which is used to deliver high volumes of water or foam to a fire from an elevated position

**Elevated platform** - A specialized firefighting device, often mounted on a fire truck, provides a stable, elevated working area for firefighters during emergency operations, including rescue, firefighting, and ventilation tasks

**Elevated water storage tower** - A tall structure used to store water at a height, creating the necessary pressure to supply water to a community or facility

**Elevation pressure** - The pressure exerted by a fluid (such as water) due to its height above a reference point, typically due to the force of gravity

**Embolism** - The blockage of a blood vessel by a foreign substance that travels through the bloodstream and becomes lodged in a smaller vessel, restricting blood flow

**Emergency Apparatus** - Vehicles and equipment used by emergency services to respond to various types of emergencies, including fires, medical incidents, and disasters

**Emergency Medical Dispatcher (EMD)** - A specialized role within emergency dispatch centers responsible for handling calls related to medical emergencies

**Emergency Medical Technician (EMT)** - Healthcare professionals trained to provide emergency medical care and transportation to patients in urgent or life-threatening situations

**Emergency Response Guide** - A manual used by first responders, including firefighters, law enforcement, and hazardous materials (HAZMAT) personnel, to guide their actions during the initial stages of an incident involving HAZMAT

**Emergency traffic** - Communication and coordination required to ensure the smooth and safe movement of emergency vehicles during an emergency response

**Emergency Vehicle Technician (EVT)** - Specialize in the maintenance, repair, and servicing of emergency vehicles, such as ambulances, fire trucks, and police vehicles

**Employee Assistance Program (EAP)** - A workplace benefit designed to help employees manage personal and professional issues that may affect their job performance, health, and well-being

**Engine company** - A fundamental unit within a fire department, primarily responsible for responding to fires and other emergencies equipped with water and firefighting tools to control and extinguish fires

**Engineered wood** - Refers to a range of composite wood products that are designed to provide enhanced strength, stability, and versatility compared to traditional solid wood

**Environmental Protection Agency (EPA)** - An independent agency of the U.S. federal government responsible for protecting human health and the environment by enforcing regulations and developing policies related to air, water, and land quality

**Epidermis** - The outermost layer of the skin, serving as a protective barrier between the body and the external environment

**Escape rope** - A specialized rope used for emergency evacuation, typically in situations where individuals need to exit from a dangerous or confined space quickly and safely

**Escape route** - A pre-planned and designated path that provides a safe and efficient way for firefighters and other personnel to leave an area at risk during a wildfire or other emergency situations

**Esophagus** - Tube through which food passes into the body; it starts at the throat and ends at the stomach

**Evacuation** - Organized removal of people from a hazardous or potentially dangerous area to a safer location

**Evacuation signal** - Notification or alert used to prompt individuals to leave a building, area, or zone in response to a perceived threat or emergency

**Evidence Preservation** - In the context of fire investigations is crucial for maintaining the integrity of physical evidence collected from a fire scene

**Exhauster** - A mechanical device used to remove air, gases, smoke, dust, or other particles from an enclosed space, typically for ventilation, air quality control, or fire suppression

**Exit wound** - The point where an injuries object such as a bullet passes out of the body

**Expectation bias** - The tendency for an individual's expectations, beliefs, or preconceived notions to influence their observations, interpretations, or conclusions

**Exposures** - Buildings, structures, or areas that are at risk of catching fire due to their proximity to the primary fire

**Extension ladder** - A sectional ladder consists of two or more sliding sections that extend or retract to adjust the overall length, commonly used in firefighting, rescue operations, and tasks requiring access to elevated areas

**Exterior attack** - A firefighting strategy involves controlling or suppressing a fire from outside a structure instead of entering it, typically used when interior conditions are too hazardous for firefighters, such as extreme heat, structural instability, or a fully involved fire

**Extinguishing agent** - A substance used to suppress or extinguish fires varies based on the fire's nature, the materials involved, and the surrounding environment

**Extra (high) hazard locations** - Areas with a significant risk of fire due to the presence of highly flammable materials, processes, or activities

**Extrication Tools and Techniques** - Critical for rescuing individuals trapped in vehicles, collapsed structures, or other confined spaces

## **F**

**Faller** - Firefighter or specialized worker who is responsible for cutting down trees in a controlled manner to support firefighting operations

**Federal Communications Commission (FCC)** - U.S. government agency responsible for regulating interstate and international communications by radio, television, wire, satellite, and cable

**Femoral artery** - The principal artery of the thigh

**Figure Eight** - Versatile, strong knot commonly used in climbing, rescue operations, and sailing that often serves as a secure loop or stopper knot

**Finance/Administration section** - Responsible for managing all financial and administrative aspects of an incident

**Fine Fuel** - Small, lightweight, and easily ignitable materials that are highly flammable and can quickly catch fire

**Finger** - Narrow, elongated extension of a fire that projects out from the main fire area

**Fire Alarm Box** - Device used to manually activate a fire alarm system in the event of a fire allowing individuals to trigger an alarm and notify others of a fire emergency

**Fire Alarm Control Unit (FACU)** - Alarm panel serves as the central hub of a fire alarm system, monitoring inputs from various detection devices, such as smoke detectors and heat sensors, while controlling outputs that activate alarms or notifications such as bells, sirens, or alerts to fire departments

**Fire Alarm System** - Network of devices designed to detect and alert building occupants to the presence of fire, smoke, or other hazardous conditions

**Fire Alarms** - Devices that detect smoke or fire and alert people to evacuate a building

**Fire and Life Safety Educator (FLSE)** - A professional dedicated to promoting fire and life safety through education and community outreach

**Fire apparatus driver/operator** - Role involves operating and driving fire apparatus, such as fire engines and ladder trucks, while managing their associated equipment, combining driving skills with technical knowledge to ensure effective use during emergency responses

**Fire Behavior** - The way a fire reacts and spreads under various conditions, including the influence of fuels, weather, and the environment

**Fire Cause Determination** - Process of identifying the factors that led to the ignition of a fire

**Fire Chemistry** - Study of the chemical processes involved in fire and combustion

**Fire compartment** - Designated area within a building designed to contain a fire and prevent its spread to other sections, with the primary goal of limiting smoke, heat, and flames, thereby providing occupants with more time to evacuate and protecting the building's structural integrity

**Fire Conditions in Building Construction** - Various factors and scenarios that affect how a fire behaves within a structure

**Fire control** - Strategies, techniques, and actions taken to manage and extinguish a fire effectively

**Fire control line** - A constructed or natural boundary used to contain or manage the spread of a wildfire designed to stop the fire's advance

**Fire Department Connection (FDC)** - Designated inlet on a building's fire protection system where firefighters can connect their hoses to provide additional water supply for the building's sprinkler or standpipe system

**Fire department ground ladder** - Type of ladder used by fire departments to access buildings, rescue individuals, and perform various tasks at different heights

**Fire Detection and Suppression Systems** - Systems designed to detect fires early (smoke alarms) and control or extinguish them (sprinklers), as well as systems to control smoke

**Fire extension** - Spread of fire from its original location to other parts of a structure or to nearby areas

**Fire Extinguishers** - Portable devices used to put out small fires

**Fire Fighter I** - A certification level within the fire service that represents a fundamental level of firefighter training and competency

**Fire Fighter II** - Advanced certification level in the fire service, it signifies a higher level of expertise and responsibility than Fire Fighter I, building on foundational skills and knowledge to prepare individuals for more complex and demanding roles within a fire department

**Fire Ground Operations** - Organized and systematic actions taken by firefighters and emergency personnel at the scene of a fire

**Fire ground search and rescue** - Operations performed by firefighters to locate and rescue individuals trapped or in danger within a structure or incident scene

**Fire ground size-up** - Process used by firefighters and incident commanders to assess and evaluate the conditions at a fire scene

**Fire Ground Tactics** - Specific techniques and actions that firefighters use to implement their overall strategies during a fire incident

**Fire ground ventilation** - Firefighting technique used to improve conditions inside a burning structure by removing smoke, heat, and gases

**Fire hose** - Designed to deliver water or other firefighting agents to the scene of a fire

**Fire hose appliance** - A device or fitting used with fire hoses to control, connect, or modify the flow of water or foam during firefighting operations

**Fire hose sizes and maintenance** - Proper hose selection and upkeep ensure that firefighters can effectively deliver water or firefighting agents to the scene of a fire

**Fire hydrants** - Components of a municipal water supply system, providing firefighters with a readily accessible source of water for combating fires

**Fire Inspector** - Professional responsible for assessing buildings, structures, and facilities to ensure they comply with fire safety codes and regulations

**Fire Investigator** - Professional who examines the causes and origins of fires to determine how and why they occurred

**Fire load** - Refers to the total amount of combustible material present in a specific area or compartment of a building that could contribute to the intensity and duration of a fire

**Fire mark** - A metal plate affixed to a building by 18th-century fire-insurance companies to indicate that the property is insured

**Fire marshal** - senior position in the fire service or fire department, the Fire Marshal oversees fire prevention, investigation, and enforcement of fire safety regulations, playing a crucial role in reducing fire risks, ensuring compliance with fire codes, and investigating fire causes

**Fire patterns** - The distinct markings or features created by the combustion process on surfaces affected by a fire

**Fire point** - The temperature at which a substance continues to burn or sustain combustion once ignited

**Fire prevention** - Strategies and practices aimed at reducing the risk of fire and protecting people, property, and the environment from fire-related damage

**Fire Protection Engineer** - Professional who applies engineering principles to protect people, property, and the environment from the destructive effects of fire and smoke

**Fire resistance** - Refers to the ability of a building component, such as walls, floors, or structural elements, to withstand the effects of fire for a specified period without losing its load-bearing capacity, integrity, or insulation properties

**Fire salvage** - Efforts and techniques used to protect and recover property during and after a fire

**Fire service** - Organized system of professionals and volunteers dedicated to preventing, responding to, and managing fire and emergency situations

**Fire shelter** - Portable, protective device designed to provide safety to firefighters in the event that they are trapped by a wildfire

**Fire stream** - Flow of water, foam, or other firefighting agents projected from a nozzle or other application device to combat a fire

**Fire stream tactics** - The strategies and methods used to apply water or other extinguishing agents in a controlled manner to suppress or extinguish a fire

**Fire streams** - Ways in which water or other extinguishing agents are delivered to a fire to control, suppress, or extinguish it

**Fire suppression** - Actions taken to extinguish a fire and control its spread involving the using a variety of tools, equipment, and tactics to remove one or more elements of the fire triangle—heat, fuel, and oxygen—to bring the fire under control

**Fire suppression system** - Engineered group of units designed to extinguish or control fires in buildings or other structures; unlike fire detection systems, which only provide alerts, fire suppression systems actively work to suppress or extinguish the fire, often before the fire department arrives

**Fire Tetrahedron** - Model used to understand the four essential elements required for fire to occur

**Fire Triangle** - Fundamental model used to understand the three essential components required for a fire to ignite and sustain itself

**Fire Truck** - Specialized vehicle used by fire departments to respond to emergencies, primarily fires

**Fire wall** - Component of building design that helps prevent the spread of fire and smoke between different areas of a structure

**Fire wardens** - Person employed to prevent or extinguish fires, especially in a town, camp, or forest

**Fire watch** - A safety measure employed to ensure that there is constant surveillance for potential rekindling of a fire at the fire scene

**Firefighter Fitness** - Firefighters must maintain excellent physical condition due to the physically demanding nature of their job, which requires handling intense tasks during emergencies, such as lifting heavy equipment, carrying victims, and performing strenuous activities in challenging environments

**Firefighter Injuries** - Injuries that occur due to the physically demanding and hazardous nature of firefighting

**Firefighter LODD** - Fatalities that occur while firefighters are performing their duties or activities related to their job

**Firefighter PPE** - Designed to protect firefighters from a range of hazards, including heat, flames, chemicals, and physical injuries

**Firefighter Safety** - A critical aspect of fire service operations, ensuring that firefighters can perform their duties effectively while minimizing the risk of injury or death

**Firefighter tools and equipment** - Essential for effective firefighting, rescue operations, and overall incident management

**Fireground Command (FGC)** - Strategic management and coordination of firefighting operations at the scene of a fire

**Firewall** - A critical structural component that separates the engine compartment from the passenger compartment of a vehicle, it primarily prevents engine fires from spreading into the passenger area while also providing structural support and protection during a collision

**First Aid** - The initial care given to a person who has been injured or is experiencing a sudden illness

**First Aid Certification** - Essential training in responding to medical emergencies and treating common injuries and illnesses until professional medical help is available

**Fixed-gallonage fog nozzle** - A firefighting nozzle that delivers a constant flow rate of water or foam, with a pre-set capacity in gallons per minute (gpm) or liters per minute (lpm); typically produces a fog or mist pattern

**Fixed-Temperature Detector** - Type of heat detector used in fire detection systems; designed to activate when the temperature in its surrounding environment reaches a predetermined threshold

**Flame detector** - Specialized device used in fire detection systems to identify the presence of flames

**Flame height** - Vertical distance from the base of the flame to the tip of the flame in a wildfire or fire

**Flanking attack** - Firefighting strategy where firefighters approach a wildfire from the sides, rather than attacking it head-on

**Flash point** - Lowest temperature at which it can vaporize to form an ignitable mixture in air

**Flashover** - Rapid and extremely dangerous phenomenon that occurs in a fire when all the combustible materials in a room or area reach their ignition temperature simultaneously, leading to a sudden and intense burst of flames

**Flat hose load** - A method of storing and organizing fire hoses on a fire apparatus for quick and efficient deployment

**Flat raise** - A technique used in firefighting to raise and deploy a ladder, typically an extension ladder, in a manner that ensures stability and efficiency

**Floor runner** - A protective covering used in various settings to safeguard flooring from damage, dirt, and wear; commonly used during construction, renovation, or event setups to prevent scratches, stains, and other forms of damage to floors

**Flow rate** - A measure of the volume of fluid that passes through a specific point or area per unit of time; it is a critical concept in various fields, including fluid dynamics, water supply systems, firefighting, and engineering

**Fly section** - A part of an extension ladder or a multi-section ladder that extends and retracts to adjust the overall length of the ladder; one of the movable sections that allows the ladder to reach different heights while remaining compact for storage and transport

**Foehn winds** - Warm, dry winds that occur on the leeward side of mountain ranges

**Fog stream** - A firefighting stream that disperses water or foam into a fine mist or spray pattern, created by a fog nozzle



**Folding ladder** - A type of ladder designed to be compact and portable, with sections that fold or collapse for easy storage and transport

**Forcible entry** - Methods and techniques used by firefighters and emergency responders to gain access to a structure or area when traditional access methods are not available or practical

**Forestry fire hose** - A durable, lightweight hose designed specifically for wildland firefighting used to deliver water or foam to combat fires in forested or remote areas

**Forward hose lay** - A method of deploying a fire hose where the fire engine or apparatus lays the hose from a water source (such as a hydrant) to the fire scene

**Four-way hydrant valve** - A valve equipped with four outlets that enables the connection of multiple hoses or appliances to a single fire hydrant providing control over the distribution of water to different lines

**Fracture** - A break, crack, or disruption in the continuity of a bone

**Frangible-bulb sprinkler head** - Type of sprinkler used in fire suppression systems that activates when exposed to heat featuring a glass bulb filled with a liquid that expands and breaks the bulb when the temperature reaches a predetermined threshold

**Fresno ladder** - A type of extension ladder designed specifically for use in firefighting and rescue operations; named after the city of Fresno, California, where it was developed

**Friction loss** - The loss of pressure in a fire hose due to the resistance encountered as water flows through the hose

**Friction point** - A location or part of the fire hose deployment where friction or resistance occurs, which can impede the flow of water or make it more difficult to move or handle the hose

**Fuel moisture** - The amount of water content in combustible materials (fuels) such as vegetation, leaves, branches, and other organic matter

**Full-thickness burns** - The most serious type of Burn that extends through the skin and into or beyond the underlying tissues

**Functional Exercises** - Movements that mimic the types of activities and movements performed in daily life or specific job tasks, such as firefighting

**Fusible-link sprinkler head** - Type of fire sprinkler head used in fire suppression systems; it operates based on a fusible link, which is a two-part metal element held together by a heat-sensitive alloy

## **G**

**Gas detector** - Device designed to identify and measure the presence of specific gases in an environment, often to prevent hazards such as explosions, toxic exposure, or asphyxiation

**Gastric distention** - Inflation of the stomach that arises when excessive pressures are used during artificial ventilation and air is directed into the stomach rather than into the lungs

**Gate valve** - A type of valve used to control the flow of fluid through a pipe designated to either fully open or fully close, allowing or blocking the flow of fluid rather than regulating it

**Gated wye** - A firefighting appliance with a "y"-shaped configuration that has multiple outlets, each equipped with a gate or valve used to split the flow of water from a single source to multiple hoses and control the flow to each outlet individually

**General staff** - In the Incident Command System (ICS), the General Staff is a key component responsible for managing the operational aspects of an incident; composed of four main sections, operations, coordination, finance, and planning

**General use life safety rope** - Type of rope designed for a wide range of applications where safety is a primary concern

**Geographic Information Systems (GIS)** - Tools used for capturing, analyzing, managing, and displaying spatial and geographic data that integrates hardware, software, and data to help users understand and visualize patterns, relationships, and trends related to geographic locations

**Global Positioning Systems (GPS)** - Satellite-based navigation systems that provide accurate location and time information anywhere on Earth; widely used for navigation, mapping, and tracking purposes

**Governance** - Refers to the processes, structures, and systems through which organizations or societies are directed and controlled

**Gravity-feed system** - A method of moving fluid (usually water or another liquid) from one point to another using the force of gravity relying on the natural downward force of gravity to facilitate the movement of the fluid, often without the need for mechanical pumps or external power sources

**Green area** - Region that has not yet been affected by the fire and where vegetation is still green and healthy

**Gross decontamination** - Initial, large-scale process of removing or reducing the bulk of contaminants from individuals, equipment, or areas

**Ground cover fire** - A type of rapid-spreading wildfire that primarily burns the vegetation and organic material on the ground's surface

**Group** - A functional unit within the Operations Section that focuses on specific tasks or objectives

**Group supervisor** - One who manages an operational group

**Gusset plate** - A structural component used in construction to connect and strengthen the joints between various elements of a framework, such as beams, trusses, and columns

## **H**

**Half hitch** - A knot formed by making a single loop around an object and then pulling the rope tight

**Halogenated-agent fire extinguisher** - Halogenated compounds to extinguish fires; agents that are effective at suppressing fires without leaving residues, making them suitable for protecting sensitive equipment and environments

**Halon 1211** - Used in portable extinguishers for Class B and C fires; also phased out due to environmental concerns

**Halyard** - A type of rope or line used to raise, lower, or secure objects, halyards are particularly important in firefighting for extension and aerial ladders, where they play a crucial role in extending and retracting ladder sections

**Handline** - A smaller diameter fire hose that can be carried and operated by hand used for direct application of water or foam to extinguish or control a fire

**Hard suction hose** - A rigid or semi-rigid hose used to draft water from a static source and supply it to a fire pump designed to withstand the vacuum created by the pump and maintain its shape under pressure

**Hazardous Materials** - Substances that pose a risk to health, safety, or the environment due to their chemical, physical, or biological properties

**Hazardous materials company** - A specialized unit within a fire department or emergency response organization that is trained and equipped to respond to incidents involving hazardous materials

**Hazardous Materials Specialist** - Individual with advanced training and expertise in the identification, handling, containment, and mitigation of hazardous materials

**Hazardous Materials Technician** - Highly trained professional who specializes in responding to and managing incidents involving hazardous materials

**Hazardous waste** - Refers to any material that is dangerous or potentially harmful to human health or the environment when improperly managed

**HAZWOPER (HAZardous Waste OPerations and Emergency Response)** - Set of standards and regulations developed by the Occupational Safety and Health Administration (OSHA) in the United States that govern the safety and health of workers who are involved in hazardous waste operations, emergency response to hazardous substance releases, and cleanup activities

**Head of the fire** - Most actively burning and rapidly spreading part of a wildfire; typically, the front edge of the fire, where flames are most intense, and the fire's intensity is highest

**Head tilt-chin lift maneuver** - Opening the airway by tilting the victim's head backward and lifting the chin forward, bringing the entire lower jaw with it

**Health and Wellness Programs** - Structured initiatives designed to improve the overall health and well-being of individuals and communities

**Health-Compromising Risk Behaviors** - Actions or patterns of behavior that can negatively impact an individual's physical and mental health

**Heat detector** - Type of fire detection device that senses the presence of heat from a fire

**Heat exhaustion** - Condition resulting from prolonged exposure to high temperatures and inadequate fluid intake, leading to a significant loss of body fluids and electrolytes

**Heat Release Rate (HRR)** - Measure in fire safety and fire dynamics, representing the amount of heat energy released per unit of time during a fire

**Heat sensor label** - A specialized device used to indicate when a ladder is exposed to high heat or temperature

**Heat stroke** - Severe and potentially life-threatening condition caused by prolonged exposure to high temperatures, leading to a critical rise in body temperature and failure of the body's cooling mechanisms

**Heat transfer** - Movement of heat energy from one place to another

**Heavy fuel** - Dense, thick, and often highly flammable materials that can sustain and intensify a wildfire

**Heel of the fire** - Part of a wildfire that is the least active and has the slowest rate of spread that is typically located at the back or rear side of the fire, away from the direction of the fire's main progression

**Heimlich maneuver** - A series of manual thrusts to the abdomen to relieve an upper airway obstruction

**Helistop** - Designated area used for helicopter operations, specifically for landing, takeoff, and refueling of helicopters during an emergency or operational response

**Helmets** - Designed to provide protection to the head from impacts, heat, and falling debris during firefighting and rescue operations

**Hemorrhage** - Excessive bleeding

**Hepatitis** - Inflammation of the liver, which can be caused by a variety of factors including viral infections, alcohol consumption, certain medications, and autoimmune diseases

**Hepatitis B virus (HBV)** - A virus that causes inflammation of the liver

**Hepatitis C virus (HCV)** - A virus that causes inflammation of the liver; it is transmitted through blood

**Higbee indicator** - A visual marker or design feature on a hose coupling that assists in aligning the male and female threads for a proper connection which helps prevent cross-threading and ensures a tight seal between couplings

**Hitch** - A type of knot or binding used to attach a rope to an object, anchor, or another rope

**HIV/AIDS** - Refers to two related but distinct conditions caused by the Human Immunodeficiency Virus (HIV) and its progression to Acquired Immunodeficiency Syndrome (AIDS). HIV attacks the immune system, specifically the CD4 cells (T cells), which are crucial for immune function. Over time, HIV can lead to AIDS, a condition where the immune system is severely compromised, making the body vulnerable to opportunistic infections and certain cancers.

**Hockey puck padlock** - A type of padlock that offers enhanced security identified by its distinctive shape, which resembles a hockey puck

**Hollow-core door** - A type of interior door characterized by its lightweight construction and hollow interior

**Horizontal ventilation** - Firefighting tactic used to remove heat, smoke, and toxic gases from a burning structure through horizontal openings such as windows, doors, or other wall openings

**Horseshoe hose load** - A method of loading fire hoses on an apparatus where the hose is laid in a u-shape or horseshoe pattern

**Hose appliances** - Devices and equipment used in conjunction with fire hoses to control, direct, or modify the flow of water

**Hose bed** - The section of a fire apparatus (fire engine or truck) where fire hoses are stored and arranged for quick deployment

**Hose bridge** - A structure designed to protect fire hoses by allowing them to cross over areas where vehicles or heavy equipment are likely to pass, thus preventing damage to the hoses

**Hose clamp** - A device used to control or stop the flow of water through a fire hose by applying pressure to the hose, thereby sealing it shut

**Hose jacket** - A protective cover that wraps around a fire hose to prevent damage and extend its operational life providing reinforcement to areas of the hose that are prone to wear and tear

**Hose lays** - The arrangement and deployment of fire hoses to deliver water to a fire

**Hose loads** - The way fire hoses are configured and stored on fire apparatus to facilitate quick deployment during emergencies

**Hose tools** - Pieces of equipment used in firefighting to facilitate the effective use and management of fire hoses

**Human immunodeficiency virus (HIV)** - A viral infection which attacks the body's immune system, making it hard to fight off other infections that is passed through contact with body fluids (blood, semen, vaginal fluid, and breast milk)

**Hybrid building** - A structure that combines different types of materials and construction methods to leverage the benefits of each and achieve a balance of performance, aesthetics, and cost

**Hybrid electric vehicle** - A type of vehicle that combines a conventional internal combustion engine with an electric motor and a battery

**Hydrant barrel** - The main vertical section or body of a fire hydrant; it is the part of the hydrant that extends from the underground water supply up to the surface, where the hydrant outlets (also called nozzles) are located

**Hydraulic tools** - Essential in modern firefighting and rescue operations, particularly for extricating individuals trapped in vehicles or under debris

**Hydraulic ventilation** - A firefighting technique used to remove smoke, heat, and gases from a structure by using a fire hose to create an airflow that pulls contaminants out of the building

**Hydrostatic testing** - Procedure used to ensure the safety and integrity of pressure-containing equipment, such as fire extinguishers

**I-beams** - Structural steel members characterized by their I-shaped cross-section widely used in construction and engineering for their strength and efficiency in carrying loads

**Ignitable liquid** - Any liquid that can easily ignite and sustain combustion under certain conditions

**Ignition temperature** - Lowest temperature at which a substance will spontaneously ignite without an external ignition source, such as a flame or spark

**Immediately Dangerous to Life and Health** - Conditions that pose an immediate and severe risk to a person's health or life

**Immune system** - The way the body defends itself against infection, disease, and outside substances

**Incendiary device** - Type of weapon designed to start fires or cause explosions through the use of flammable materials

**Incendiary fire** - Fire that has been deliberately set with the intent to cause damage, destruction, or harm

**Incident Action Plan (IAP)** - Critical document used in incident management to outline the strategy and tactics for responding to an emergency or incident

**Incident Command Post (ICP)** - Central location from which the Incident Commander (IC) and their team manage and coordinate all aspects of an incident serving as the operational hub for incident management and is critical for effective response and recovery efforts

**Incident command system (ICS)** - Standardized, flexible, and scalable framework used for managing emergencies and incidents

**Incident Commander (IC)** - Key role in the Incident Command System (ICS), responsible for overseeing and managing the overall response to an emergency incident

**Incident management** - Systematic approach used to coordinate and manage the response to emergencies, disasters, or any situation that requires an organized response

**Incident objectives** - Specific, measurable goals established during an incident response to guide the actions of responders and ensure effective management of the situation

**Incident report** - A formal document used to record and summarize the details of an incident or emergency situation

**Incident Safety Officer (ISO)** - A role within the incident management team responsible for overseeing safety measures and ensuring the well-being of all personnel involved in an incident

**Incident stabilization** - Key objective in emergency response, particularly in fireground operations and other hazardous situations with the goal to control and contain the incident to prevent it from worsening, thereby reducing risks to life, property, and the environment

**Indirect attack** - Firefighting strategy used to contain or suppress a wildfire by working from a distance rather than directly on the fire's edge

**Infection control** - Range of practices and procedures designed to prevent and manage the spread of infectious diseases

**Infection control precautions** - Practices and procedures designed to prevent the spread of infections, particularly in healthcare settings but also applicable in other environments where infection risk is present

**Inspection and Maintenance of PPE** - Ensuring that Personal Protective Equipment (PPE) remains effective and provides the necessary protection during hazardous operations

**Interior attack** - A fire suppression strategy where firefighters enter a burning structure to combat the fire directly from within

**Interoperability** - The ability of different systems, devices, or organizations to work together and exchange information seamlessly, including technology, communications, and emergency response, interoperability is crucial for ensuring that systems and teams can collaborate effectively

**Ionization smoke detector** - A type of smoke detector that uses ionization technology to detect smoke and fire; particularly effective at sensing fast-burning, flaming fires, such as those caused by flammable liquids or paper

## **J**

**J tool** - A specialized piece of equipment used in forcible entry operations, primarily by firefighters and emergency responders designed to help gain access to locked or secured spaces quickly and efficiently

**Jalousie windows** - A type of window designed with horizontal slats or glass panes that can be adjusted to control airflow and light commonly used in tropical or humid climates due to their ability to provide ventilation while offering protection from the elements

**Jaw-thrust maneuver** - Opening the airway by bringing the victim's jaw forward without extending the neck

**Joists** - Horizontal structural members used to support floors and ceilings in buildings spanning across supports and carry the loads from the floor or ceiling above, transferring these loads to the vertical supports such as beams, walls, or columns

**Juvenile fire setters** - Individuals, typically under the age of 18, who intentionally start fires

## **K**

**Kerf cut** - A small, shallow cut made into a roof or wall during ventilation operations in firefighting; the initial cut made by a firefighter with a chainsaw or an axe to assess conditions within a structure before making a larger ventilation opening

**Kern** - Inner part of a rope, particularly in the context of rope construction

**Kernmantle rope** - Type of rope construction that features a distinct inner core (kern) and an outer protective layer (mantle or sheath)

**Knock down** - Act of significantly reducing a fire's intensity by applying water, foam, or other extinguishing agents to control the flames, cool down the fire, and prevent it from spreading

**Knot** - Method of tying or fastening a rope, cord, or similar material by intertwining or twisting it to create a secure and functional connection

## **L**

**Laceration** - An irregular cut or tear through the skin

**Ladder a-frame** - A type of ladder designed with two sides that form an "a" shape when the ladder is set up designed for stability and suitable for various tasks where a freestanding ladder is needed

**Ladder belt** - A safety device used in conjunction with ladders, particularly in construction and emergency services, to secure the individual using the ladder and prevent falls

**Ladder fuel** - Vegetation or other combustible materials that can facilitate the vertical movement of a fire from the ground to the upper canopy of trees

**Ladder guide** - Tools or devices that help position and stabilize a ladder during use ensuring that the ladder remains correctly aligned and secure, preventing it from slipping or moving unintentionally

**Ladder pipe** - A firefighting apparatus mounted on the aerial ladder of a fire truck that allows water to be directed from an elevated position that is used to reach high or difficult-to-access areas and apply water directly to the fire

**Ladders** - Tools on the fire ground, providing access to elevated areas, aiding in rescue operations, and facilitating ventilation

**Laminated safety glass (LSG)** - A type of glass used in vehicles and buildings that is designed to enhance safety and reduce the risk of injury during accidents or impact events consisting of multiple layers of glass with a layer of plastic laminate sandwiched between them

**Laminated wood** - A type of engineered wood made by bonding together layers of wood veneer or lumber with adhesives

**Large-Diameter Hose (LDH)** - A type of fire hose with a larger diameter than standard hoses, designed to deliver large volumes of water quickly and efficiently commonly used in firefighting operations for supply lines and heavy-duty water transport

**Larynx** - A structure composed of cartilage and found in the neck; it guards the entrance of the windpipe and functions as the organ of voice; also referred to as the voice box

**Latch** - A mechanical device used to secure doors, gates, or other barriers in place operated by engaging with a catch or strike plate to hold the door or barrier closed

**Lay** - A lay refers to the process of deploying fire hose to a specific location for the purpose of delivering water to the fire

**Legacy construction** - Refers to historical or traditional building methods and practices that have been passed down through generations

**Liaison Officer** - Role within the Incident Management Team (IMT) responsible for coordinating and facilitating communication between the incident management team and external agencies, organizations, and stakeholders

**Lieutenant** - Mid-level officer who plays a crucial role in managing fire companies, supervising personnel, and ensuring the safety and effectiveness of emergency operations

**Life safety** - Practices, measures, and systems designed to protect individuals from harm and ensure their well-being in various environments, particularly in emergencies

**Life Safety Rope** - Specialized rope designed to ensure human safety in various high-risk scenarios

**Light (low) hazard locations** - Areas where the potential for fire is considered to be minimal due to the nature of the materials and activities present

**Lightweight construction** - Building methods and materials designed to reduce the overall weight of a structure while maintaining strength and functionality

**Line-of-sight system** - A communication or observation system where the transmitter and receiver need to be in direct view of each other without any obstructions

**Live load** - Variable or movable loads that a structure or component is designed to support, in addition to its own weight (dead load); these loads include everything that the structure must support that can change over time, such as people, furniture, vehicles, and other movable items

**Load-bearing wall** - Wall that supports and transfers the weight of the structure above it to the foundation below, playing a crucial role in the structural integrity of a building by bearing loads from floors, roofs, or other elements of the building

**Loaded-stream fire extinguisher** - Type of fire extinguisher that uses a stream of pressurized water mixed with a wetting agent to extinguish fires

**Local Emergency Planning Committee (LEPC)** - A community-based organization mandated under the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, tasked with coordinating local efforts to prepare for and respond to hazardous materials incidents, ensuring community and first responder safety

**Lock box** - A secure container designed to store keys, documents, or small valuables, commonly used in real estate, emergency services, and commercial settings, featuring a locking mechanism to prevent unauthorized access and protect its contents

**Lockset** - A complete assembly of hardware used to secure doors and control access; that includes the lock mechanism, handle or knob, and associated components

**Logistics section** - A critical component of the Incident Management System (IMS) responsible for providing all the necessary resources and support services required to sustain incident operations

**Logistics Section Chief** - One who supervises the logistics section in the incident command system

**Loop** - Fundamental element in rope work, created by forming a closed or nearly closed shape with a rope, cord, or similar material

**Loss control** - Strategies and actions taken to minimize property damage and reduce the financial impact of a fire or other emergency incidents

**Louver cut** - A ventilation technique used in firefighting, particularly for vertical ventilation, involving cutting rectangular sections between roof supports and lifting them such as louvers to allow smoke, heat, and gases to escape from a structure

**Low-volume nozzle** - A nozzle used in firefighting that delivers a smaller, more focused stream of water or foam intended for scenarios requiring precise application and control of water or extinguishing agents

**Lug** - A protruding part or extension on a fire hose coupling that is used to grip, secure, and align the coupling with another coupling or connection point that is a crucial part of the coupling mechanism, ensuring a tight and reliable connection

**Lungs** - The organs that supply the body with oxygen and eliminate carbon dioxide from the blood

## **M**

**Malicious alarm** - A false alarm triggered intentionally, often as a prank or to disrupt operations

**Mandible** - The lower jaw

**Mantle** - The outer layer of a kernmantle rope

**Manual fire alarm box** - A device installed in buildings to allow occupants to manually initiate the fire alarm system in case of a fire or emergency

**Manual wet standpipe system** - A fire protection system consisting of a water-filled pipe network, providing a reliable water supply for firefighting by allowing firefighters or trained personnel to manually deploy water through hoses and nozzles to extinguish a fire

**Masonry** - A construction technique that involves building structures from individual units, often made of materials such as brick, stone, concrete blocks, or glass blocks, and held together with mortar

**Mass decontamination** - Process of simultaneously decontaminating a large number of individuals, equipment, or areas exposed to hazardous materials or contaminants during a large-scale emergency

**Mass-casualty incident** - An emergency situation involving more than one victim, which can place such great demand on equipment or personnel that the system is stretched to its limit and beyond

**Master stream appliance** - A firefighting device designed to discharge large volumes of water at high pressure used for major fire suppression efforts, often in high-rise fires, large structures, or extensive wildland fires

**Mayday** - A critical safety standard used in firefighting operations to ensure the safety of firefighters operating inside a hazardous environment, such as a burning building

**Mechanical ventilation** - The use of powered equipment to improve air circulation, remove smoke, heat, and toxic gases, and create a safer environment during firefighting operations

**Minuteman hose load** - A method of loading fire hoses onto a fire engine that allows for quick and efficient deployment, typically used for attack lines



**Mobile Data Terminals (MDTs)** - Computing devices used in vehicles or portable settings to provide real-time access to data and communication systems commonly used in emergency services, public safety, and various other fields where on-the-go access to information is essential

**Mortise lockset** - A type of lock designed to be installed into a pocket (or mortise) cut into the edge of a door

**Mountain rescue** - Specialized techniques and procedures for saving individuals who are lost, injured, or in distress in mountainous or rugged terrain

**Mouth-to-stoma breathing** - Rescue breathing for victims who, because of surgical removal of the larynx, have a stoma

**Multiple-jacket** - A fire hose with two or more layers of protective jackets surrounding a central liner providing increased strength, durability, and resistance to damage, making the hose suitable for high-pressure and high-stress firefighting conditions

**Multipurpose dry-chemical fire extinguisher** - Designed to combat a variety of fire types using a dry chemical powder; these extinguishers are versatile and effective against multiple classes of fires, making them suitable for a wide range of applications

**Municipal fire alarm system** - Comprehensive network designed to detect, alert, and manage fire emergencies within a municipality or city

**Municipal water system** - Comprehensive infrastructure designed to supply potable (drinking) water to a community, town, or city

**Muscular endurance** - Ability of a muscle or group of muscles to sustain repeated contractions or to continue exerting force against a resistance over an extended period of time

**Muscular strength** - The maximum amount of force a muscle or group of muscles can exert in a single effort

## **N**

**Nasal cannula** - A clear plastic tube, used to deliver oxygen that fits into the victim's nose

**National Fire Incident Reporting System (NFIRS)** - A comprehensive reporting system used in the United States to collect and analyze fire incident data

**National Incident Management System (NIMS)** - A standardized framework established by the Federal Emergency Management Agency (FEMA) to guide all levels of government, non-governmental organizations, and the private sector in responding to and managing incidents, regardless of their size, location, or complexity

**National Institute for Occupational Safety and Health (NIOSH)** - A U.S. federal agency responsible for conducting research and making recommendations to prevent work-related injuries and illnesses

**Natural fire** - A fire that occurs as a result of natural processes, without human intervention

**Natural ventilation** - The process of improving air circulation and removing smoke, heat, and gases from a structure using natural means, without the use of powered equipment

**Negative-pressure ventilation** - A method of ventilating a building or structure by creating a lower pressure inside compared to the outside

**Next Generation 911 (NG911)** - An advanced system designed to enhance the capabilities of traditional 911 emergency services by incorporating modern technologies and improved functionalities

**NIOSH Report on Firefighter Fatality** - Conducts investigations and publishes reports on firefighter fatalities to improve safety standards and practices in the fire service

**Nomex Hoods** - Designed to provide additional protection to the head and neck area

**Nozzle** - A component in firefighting equipment used to control the flow and direction of water or other extinguishing agents from a hose

**Nozzle pressure effects** - How the pressure of water coming out of a hose nozzle affects its ability to put out a fire

**Nuisance alarm** - A false alarm from a fire detection or security system that is triggered by non-emergency situations

## **O**

**Observational practices on the fire ground** - Observing the conditions and dynamics of the fire scene, firefighters and incident commanders can make informed decisions, adapt strategies, and address emerging issues

**Occupational Safety and Health Administration (OSHA)** - A U.S. federal agency responsible for ensuring safe and healthy working conditions for employees by setting and enforcing standards, and by providing training, outreach, education, and assistance

**Occupational trends** - Evolving patterns and changes in the job market, including the demand for specific skills, the emergence of new roles, and shifts in industry practices

**Offensive attack** - A direct approach where firefighters actively engage the fire in order to control and extinguish it that involves entering the fire area and applying water, foam, or other extinguishing agents directly to the fire

**Open circuit breathing apparatus** - A type of respiratory protective equipment used to supply clean, breathable air to the user in environments where the air is contaminated or lacks oxygen

**Open wound** - An injury that breaks the skin or mucus membrane

**Operation of hose lines** - The effective use of fire hoses and related equipment to deliver water or other extinguishing agents to a fire

**Operations section** - A crucial component of the Incident Management System (IMS), responsible for managing and coordinating all tactical operations at an incident

**Operations Section Chief** - One who supervises the operations section of the incident command system

**Operations-level responder** - A key role in emergency response teams, particularly in the context of hazardous materials (HAZMAT) incidents

**Ordinary (moderate) hazard locations** - Areas with a moderate risk of fire due to the nature of the materials and activities present

**Organizational structure** - The way in which the roles, responsibilities, and authority are distributed within an organization

**Oriented search method** - A systematic approach used in various fields, such as firefighting, search and rescue, and even in certain industrial or research contexts, to efficiently locate a target or identify hazards; this method involves organizing and directing search efforts in a structured manner to maximize coverage and effectiveness

**Outside stem and yoke (OS&Y) valve** - A type of valve commonly used in fire protection systems, particularly in water-based systems such as sprinkler systems designed to control the flow of water and is easily identifiable by its unique construction and operation

**Overhaul** - Part of the firefighting operation where firefighters systematically examine the fire scene to ensure that all smoldering or hidden fires are fully extinguished, and to prevent re-ignition

**Oxygen** - A critical component of the Fire Triangle and Fire Tetrahedron, playing a vital role in the combustion process

## **P**

**Padlocks** - Portable locking devices used to secure gates, doors, storage units, and various other items designed to be easy to use and versatile, providing security through various locking mechanisms and designs

**Paramedic** - An advanced medical professional who provides emergency medical care at the scene of an incident, during transport to a healthcare facility, and in various other emergency situations

**Parapet** - A low wall or barrier that extends above the roofline of a building

**Partial-thickness burns** - Burns in which the outer layers of skin are burned; characterized by blister formation

**PASS** - An acronym used to help remember the steps for using a fire extinguisher effectively; it stands for - Pull the Pin, Aim the Nozzle, Squeeze the handle, Sweep from side to side

**Pathogens** - Microorganisms capable of causing disease

**Pawl** - A mechanical component used in various devices to allow movement in one direction while preventing movement in the opposite direction commonly used in mechanisms that require controlled, one-way movement and is essential for locking or indexing functions

**Pendent sprinkler head** - A type of fire sprinkler designed to be mounted on the underside of a ceiling, where it hangs downward to distribute water in a specific pattern

**Permissible Exposure Limit (PEL)** - a regulatory limit set by the Occupational Safety and Health Administration (OSHA) designed to protect workers from the harmful effects of exposure to various chemicals and other hazardous substances

**Personal Alert Safety System (PASS)** - A safety device used primarily by firefighters and rescue workers to enhance their safety in hazardous environments which main function is to alert rescuers if a user becomes incapacitated or unresponsive, ensuring that help can be quickly dispatched in case of an emergency

**Personal Protective Equipment (PPE)** - Designed to protect users from various hazards, including physical injuries, chemicals, biological agents, and environmental conditions

**Personal safety in learning and training** - Ensuring that participants are able to engage in educational activities without risking their health or well-being

**Personal Stress and Fire Service Crises** - Significant concerns in the fire service profession due to the high-stress environment and demanding nature of the job

**Personnel Accountability Report (PAR)** - A critical safety standard used in firefighting operations to ensure the safety of firefighters operating inside a hazardous environment, such as a burning building

**Photoelectric smoke detector** - Type of smoke detection device that uses light to identify the presence of smoke particles in the air; particularly effective at detecting smoldering fires, which produce more smoke and fewer flames compared to fast-burning fires

**Physical evidence** - Tangible items or materials that can be collected and analyzed to support an investigation, particularly in criminal cases, including fire investigations

**Physical fitness** - A state of health and well-being where an individual has the capability to perform various physical activities efficiently and effectively that encompasses several components, each contributing to overall health and functional performance

**Physical fitness program components** - Typically includes several key components, each targeting different aspects of fitness to ensure a balanced approach

**Piercing nozzle** - A firefighting nozzle with a pointed, hardened tip designed to penetrate barriers and deliver water or foam into hard-to-reach areas, allowing firefighters to attack hidden fires from a safe distance

**Pitot gauge** - A measurement instrument used to determine the flow velocity of a fluid by measuring the difference between the static pressure and dynamic pressure within the flow

**Planning section** - A key component of the Incident Management System (IMS) responsible for gathering, analyzing, and managing incident information and developing the Incident Action Plan (IAP)

**Planning Section Chief** - A role within the Incident Management System (IMS) responsible for overseeing the Planning Section and ensuring that all planning activities are conducted effectively

**Plasma** - The fluid part of the blood that carries blood cells transports nutrients and removes cellular waste materials

**Platelets** - Microscopic disk-shaped elements in the blood that are essential to the process of blood clot formation, the mechanism that stops bleeding

**Platform construction** - A building method commonly used in residential and light commercial construction that involves creating a series of floors, each of which is constructed as a separate platform, with walls and other components added on top of these platforms

**Pneumatic tools** - Crucial in firefighting and rescue operations, these tools use compressed air to lift, spread, or cut heavy materials, making them essential for extricating trapped individuals and handling difficult rescue situations

**Pocket** - A small, isolated area within a larger fire that is burning more intensely or is more active than the surrounding areas

**Point of origin** - The specific location where a fire starts

**Police powers** - Legal authority granted to law enforcement agencies and officers to maintain public order, prevent, and investigate crimes, and enforce laws

**Policies** - Formal guidelines, rules, or principles established by organizations, governments, or institutions to direct and influence decision-making and behavior

**Portable fire extinguishers** - Tools used to control or extinguish small fires in their early stages before they escalate

**Portable monitor** - A portable firefighting device that delivers high volumes of water or foam through a nozzle, offering a flexible and powerful tool for fire suppression in large-scale or challenging situations

**Portable radios** - Essential tools for communication during fireground operations, allowing firefighters to maintain contact with each other and the Incident Command (IC) while working in hazardous environments

**Positive-pressure ventilation** - A firefighting technique that uses mechanical means to create a high-pressure environment inside a building forcing air into the building to push out smoke, heat, and gases, improving visibility and air quality for firefighters and occupants

**Post Indicator Valve (PIV)** - A type of valve used in fire protection systems to control the flow of water to fire suppression systems, such as sprinkler systems or standpipes

**Power tools** - Used in firefighting and rescue operations, providing the power and efficiency needed to handle a wide range of tasks, from cutting and drilling to lifting and securing

**Powered Air-Purifying Respirator (PAPR)** - Type of respiratory protective device that uses a battery-powered blower to force air through a filter or cartridge, providing clean, filtered air to the wearer

**Pre-action sprinkler system** - Specialized type of fire suppression system that combines features of both wet and dry sprinkler systems designed to prevent accidental water discharge while still providing effective fire protection

**Preconnected attack line** - A fire hose that is permanently connected to a fire truck's water supply and is readily available for immediate use typically used for initial fire attack operations and is designed for quick deployment and effective firefighting

**Preconnected hose lines** - Hoses that are already connected to nozzles and mounted on fire apparatus, ready for immediate use during emergencies

**Pressure points** - Points in the body where a blood vessel lies near a bone; pressure can be applied to these points to help control bleeding

**Primary feeder** - A large pipe or conduit that transports water from the main source or treatment plant to various secondary distribution lines that deliver water to individual consumers

**Primary search** - A critical component of search and rescue operations, particularly in firefighting and emergency response scenarios involving a systematic and rapid search of a building or area to locate and rescue victims or to identify hazards

**Probable cause** - A legal standard used in the criminal justice system that refers to the reasonable belief that a crime has been, is being, or will be committed, or that a particular person is involved in criminal activity

**Procedures** - Detailed, step-by-step instructions designed to carry out specific policies and achieve desired outcomes

**Protecting Evidence and Incident Scene Security** - Aspects of fire investigation to ensure that evidence remains intact, uncontaminated, and available for analysis and legal proceedings

**Protection plates** - Used on ladders to shield equipment, structures, or surfaces from damage, wear, or environmental factors

**Protective Equipment (Firefighter's Ensemble)** - The comprehensive set of protective gear worn by firefighters to ensure their safety during firefighting and rescue operations

**Prying tools** - Tools used for gaining access to buildings, removing obstacles, and performing various tasks that require leverage and force

**Psychogenic shock** - Commonly known as fainting; caused by a temporary reduction in blood supply to the brain

**Public information officer (PIO)** - A key role within emergency services, government agencies, and other organizations responsible for communicating vital information to the public, media, and other stakeholders during routine operations and especially during emergencies or crises

**Public Information Officer (PIO)** - A role in managing communication between the incident management team and the public, media, and other stakeholders

**Public Safety Answering Point (PSAP)** - A facility responsible for receiving emergency calls from the public and dispatching appropriate emergency services, such as police, fire, and emergency medical services

**Public safety communications center** - A centralized facility responsible for managing emergency and non-emergency communications for public safety agencies, such as police, fire departments, and emergency medical services (EMS)

**Pulaski axe** - A versatile hand tool widely used in wildland firefighting and forestry work combining the features of an axe and a mattock, making it effective for a range of tasks, including cutting, digging, and chopping

**Pulling and pushing tools** - Tools used to pull or push objects for maneuvering objects, removing obstacles, and performing tasks that require force

**Pulse** - The wave of pressure created by the heart as it contracts and forces blood out into the major arteries

**Pump tank fire extinguisher** - A type of portable fire extinguisher that uses a pump mechanism to pressurize and discharge an extinguishing agent

**Purchase point** - A strategic location or specific point on a vehicle where rescuers apply their tools or techniques to gain access or leverage

## **Q**

**Quint apparatus** - A versatile firefighting vehicle that combines the features of both a fire engine (pumper) and a ladder truck, making it an essential tool in modern fire departments, especially those with limited resources or space

## **R**

**Radio procedures** - Critical components of effective communication in firefighting and emergency response operations

**Radios** - Wireless devices used by firefighters to talk to each other and coordinate their actions during emergencies

**Rapid Intervention Crew (RIC)** - A dedicated team of firefighters assigned to stand by and be ready to perform immediate rescue operations for firefighters in distress during emergency incidents

**Rapid Intervention Pack (RIC Pack)** - A critical safety standard used in firefighting operations to ensure the safety of firefighters operating inside a hazardous environment, such as a burning building

**Rate of Spread (ROS)** - A measure of how quickly a wildfire or fire spreads over a given area; a key metric used by fire managers and firefighters to assess the fire's behavior and plan appropriate suppression strategies

**Rate-Of-Rise Detector** - A type of fire detection device designed to respond to rapid increases in temperature, indicating a potential fire

**RECEO–VS** - A fireground acronym used to prioritize actions during firefighting operations that stands for - Rescue, Exposures, Confinement, Extinguishment, Ventilation, and Salvage

**Recommended Exposure Level (REL)** - A guideline established by the National Institute for Occupational Safety and Health (NIOSH) to indicate the maximum concentration of a hazardous substance to which workers can be exposed over a specified period without adverse health effects

**Red blood cells** - Cells that carry oxygen to the body's tissue

**Reducer** - A type of fire hose fitting that reduces the diameter of the water flow from a larger-sized hose or appliance to a smaller-sized one, or the other way around facilitating the connection of hoses or equipment with different diameters

**Regulations** - Rules or directives issued by governmental agencies or other authoritative bodies to implement and enforce laws that provide detailed guidelines on how laws should be applied and adhered to in specific contexts

**Relative humidity** - A measure of the amount of moisture in the air compared to the maximum amount of moisture the air can hold at a given temperature, expressed as a percentage

**Repeater** - An electronic device that receives and retransmits signals to extend the range and reliability of communication, repeaters are vital in fields such as radio communications and public safety, helping overcome distance and signal obstacles

**Replacing SCBA Air Cylinders** - Ensuring that Self-Contained Breathing Apparatus (SCBA) systems remain operational and ready for use

**Rescue** - The process of locating, assisting, and removing individuals who are in danger or distress

**Rescue breathing** - An artificial means of breathing for a victim

**Rescue company** - A specialized unit within a fire department or emergency services organization that is specifically trained and equipped to perform technical rescue operations

**Rescue-lift air bag** - A type of inflatable device used in vehicle extrication and other emergency rescue operations designed to lift and stabilize heavy objects, such as vehicles or structural elements, to create space or gain access to trapped victims

**Residential sprinkler system** - A fire protection system specifically designed for residential properties, such as single-family homes, townhouses, and multi-family dwellings

**Residual pressure** - The pressure remaining in a pipe, system, or device when water is flowing through it

**Resource management** - In the context of firefighting and emergency response refers to the systematic planning, allocation, and coordination of resources to effectively handle incidents

**Respiratory hazards** - Substances or conditions that can adversely affect the respiratory system, leading to health issues ranging from minor irritation to serious diseases

**Respiratory protection** - Equipment and measures used to safeguard individuals from inhaling harmful substances that could compromise their respiratory health

**Reverse hose lay** - A fireground tactic used in firefighting that involves deploying the hose from the fire scene back to the water source

**Rim lockset** - A type of surface-mounted lock mechanism that is installed on the interior side of a door

**Risk Management Profile** - A detailed assessment and documentation of potential risks that an organization, entity, or individual may face

**Risk Manager/Public Safety Manager** - A crucial role in identifying, assessing, and managing risks to ensure the safety and security of an organization or community

**Risk–benefit analysis** - A critical safety standard used in firefighting operations to ensure the safety of firefighters operating inside a hazardous environment, such as a burning building

**Rocker panel** - A structural component located along the lower side of a vehicle between the front and rear wheel wells, crucial for both the vehicle's structural integrity and aesthetics

**Roof hooks** - Specialized tools used primarily in firefighting and construction to provide secure access and stability when working on roofs essential for safely anchoring ladders to rooftops, ensuring that they remain stable and secure during use

**Roof ladder** - A specialized type of ladder designed specifically for use on pitched or sloped roofs commonly used by firefighters to provide safe and stable access to elevated surfaces

**Rope rescue** - Specialized form of rescue that uses ropes and associated equipment to access, secure, and extract individuals from difficult or dangerous situations

**Ropes and knots** - Fundamental tools in various fields, including climbing, rescue operations, sailing, construction, and everyday tasks

**Rotating tools** - Tools that use rotational force to perform tasks that require precision and power

**Round turn** - A technique in rope work and rigging where a rope is wrapped around an object or anchor in a full or nearly full circle

**Rules of nines** - A way to calculate the amount of body surface burned; the body is divided into sections, each of which constitutes approximately 9 to 18 percent of total body surface area

**Rung** - A horizontal step or crosspiece on a ladder that provides a foothold for climbing; a critical component of both extension and step ladders, enabling users to ascend and descend safely

**Running end** - A rope is the part that is actively used to perform tasks such as pulling, hauling, or connecting

## **S**

**Safety knot** - An extra knot tied at the end of a rope or line to secure the primary knot and prevent it from accidentally coming loose

**Safety zone** - A designated area where firefighters and other personnel can seek refuge to avoid the dangers posed by a wildfire

**Salvage covers** - Component of fireground operations, focusing on protecting and recovering property while minimizing damage

**Saponification** - A chemical reaction that produces soap and glycerin from fats or oils and an alkali

**SCBA (Self-Contained Breathing Apparatus)** - A crucial piece of personal protective equipment used by firefighters and other emergency responders to provide breathable air in hazardous environments where the air may be contaminated, or oxygen levels are insufficient

**Scientific method** - A systematic approach used to investigate phenomena, acquire new knowledge, or correct and integrate previous knowledge

**Search** - The systematic process of locating individuals in a fire or other emergency situations

**Search rope** - A specialized rope used primarily in search and rescue operations, particularly in challenging environments such as confined spaces, mountainous terrain, or during vertical rescues

**Secondary feeder** - Smaller pipes or conduits that branch off from the primary feeder lines to distribute water to individual neighborhoods, streets, or smaller zones

**Secondary loss** - Refers to damage or impact that occurs as a result of firefighting activities or the aftermath of the fire, rather than the fire itself; may include water damage, smoke damage, or structural damage from firefighting efforts

**Section** - A major functional area within the Incident Command System (ICS) that is responsible for specific aspects of incident management

**Section Chief** - One who manages a section and reports directly to the incident commander

**Serial arsonist** - An individual who intentionally sets multiple fires over a period of time, often with a pattern or specific motivations behind their actions

**Seven, nine, eight (7, 9, 8) rectangular cut** - A fireground technique used to create openings in building materials, such as walls or roofs, for ventilation or access, by making three cuts to form a rectangular opening

**Shackle** - A component of a padlock, designed to secure the lock by fitting through the hasp or loop of the item being locked typically u-shaped and made from metal, providing both strength and security

**Sheath** - The outer layer of a kernmantle rope, designed to protect and enhance the rope's performance

**Shelter-in-Place** - A safety procedure used to protect individuals during emergencies or hazardous situations by staying indoors rather than evacuating

**Shock** - A state of collapse of the cardiovascular system; the state of inadequate delivery of blood to the organs of the body

**Shove knife** - A tool used in forcible entry to unlock or bypass door locks, particularly in situations where the key is not available, or the lock must be accessed quickly designed to manipulate or bypass latch mechanisms commonly found in door hardware

**Shut-off valve** - A valve used to control or completely stop the flow of water or other fluids through a fire hose, pipeline, or appliance that allows firefighters to manage the flow of water, isolate sections of the system, or adjust as needed

**Side A (Alpha)** - The primary or front side of the building where the main entrance or the most identifiable feature is located

**Side B (Bravo)** - The left side of the building when viewed clockwise from the Alpha side

**Side C (Charlie)** - The back of the building when viewed clockwise from the Alpha side



**Side D (Delta)** - The right side of the building when viewed clockwise from the Alpha side

**Single resource** - Refers to an individual unit or piece of equipment that can be used independently or in conjunction with other resources during an incident

**Single-action pull station** - A type of manual fire alarm activation device that allows individuals to initiate an alarm by simply pulling a lever or handle

**Single-doughnut hose roll** - A method of rolling a fire hose into a single, circular coil resembling a doughnut; a rolling technique allows for compact storage, easy handling, and quick deployment of the hose during firefighting operations

**Single-jacket hose** - A fire hose with a single layer of woven textile reinforcement (jacket) around its inner liner providing the hose with a balance of flexibility, strength, and durability, making it suitable for various firefighting applications

**Size-up** - Involves assessing the conditions at a fire scene to make informed decisions and develop effective strategies

**Slash** - The debris left behind after logging or clearing vegetation, typically consisting of small branches, twigs, leaves, and other remnants of cut trees

**Smoke control** - The strategies and systems used to manage and direct the movement of smoke in a building or structure during a fire

**Smoke ejector** - A ventilation device used in firefighting to remove smoke, heat, and gases from a building or structure

**Smooth-bore nozzle** - A fire hose nozzle that produces a straight, solid stream of water through a smooth, unobstructed opening, without internal mechanisms, resulting in a focused and direct flow

**Snag** - A dead or dying tree that remains standing after its leaves or branches have fallen

**Soft sleeve hose** - A flexible, collapsible fire hose used primarily for connecting to water sources such as hydrants, pumps, or tanks that is designed to be easily handled and stored, providing a convenient means of delivering water to the firefighting system

**Solid stream** - A concentrated, uninterrupted stream of water produced by a smooth-bore nozzle or other nozzle designed to maintain a solid, high-pressure stream focused and direct, with little to no mist or spray

**Solid-core door** - A type of door construction characterized by its dense and solid interior, offering enhanced durability, security, and insulation compared to hollow-core or other types of doors

**Span of control** - The number of direct reports or subordinates that a manager or leader can supervise effectively

**Special rescues** - Involve unique or complex scenarios that require specialized techniques, equipment, and expertise beyond conventional rescue methods

**Specific gravity** - A measure of the density of a substance compared to the density of a reference substance, usually water

**Split hose lay** - A firefighting technique used to deploy multiple hose lines from a single water source, allowing for simultaneous or diverse application of water at the fire scene

**Spot fire** - A fire that starts outside the main fire perimeter, often as a result of embers or burning debris being carried by wind or other factors

**Sprinkler stop** - A device used to halt the flow of water through a fire sprinkler system typically employed to control or prevent water discharge from sprinkler heads during maintenance, repairs, or in certain emergency situations

**Stages of fire growth** - The typical progression of a fire from ignition to full development

**Staging area** - A designated location where resources, equipment, and personnel are gathered and prepared before being deployed to an incident

**Standard Operating Procedures (SOPs)** - Detailed, written instructions designed to guide members of an organization through routine tasks and processes to ensure consistency, quality, and compliance with regulations

**Standard precautions** - An infection control concept that treats all body fluids as potentially infectious

**Standard search method** - A systematic approach used in search and rescue operations to locate missing persons or objects that involves a structured procedure to ensure thorough and effective coverage of the search area

**Standards** - Established norms or criteria that define the quality, performance, or characteristics required for products, services, processes, or systems to provide a benchmark for consistency, reliability, and safety across various industries and sectors

**Standing end** - The portion of the rope that is not being manipulated or pulled that remains stationary and provides a base or anchor point for the rope

**Standpipe** - A vertical piping system within a building that provides access to water for firefighting that includes hose connections at different floors or levels, allowing firefighters to attach hoses and access water directly from the building's water supply

**States of fuel** - The different physical forms in which fuels can exist, each of which influences how they burn and how they are managed in fire safety and firefighting

**Static pressure** - A measure of the force exerted by water at rest, or the pressure exerted by water when it is not in motion

**Static rope** - A type of rope designed to have minimal stretch under load

**Static water source** - A source of water that remains relatively stationary, as opposed to flowing or moving that can include bodies of water such as ponds, lakes, reservoirs, and tanks where water does not have significant movement or flow

**Stay pole** - A support structure used to stabilize and support ladders that helps to maintain the vertical alignment and prevent swaying or collapsing by providing additional support

**Steamer connection** - A type of fitting used in firefighting systems to connect a fire hose or equipment to a water source

**Step check** - A tool used in vehicle extrication and rescue operations to stabilize and secure a vehicle, or other objects employed to prevent movement or shifting of the vehicle during the rescue process, ensuring that rescuers can work safely and effectively

**Sternum** - The breastbone

**Stoma** - A surgical opening in the neck that connects the windpipe (trachea) to the skin

**Stop the Bleed** - A public safety initiative designed to educate and empower individuals to respond effectively to severe bleeding emergencies; this program emphasizes the importance of immediate action and provides training on basic techniques to control bleeding until professional medical help arrives

**Stop the Bleed Certification** - Credential that indicates an individual has completed training in the techniques and protocols for controlling severe bleeding in emergencies

**Stored-pressure fire extinguisher** - Type of fire extinguisher where the extinguishing agent is kept under pressure within the cylinder and is ready for immediate use when needed

**Stored-pressure water-type fire extinguisher** - Designed for extinguishing Class A fires, which involve ordinary combustibles such as wood, paper, and textiles

**Storz hose coupling** - A type of coupling used to connect fire hoses that features a round, locking mechanism that allows for quick and secure attachment without the need for threaded connections where the coupling is typically made of metal or high-strength plastic and is designed for high-pressure applications

**Straight hose roll** - A technique for rolling fire hoses where the hose is laid out flat and rolled in a straight line without looping or bending the hose into circles which helps prevent kinking and damage to the hose

**Straight ladder** - A type of ladder with a simple, single, linear structure that does not have any adjustable parts or extensions

**Straight stream** - A water stream with a focused and uninterrupted flow produced by a nozzle or firefighting appliance, characterized by its narrow, direct path and minimal dispersion that is used for high-pressure applications and effective penetration

**Strategic decision making** - Choices that impact the overall direction and success of fire suppression and rescue operations

**Strategy** - The broad plan or approach developed to achieve specific goals and objectives in response to an incident that provides the framework within which specific tactics and actions are implemented

**Strengths and Weaknesses of Construction** - Understanding the strengths and weaknesses of various construction types is crucial for making informed decisions about design, safety, and maintenance

**Stretcher** - Vital piece of equipment used to transport injured or ill individuals safely and comfortably

**Strike plate** - A metal plate installed on the door frame to receive the latch or bolt of a door lock; an essential component of door hardware that helps secure the door when it is closed and locked

**Strike team** - A group of resources of the same type that are organized together for an incident

**Strike team leader** - One who supervises a strike team

**Striking tools** - Tools that are designed to deliver powerful blows to materials, making them essential for emergency response

**Structure Fire** - A fire that occurs within a building or other man-made structure that may compromise the structural components of the building

**Structure triage guidelines** - Are procedures used by firefighters and emergency responders to prioritize the protection and response efforts for buildings or structures during a wildfire

**Strut** - A stabilization tool used to support and stabilize vehicles or other objects during rescue operations that is essential for maintaining stability and preventing movement while rescuers work to free trapped occupants or manage damaged vehicles

**Strut tower** - A component of a vehicle's suspension system, typically located at the upper end of the front suspension struts that plays a crucial role in connecting the suspension struts to the vehicle's body and contributing to the overall stability and handling of the vehicle

**Stud** - A vertical framing member used in the construction of walls, partitions, and other structures

**Subsurface fuels** - Combustible materials found below the surface of the ground that can contribute to the spread and intensity of a wildfire

**Suction hose** - A hose specifically designed to transport water or other liquids from a source (such as a static water source) to a pump or other equipment that is capable of withstanding the negative pressure or vacuum created during the suction process

**Superficial burns** - Burns in which only the superficial part of the skin has been injured; an example is a sunburn

**Superfund Amendments and Reauthorization Act of 1986 (SARA)** - A significant piece of U.S. legislation that amended the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, enacted to address deficiencies in the original Superfund law and to enhance the federal government's ability to respond to and manage hazardous waste sites

**Supplemental restraint system (SRS)** - A vehicle safety system designed to provide additional protection to occupants during a collision, supplementing the primary safety features such as seat belts; SRS includes various components that deploy or activate to help minimize injury in an accident

**Supplied-Air Respirator (SAR)** - A type of respiratory protective device that provides breathable air from an external source to the wearer through a connected air supply hose

**Supply engine** - A type of fire apparatus designed specifically to provide a reliable and continuous supply of water to other firefighting vehicles or to the fire scene

**Supply hose** - Used to transport large volumes of water from a source, such as a fire hydrant or water tank, to the fire scene or to fire apparatus

**Supply line** - A hose or pipe that carries water from a water source (such as a hydrant, static water source, or other supply points) to a pump or firefighting equipment that provides the necessary water flow for use in attack lines or other applications

**Surface fuels** - Combustible materials located on the ground that a wildfire directly burns

**Survival** - The act or process of continuing to live or exist, often in spite of difficult conditions or circumstances, such as a fire

**Swivel** - A mechanical component that enables connected parts to rotate or pivot freely, preventing tangling, commonly used in firefighting to connect hoses and nozzles for smooth operation and adjustments

**Swivel gasket** - A type of gasket designed to create a seal in joints or connections where one part rotates or swivels relative to another used to prevent leaks and ensure the integrity of the connection while accommodating rotational movement

**Symptom** - A specific medical sign of a condition, illness, or disease

## **T**

**Tactical priorities** - Core objectives that guide fireground decision-making, helping firefighters and incident commanders prioritize personnel safety, property protection, and effective incident mitigation

**Tactics** - The specific methods and procedures used to achieve goals during a fire or emergency response

**Tag line** - T rope used in conjunction with a main rope or line to assist in various tasks, particularly in rigging and hauling operations

**Target hazard** - A term used in emergency response, particularly in fire safety, to describe a location or structure that presents a high level of risk due to its occupancy, use, or the nature of its contents

**Task** - specific actions or duties assigned to personnel to address various aspects of an emergency situation

**Task force** - A specialized team organized to address specific aspects of a complex situation or to tackle particular challenges

**Task force leader** - One who supervises a task force

**Team integrity** - A critical safety standard used in firefighting operations to ensure the safety of firefighters operating inside a hazardous environment, such as a burning building

**Team search method** - A systematic approach employed in search and rescue operations where multiple searchers or teams work together to cover a designated search area efficiently

**Technical decontamination** - Systematic process of removing or neutralizing hazardous substances from equipment, tools, or environments to ensure they are safe for use or further handling

**Technical rescuer** - A highly trained emergency responder who specializes in performing complex rescue operations that require advanced skills, specialized equipment, and precise techniques

**Technical use life safety rope** - Refers to life safety ropes that are specifically designed and rated for technical applications where precise performance and reliability are crucial

**Telecommunicator** - A professional who is responsible for receiving, processing, and dispatching emergency and non-emergency calls for public safety agencies, such as police, fire departments, and emergency medical services (EMS)

**Tempered glass** - A type of safety glass that is treated through a special process to increase its strength and thermal resistance

**Tempered safety glass** - A type of glass that is heat-treated to increase its strength and safety commonly used in various applications where safety and durability are crucial, including automotive windows, building facades, and doors

**Temporal-3 pattern** - A type of alarm signaling pattern used in fire alarm systems to indicate a fire emergency characterized by a specific sequence of alarm tones or signals, which helps differentiate fire alarms from other types of alarms (such as those for security systems)

**Temporary Refuge Area (TRA)** - Designated location where firefighters and other emergency personnel can seek temporary shelter during a wildfire or other emergency situations when immediate evacuation is not possible

**Testimonial evidence** - Statements made by witnesses or individuals regarding their observations or experiences related to a particular event, typically provided in a legal setting, such as court proceedings

**Thermal burns** - Burns caused by heat; thermal burns are the most common type of burn

**Thermal conductivity** - A measure of a material's ability to conduct heat

**Thermoplastic material** - A type of polymer that becomes soft and pliable when heated and solidifies upon cooling

**Threaded hose coupling** - A coupling device with threaded ends that allows for the secure connection of hoses or equipment by screwing the coupling onto matching threaded components commonly used in firefighting to connect hoses, nozzles, and other equipment

**Threshold Limit Value (TLV)** - A term used to describe the maximum allowable concentration of a hazardous substance in the workplace air, as recommended by the American Conference of Governmental and Industrial Hygienists (ACGIH)

**Threshold Limit Value/Ceiling (TLV/C)** - The maximum concentration of a hazardous substance in the workplace air that should not be exceeded at any time during the work shift

**Threshold Limit Value/Short-Term Exposure Limit (TLV/STEL)** - A guideline that indicates the maximum allowable concentration of a hazardous substance in the workplace air for a short duration, typically 15 minutes

**Threshold Limit Value/Skin (TLV/Skin)** - A guideline that indicates the potential for a hazardous substance to be absorbed through the skin or mucous membranes and cause adverse health effects

**Threshold Limit Value/Time-Weighted Average (TLV/TWA)** - A guideline that defines the maximum allowable concentration of a hazardous substance in the workplace air averaged over an 8-hour workday or a 40-hour workweek

**Tiller truck** - A type of fire apparatus designed for enhanced maneuverability and flexibility, especially in tight or congested urban environments characterized by its unique steering system, where the rear of the truck is articulated and can be steered independently of the front, allowing for better control and movement in challenging situations

**Timber Litter** - The layer of dead, woody material on the forest floor that consists of fallen branches, twigs, small logs, and other remnants of trees

**Topography** - The arrangement of natural and artificial features on the Earth's surface, including the shape and elevation of landforms

**Trachea** - Part of the throat also called the windpipe

**Tractor Drawn Aerial (TDA)** - A type of fire apparatus that combines the features of an aerial ladder or platform with the maneuverability of a tractor-drawn trailer that allows for enhanced flexibility and performance, especially in tight or congested urban environments

**Training and education opportunities** - Essential education needed to stay current with industry developments, enhance skills, and advance careers

**Training officer** - A crucial role within a fire department, emergency services organization, or any agency that requires specialized training for its personnel

**Transfer of command** - The process of officially transferring the leadership and decision-making authority from one incident commander to another

**Transitional attack** - A strategy used to shift from an external attack to an internal attack, or vice versa, based on the evolving conditions of a fire

**Transmission of heat** - The movement of thermal energy from one location to another through various processes

**Trench cut** - A specific technique used in firefighting to ventilate a building and control the movement of smoke, heat, and gases during a fire that involves cutting a long, narrow opening (a trench) into the roof of a structure to allow for the controlled release of these elements

**Trench rescue** - Specialized techniques and procedures to safely rescue individuals who are trapped or injured in trenches or excavations

**Triage** - The process of sorting victims based on the severity of the injuries and their medical needs to establish treatment and transportation priorities

**Triple-layer hose load** - A method of storing fire hoses on a fire engine or apparatus that maximizes space efficiency and facilitates quick deployment

**Truck company** - A specialized unit within a fire department that focuses on firefighting operations that require ladder trucks or aerial apparatus

**Truss** - A structural framework composed of triangular units used to support loads and distribute forces in buildings, bridges, and other structures

**Trussed beam ladder** - A type of ladder that incorporates a trussed design to enhance its strength and stability that features a beam structure with triangular or other geometric truss elements, which provide additional support and rigidity compared to traditional ladder designs

**TTY/TDD systems** - Systems that are communication devices allowing individuals who are deaf, hard of hearing, or speech-impaired to communicate via text over telephone lines

**Tubular deadbolt** - A type of lock mechanism commonly used for enhancing the security of doors named for its cylindrical or tubular shape and is designed to provide strong, reliable locking to prevent unauthorized access

**Turnout gear** - A type of personal protective equipment (PPE) specifically designed for firefighters to protect them during firefighting and rescue operations

**Two-in/two-out rule** - A critical safety standard used in firefighting operations to ensure the safety of firefighters operating inside a hazardous environment, such as a burning building

**Type I construction (fire resistive)** - A classification in building codes that describes structures built with materials and methods designed to resist the spread of fire

**Type II construction (noncombustible)** - A classification in building codes that describes structures built with materials that do not burn or contribute significantly to fire

**Type III construction (ordinary)** - A classification in building codes that describes structures where the exterior walls are made of non-combustible or limited-combustible materials, while the interior structural elements, such as floors and roofs, are typically constructed from combustible materials such as wood

**Type IV construction (heavy timber)** - A building classification that features large, heavy timber elements as its primary structural components characterized by the use of thick, solid wood members that provide both structural support and aesthetic appeal

**Type V construction (wood frame)** - A classification in building codes that describes structures where both the exterior and interior walls, as well as the floors and roofs, are primarily constructed using wood framing

**Types of Building Construction** - Categorized based on the materials used, the methods of assembly, and the overall design approach

## U

**Undetermined fire** - A fire investigation outcome where the cause of the fire cannot be conclusively identified

**Unibody frame construction** - A vehicle design technique where the body and frame are integrated into a single, unified structure, contrasting with the traditional body-on-frame construction, where the vehicle body is mounted on a separate frame

**Unified command** - A system used in emergency response when multiple agencies or jurisdictions are involved

**Unintentional alarm** - A fire alarm or another emergency alert that is triggered without a genuine emergency situation

**Unity of command** - A principle in organizational management and emergency response that ensures each individual or unit reports to only one supervisor or command authority

**Universal precautions** - Procedures for infection control and that treat blood and certain bodily fluids as capable of transmitting bloodborne diseases

**Utility rope** - A versatile rope designed for general-purpose use in a variety of applications where high strength and durability are required, but the extreme technical specifications of life safety ropes are not necessary

## V

**Vapor density** - A measure of the density of a vapor compared to the density of air

**Variable-flow fog nozzle** - A nozzle designed to allow firefighters to adjust both the flow rate and the spray pattern of the water stream that can produce a range of spray patterns, from a fine mist to a solid stream, and allows for variations in water flow to adapt to different firefighting conditions

**Vehicle stabilization techniques** - Essential in rescue operations, especially when dealing with accidents involving vehicles that have overturned or are in unstable positions

**Venous bleeding** - External bleeding from a vein, characterized by steady flow

**Ventilation** - The process of controlling and managing the movement of smoke, heat, and toxic gases from a structure to improve conditions for firefighting and rescue operations

**Ventilation techniques** - To control and manage smoke, heat, and toxic gases within a structure during a fire

**Ventricular fibrillation** - An uncoordinated muscular quivering of the heart; the most common abnormal rhythm causing cardiac arrest

**Vertical ventilation** - A firefighting technique used to expel smoke, heat, and gases from the upper levels of a structure, typically through the roof

**Voice over Internet Protocol (VoIP)** - A technology that allows users to make voice calls using an internet connection rather than traditional telephone lines

## **W**

**Water chute** - A specialized device used in firefighting and emergency response to direct and manage the flow of water, often from a fire hose or a water source, to a specific location or target

**Water curtain nozzle** - A nozzle that produces a broad, even sheet or curtain of water designed to provide a barrier of water to shield areas from heat, flames, and smoke, and to protect structures or equipment during firefighting operations

**Water hammer** - A pressure surge or shockwave in a pipeline caused by the sudden stopping or change in direction of water flow that creates a loud noise and can potentially damage the piping system and its components

**Water shuttle operations** - A method of delivering water to a fire or other emergency situation where a direct water source is not available, typically in rural or remote areas, involving the transportation water using a series of vehicles, often fire trucks or tankers, to ensure a continuous supply of water at the incident scene

**Water supply** - Essential for effectively combating fires, ensuring adequate and reliable sources of water to manage and extinguish flames

**Water supply sources** - Sources that provide the necessary water to extinguish fires and support emergency response efforts

**Water thief** - A device that connects to a fire hose and provides multiple outlets for distributing water from a single source to several hoses or appliances used to manage water flow and supply in firefighting operations

**Waterflow alarm device** - A critical component of fire protection systems, specifically designed to monitor the flow of water in fire suppression systems, such as sprinkler systems

**Weapon of Mass Destruction (WMD)** - A type of weapon designed to cause widespread harm or destruction

**Webbing** - A type of flat, woven material used in various applications where strength, flexibility, and durability are required

**Wedge** - A tool used to create space or open gaps between vehicle components or between a vehicle and its surroundings that is instrumental in gaining access to trapped occupants or facilitating the removal of debris during rescue operations

**Wet barrel hydrant** - A fire hydrant that is always filled with water, allowing for immediate access to water when needed that features a barrel that remains full of water, even when the hydrant is not in use

**Wet pipe sprinkler system** - One of the most common types of fire sprinkler systems used in buildings that consists of a network of pipes that are constantly filled with water, which is discharged through sprinkler heads when activated by heat from a fire

**Wet standpipe system** - A type of fire protection system designed to provide a reliable source of water for firefighting in buildings where the standpipes are permanently filled with water, allowing quick access to water through strategically located hose connections

**Wet vacuum** - A versatile cleaning device designed to handle both liquid and dry debris

**Wet-chemical fire extinguisher** - Fire extinguishers that are designed to suppress fires caused by cooking oils and fats in commercial kitchens using a wet-chemical solution



**White blood cells** - Blood cells that play a role in the body's immune defense mechanisms against infection

**Widow maker** - A term used in firefighting and forestry to describe a dangerous, unstable branch or tree that is at risk of falling unexpectedly

**Wildland** - Natural, undeveloped areas that are characterized by native vegetation and ecosystems

**Wildland fire** - Any uncontrolled fire occurring in vegetation such as forests, grasslands, or prairies

**Wildland fire behavior** - Characteristics and patterns of how a wildfire spreads and behaves in a wildland environment

**Wildland/brush company** - A specialized unit that focuses on combating wildfires and managing brush fires

**Wildland/Urban Interface (WUI)** - Area where urban development meets or intermingles with wildland environments

**Wood truss** - A structural framework made of wood that is used to support and distribute loads in various types of buildings and structures to provide stability and strength

**Working end** - The portion of the rope that is actively being used to perform a task or create a knot

**Wye** - A device that connects to a single water supply line and splits it into two or more outlets used to provide multiple water lines from a single source, enhancing flexibility in managing water distribution

## **X**

**Xiphoid process** - The flexible cartilage at the lower end of the sternum (breastbone), a key landmark in the administration of CPR and the Heimlich maneuver

## **Y**

**Youth fire setters** - Children or adolescents who intentionally set fires, a behavior often influenced by psychological, social, or environmental factors, posing significant risks to themselves and others

## **Z**