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| **TEXAS CTE LESSON PLAN**[www.txcte.org](http://www.txcte.org) |
| **Lesson Identification and TEKS Addressed** |
| **Career Cluster** | Law, Public Safety, Corrections, and Security |
| **Course Name** | Firefighter I |
| **Lesson/Unit Title** | The Importance of Communications in Fire Management |
| **TEKS Student Expectations** | **130.334. (c) Knowledge and Skills**(2) The student uses communication skills as related to fire management. (A) The student is expected to demonstrate the use of speech and written communication platforms common to fire management services (B) The student is expected to practice steps involved in using radio communication for fire management (C) The student is expected to apply the Incident Command System to manage emergencies(D) The student is expected to apply protocols in emergency management response when working at an accident scene |
| **Basic Direct Teach Lesson**(Includes Special Education Modifications/Accommodations and one English Language Proficiency Standards (ELPS) Strategy) |
| **Instructional Objectives** | The students will be able to: 1. Recognize the importance of the operation of 911 communication centers2. Recognize the importance of the operation of computer-aided dispatch systems3. Recognize the ICS roles and functions of dispatchers and on-the- scene fire-service personnel during incidents4. Apply emergency management response protocols to all incidents |
| **Rationale** | Fire department communications and their effectiveness are vital factors in the success or failure of fire service operations. Employees of communications center need to have proper speech and radio etiquette, understand the importance of concise written communication, be well-versed in the Incident Command System (ICS) to manage emergencies, and can apply protocols in emergency management responses for all incidents. |
| **Duration of Lesson** | 3-5 hours |
| **Word Wall/Key Vocabulary***(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* |  |
| **Materials/Specialized Equipment Needed** | * Local Fire Department Incident Report
* Computer with Interactive Whiteboard
* ICS Model
* *Optional:* portable radios (if not available students may verbalize instead)
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| **Anticipatory Set**(May include pre-assessment for prior knowledge) | Engage the students in a discussion emphasizing that the success of fire ground operations and the safety of the firefighters at emergency scenes are directly related to effective communication. Firefighters, dispatchers, and other emergency personnel must understand the ICS and the protocols used during emergency operations. (Note: Use the ICS Model as a visual aid of the various levels.) Use the Discussion Rubric for assessment. |
| **Direct Instruction \*** | I. National Incident Management System (NIMS)  A. In response to September 11, 2001, President George W. Bush issued the Homeland Security Presidential Directive 5 (HSPD-5) in February 2003  B. HSPD-51. Called for a NIMS  1. The Secretary of the Department of Homeland Security announced the establishment of NIMS in March 2004  2. The key feature of NIMS is the Incident Command System(ICS)  3. NIMS training is available on the Internet at [www.fema.gov/nims](http://www.fema.gov/nims)  C. Identified steps for improved coordination of federal, state, local, and private industry response to incidents D. Described the way these agencies will prepare for such a responseII. The Incident Command System (ICS)* 1. Incident – occurrence that requires response actions to prevent or minimize loss of life or damage to property and/or the environment (FEMA, 2005)
	2. General Information about ICS
		1. Has an organizational structure that is adaptable to any kind of incident to which a fire agency is likely to respond
			1. It is not always possible for only one agency to handle all the needed management and resources during an incident
			2. Partnership between agencies is often required
				1. Federal
				2. State
				3. Local
				4. Tribal
		2. Is a standardized, on-scene, all-hazard incident management system
		3. Allows users to adopt an integrated organizational structure to match the complexities and demands of single or multiple incidents without being hindered by jurisdictional boundaries
		4. Is extremely flexible
		5. Is scalable to the size and complexity of the incident it is being used to manage
		6. Is a proven management system
		7. Is the result of decades of lessons learned about the organization and management of emergency incidents
		8. Represents organizational “best practices”
		9. Has become the standard for emergency management
		10. Is required by NIMS for all domestic responses
		11. Is the condition of receiving federal preparedness funding
		12. Requires that every incident have a verbal or written Incident Action Plan (IAP)
	3. History of ICS
		1. Developed in 1970 by Firefighting Resources of Southern California Organized for Potential Emergencies (FIRESCOPE)
		2. Developed after a series of catastrophic fires in the California Wildland-Urban Interface
		3. Lessons learned
			1. Inadequate resource management
			2. Lack of accountability
			3. Poor communication
				1. Inefficient use of available communication systems
				2. Conflicting codes and terminology
			4. Lack of systematic planning
			5. No common, predesigned management structure
			6. No predefined methods to integrate inter-agencies
	4. Modular Organization of ICS
	5. Develops from the top-down
	6. Is based upon the size and the complexity of the incident
	7. Expands as functional responsibilities are delegated
	8. Incident Commander (IC) rule: “What you do not assign you assume”
1. Management by Objectives
	1. Is an approach used to communicate functional actions throughout the ICS organization
	2. Is accomplished through the incident action planning process, which includes the following steps:
		1. Understand the agency policy and direction
		2. Assess the incident situation
		3. Establish the incident objectives
		4. Select the appropriate strategy
		5. Apply the tactics appropriate to the strategy
		6. Provide a follow-up
	3. The first objective for all incidents is to “provide for responders and public safety”
		1. Responders are
			1. Law enforcement
			2. Emergency Management Services (EMS)
			3. Firefighters
		2. Is implied in the unwritten IAP
		3. Is written in the formal IAP
2. Reliance on the IAP
	1. IAP – is some containing general objectives reflecting the overall strategy for managing an incident that includes the identification of operational resources and assignments (FEMA, 2005)
		1. Is required (verbally or in writing) for every incident
		2. Provides all incident supervisory personnel with directions for the actions to be implemented
		3. Includes measurable strategic operations
		4. Is prepared around a timeframe called the operational period
		5. Provides a coherent means of communicating the overall incident objectives in the context of both operational and support activities
		6. Must include at least four elements
			1. What do we want to do?
			2. Who is responsible for doing it?
			3. How do we communicate with each other?
			4. What is the procedure if someone is injured?
	2. Hazardous-materials incidents require written IAPs
	3. An IAP must be provided to responding resources in a briefing so that
		1. They are clear on the objectives, and the plan to accomplish them
		2. The hazards are identified, along with the actions taken to mitigate them
3. Manageable Span of Control
	1. Span of Control pertains to the number of individuals or resources that one supervisor can manage effectively (FEMA, 2005)
	2. Safety and accountability are the top priorities
	3. Influences to consider on the span of control
		1. Type of incident
		2. Nature of the task
		3. Hazards and safety factors
		4. Distance between the personnel and the resources
	4. An effective span of control varies from three to seven resources
	5. The recommended span of control is a ratio of one supervisor to five resources
4. Pre-designated incident locations and facilities
	1. Incident activities may be accomplished from a variety of operational locations and support facilities that are identified and established by the IC
5. Incident Facilities
	1. Incident Command Post (ICP) – the location where the IC oversees all the incident operations
		1. There is generally one ICP for each incident
		2. The ICP may change locations during the event
		3. The ICP may be in a
			1. Vehicle
			2. Trailer
			3. Tent
			4. Building
		4. The ICP is designated by the name of the incident
	2. Staging Areas – temporary locations at an incident where personnel and equipment are kept while waiting for tactical assignments (FEMA, 2005)
		1. Resources are always in “available” status and should be ready to respond within three minutes
		2. The staging areas are
			1. Close enough to the incident for a timely response
			2. Distant enough from the incident to be out of the immediate impact zone
		3. There may be more than one staging area
		4. The staging areas may be co-located with
			1. ICP (see above)
			2. Base – the location where primary logistics and administration functions are coordinated and administered (FEMA, 2005)

 (a) May be co-located with the ICP* + - * 1. Designated by the incident name
				2. Established and managed by the Logistics Section
				3. Only one base per incident
			1. Camp – the location where resources may be kept to support incident operations if a base is inaccessible to all resources or if the scale of the incident is large enough to require extended transportation times from the base to the tactical work assignments (FEMA, 2005)
				1. Is a temporary location within the general incident area
				2. Is equipped and staffed with

FoodWaterSleeping areasSanitary services* + - * 1. Designated by geographic location or number
				2. Multiple camps may be used, but not all incidents have camps
			1. Helibase – the location where helicopter-centered air operations are conducted
				1. Used generally on a long-term basis
				2. Includes such services as

FuelingMaintenance* + - * 1. Designated by the name of the incident
			1. Helispot – a temporary location where helicopters can safely land and take off

(a)Multiple helispots may be used  J. Resource Management* 1. ICS can be factored into two categories
		1. Tactical resources – are always classified as being in one of the following statuses
			1. Assigned resources – working the assignment
			2. Available resources – ready for the assignment
			3. Out-of-service resources – not ready or available for assigned resources status
		2. Support resources include
			1. Food
			2. Communication equipment
			3. Portable toilets
			4. Supplies
			5. Fleet vehicles
	2. Resource management includes the processes for
		1. Categorizing resources
		2. Ordering resources
		3. Dispatching resources
		4. Tracking resources
		5. Recovering resources
		6. Reimbursement for resources
1. Integrated Communications
	1. The use of a common communication plan is essential to ensure that responders can communicate with one another
	2. Communication equipment, procedures, and systems must operate across jurisdictions (interoperability)
	3. Developing an integrated voice and data communication system, which includes equipment, systems, and protocols, must occur prior to an incident
	4. Effective ICS communications include three elements
		1. Modes – the “hardware” systems that transfer information
		2. Planning – for the use of all available communication resources
		3. Networks – the procedures and processes for transferring information internally and externally
2. Chain of Command and Unity of Command
	1. Chain of Command – an orderly line of authority within the ranks of the organization
	2. Unity of Command – every individual is accountable to only one designated supervisor
	3. Command functions may be carried out in two ways
		1. Single Command – the IC has complete responsibility for incident management
		2. Unified Command – the responding agencies and/or jurisdictions with responsibility for the incident share the incident management
3. Unified Command
	1. May be needed for incidents involving
		1. Multiple jurisdictions with and without multi-agency involvement
		2. Single jurisdiction with multiple agencies sharing responsibility
	2. Allows agencies with different legal, geographic, and functional authorities and responsibilities to work together
	3. Uses a single IAP to direct activities
	4. Is needed because incidents have no regard for jurisdictional boundaries
	5. Establishes the required unified objectives in the IAP
	6. ICs
		1. Manage the responses from a single ICP
		2. Supervise a single command and general staff
4. Transfer of Command
	1. Is the process of moving responsibility from one IC to another?
	2. May occur when
		1. A more qualified person assumes the command
		2. The incident situation changes over time, resulting in a legal requirement to change the command
		3. A change of command makes good sense (i.e. an Incident Management Team takes command of an incident from a local jurisdictional unit due to increased incident complexity)
		4. There is normal turnover of personnel during long or extended incidents
		5. The incident response is concluded and the incident responsibility is transferred back to the home agency
	3. Includes a transfer of command briefing, which may be oral, written, or a combination of both
	4. Occurs formally at a predetermined time and is then announced on all incident radio frequencies
	5. Is the method used by federal incident management teams?
		1. IAP – response operations must be directed and coordinated per IAP
		2. Unity of Command – everyone must be assigned to only one supervisor
		3. Span of Control – supervisors must be able to adequately supervise and control their subordinates
		4. Resource tracking – supervisors must record and report resource status changes as they occur
5. Mobilization
	1. At any incident, the situation must be assessed and the response planned
	2. To accomplish the incident objectives, the resources must be
		1. Organized
		2. Assigned
		3. Directed
	3. Resources must be managed to adjust to changing conditions
	4. Managing resources safely and effectively is the most important consideration at an incident
	5. Personnel and equipment should respond only when requested or when dispatched by the appropriate authority
	6. No resource should self-dispatch to an incident
6. Information and Intelligence Management
	1. The incident management organization must establish a process for
		1. Gathering information
		2. Sharing information
		3. Managing incident-related information and intelligence
	2. Intelligence includes not only national security or other types of classified information but also other operational information from various sources, such as
		1. Risk assessments
			1. Medical intelligence
			2. Weather information
			3. Geospatial data
			4. Structural design
			5. Toxic contaminant levels
			6. Utilities and public works data

III. Performance of Management Functions* 1. The Five Major Management Functions
		1. Incident Command
			1. Sets the incident objectives, strategies, and priorities
			2. Has the overall responsibility for the incident
		2. Operations
			1. Conducts the operations to reach the incident objectives
			2. Establishes the tactics and directs all the operational resources
		3. Planning
			1. Supports the incident action process by
				1. Tracking the resources
				2. Collecting/analyzing information
				3. Maintaining documentation
		4. Logistics
			1. Provides resources and needed services to support the achievement of the incident objectives
		5. Finance/Administration
			1. Monitors the costs related to the incident
			2. Provides accounting
			3. Provides procurement as needed
			4. Provides time-recording
			5. Provides cost-analysis
	2. Organizational Structure
		1. The IC has the overall responsibility for managing the incident
			1. Establishes the objectives
			2. Establishes the planning strategies
			3. Implements the tactics
			4. Is the only position that is always staffed in ICS applications
			5. Must often accomplish all the management functions on small incidents
			6. Is responsible for all the ICS management functions until he or she delegates the function
			7. Follows the rule “what you do not assign you assume”
		2. Additional IC Responsibilities
			1. Ensures incident safety
			2. Provides information services to internal and external stakeholders
			3. Establishes and maintains liaisons with other agencies participating in the incident
	3. Appoints one or more deputies (A Deputy IC must be as qualified as the IC)
1. Selecting and Changing ICs
	1. Rank, grade, and seniority are not the factors used to select the IC
	2. The IC is always a highly qualified individual trained to lead the incident response
2. ICS Sections
	1. Have the capability to expand or contract to meet the needs of the incident
	2. Operate under the basic guideline that the person at the top of the organization is responsible until authority is delegated to another person
	3. Often require the IC to accomplish or manage personally all aspects of the incident organization on smaller incidents
3. ICS Position Titles
	1. To maintain its span of control, the ICS can be divided into many levels of supervision
	2. Use the specific ICS position titles to serve three important purposes
		1. Provide a common standard for all the users; consistency reduces confusion at the incident
		2. Allows the ICS positions to be filled with the most qualified individuals rather than by seniority
		3. Are useful when requesting qualified personnel
4. Expanding the Organization
	1. As the incident grows, the IC may delegate authority for the performance of certain activities to the
		1. Command Staff
			1. Public Information Officer – provides information to internal and external stakeholders, including the media or other organizations seeking information directly from the incident (FEMA, 2005)
			2. Safety Officer – monitors safety conditions and develops measures for assuring the safety of all assigned personnel (FEMA, 2005)
			3. Liaison Officer – serves as the primary contact for supporting agencies assisting at an incident
		2. General Staff
			1. Operations
			2. Planning
			3. Logistics
			4. Finance/Administration
			5. Note: the person in charge of each section is designated as a Chief
	2. The IC adds positions only as needed
5. Operations Section Chief
	1. Develops and manages the Operations Section to accomplish the incident objectives set by the IC
	2. Is normally the person with the greatest technical and tactical expertise for dealing with the problem presented by the incident
	3. Oversees all the tactical resources assigned to the incident
	4. The following supervisory levels can be added to help manage the Operations Section’s span of control
		1. Divisions
			1. Used to divide an incident geographically
			2. Have a person in charge who is designated as a supervisor
			3. Are determined by the needs of the incident
			4. Commonly identified using alphabet characters (i.e. A, B, C, D, etc.)
			5. Are designated in a clockwise fashion beginning at the “front” of the incident (Division A)
				1. Multi-story buildings are divided into divisions by numbered floors (i.e. Division 1, Division 2, etc.)
			6. Are at an equal level to a group in the organization
		2. Groups
			1. Are used to describe the functional areas of the operation
			2. Have a person in charge who is designated as a supervisor
				1. Division and Group Supervisors must closely coordinate their activities
			3. Are normally labeled according to the job that they are assigned (i.e. Rescue Group, Ventilation Group, etc.)
			4. Work wherever their assigned task (function) is needed
			5. Work across the division boundaries
			6. Are at an equal level to a division in the organization
		3. Branches
			1. Used when the number of divisions or groups exceeds the span of control
			2. Can be either geographical or functional
			3. Have a person in charge that is designated as a director
			4. Can be divided into divisions or groups, or a combination of both
			5. Branches, Other Factors
				1. Multi-discipline Incidents – may create the need to set up incident operations around a functional branch structure (i.e. firefighting, law enforcement, health and medical, hazardous materials, public works and engineering, energy, etc.)
				2. Multi-jurisdictional Incidents – branches may be set up to reflect jurisdictional boundaries
				3. Very Large Incidents – may be organized using geographic or functional branches
		4. Task Forces
			1. Are a combination of mixed resources with common communications operating under the direct supervision of a leader
			2. Allow for several resource elements to be managed under one individual’s supervision (i.e. two fire engines and a water tender under one task force leader)
		5. Strike Teams
			1. Are a set number of resources of the same kind and type with common communications operating under the direct supervision of a strike-team leader
			2. Allow for better planning, ordering, utilizing, and management
		6. Single Resources
			1. May be an individual, a piece of equipment and its personnel complement, or a crew or team of individuals with an identified supervisor that can be used at an incident
6. Planning Section Units
	1. Resources Unit
		1. Conducts all check-in activities
		2. Maintains the status of all incident resources
		3. Plays a significant role in preparing the written IAP
	2. Situation Unit
		1. Collects and analyzes information on the current situation
		2. Prepares situation displays and situation summaries
		3. Develops maps and projections
	3. Documentation Unit
		1. Provides duplication services including written IAP
		2. Maintains and archives all incident-related documentation
	4. Demobilization Unit
		1. Assists with ensuring that resources are released from the incident in an orderly, safe, and cost-effective manner
	5. Technical Specialists
		1. Provides special expertise useful in incident management and response
7. Logistics Section
	1. Is created by the IC if he or she determines that there is a need for a Logistics Section at the incident
	2. Is responsible for all the services and support needs, to include
		1. Orders, obtains, maintains, and accounts for essential personnel, equipment, and supplies
		2. Provides communication planning and resources
		3. Sets up food services
		4. Sets up and maintains incident facilities
		5. Provides support transportation
		6. Provides medical services to incident personnel
	3. Logistics Section: Branches and Units
		1. Are established based on need
		2. Titles of units are descriptive of their responsibilities
		3. The Logistics Service Branch can be staffed to include
			1. Communication Unit
				1. Prepares and implements the Incident Communication Plan
				2. Distributes and maintains communication equipment
				3. Supervises the Incident Communication Center
				4. Establishes adequate communications for the incident
			2. Medical Unit
				1. Develops the Medial Plan
				2. Provides first aid and light medical treatment for personnel assigned to the incident
				3. Prepares procedures for a major medical emergency
			3. Food Unit
				1. Is responsible for providing meals and drinking water for the incident personnel
				2. Obtains the necessary equipment and supplies to operate food service facilities at bases and camps
		4. The Logistics Support Branch can be staffed to include
			1. Supply Unit
				1. Determines the type and amount of supplies needed to support the incident
				2. Orders, receives, stores, and distributes the supplies
				3. Services the non-expendable equipment
				4. Receives all the resource orders
				5. Maintains the inventory and the accountability of the supplies and the equipment
			2. Facilities Unit
				1. Sets up and maintains the incident facilities
				2. Provides the managers for the incident base and camps
				3. Responsible for facility security
				4. Responsible for facility maintenance services, such as sanitation, lighting, and cleanup
			3. Ground Support Unit
				1. Prepares the Transportation Plan
				2. Arranges for, activates, and documents the fueling and maintenance of the assigned ground transportation
				3. Arranges for the transportation of the personnel, supplies, food, and equipment
8. Finance Administration Section
	1. Created for any incident that requires incident-specific financial management
	2. Is responsible for
		1. Contract negotiation and monitoring
		2. Timekeeping
		3. Cost analysis
		4. Compensation for injury or damage to property
	3. Finance Administration Section Units
		1. Procurement Unit – responsible for administering all the financial matters pertaining to vendor contracts, leases, and fiscal agreements
		2. Time Unit – responsible for incident personnel time-recording
		3. Cost Unit – responsible for
			1. Collecting all cost data
			2. Performing cost-effectiveness analyses
			3. Providing cost estimates
			4. Making cost-savings recommendations
		4. Compensation/Claims Unit – responsible for the overall management and direction of all administrative matters pertaining to compensation for injuries, as well as claims-related activities kept for the incident

*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*NONE |
| **Guided Practice \*** | *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*NONE |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | Local Incident Report – Ask your local fire department for a copy of a National Fire Incident Reporting System (NFIRS) form. Have the students fill out a local fire department incident report using the form. Emphasize the importance of proper documentation, grammar, and spelling in case the incident results in litigation. Use the Individual Work Rubric for assessment.Mock Incident Emergency Communications Activity – Simulate the emergency communications during the following mock incidents:* + Minor incident involving a vehicle fire
	+ A house fire handled by first-response companies
	+ A major incident requiring several ICS positions to be activated

Tailor the incident scenarios to your class’s needs. Assign a student to play the role of the dispatcher and assign other students to the various ICS positions needed. Students should understand that the ICS is used for all incidents and is adaptable to the needs of the incident and IC. Allow students to hear the interaction between the dispatcher and ICS personnel.1. Use the following rubrics as needed for assessment: Fire Department Communication Checklist A, the Fire Department Communication Checklist B, the Role Play Rubric, and/or the Peer Evaluation Rubric

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| **Lesson Closure** |  |
| **Summative/End of Lesson Assessment \***  | * Fire Department Communication Quiz and Key
* Fire Department Communication Checklist A
* Fire Department Communication Checklist B
* ICS Model and Key
* Discussion Rubric
* Individual Work Rubric
* Peer Evaluation Rubric
* Role Play Rubric
* Summary Rubric

*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*For reinforcement, students will fill out a blank Incident Command System Model. Use the Incident Command System Model Key for assessment.  |
| **References/Resources/****Teacher Preparation** | * ISBN: 0135151112, *Essentials of Firefighting* (5th Edition), International Fire Service Training Association (IFSTA)
* ISBN: 1439058428, *Introduction to Fire Protection* (4th Edition), Klinoff, Robert [www.fema.gov/nims](http://www.fema.gov/nims)
 |
| **Additional Required Components** |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** | Social Studies StandardsV. Effective CommunicationA. Clear and coherent oral and written communication1. Use appropriate oral communication techniques depending on the context or nature of the interaction.* 1. Use conventions of standard written English.
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| **Recommended Strategies** |
| **Reading Strategies** |  |
| **Quotes** |  |
| **Multimedia/Visual Strategy****Presentation Slides + One Additional Technology Connection** |  |
| **Graphic Organizers/Handout** |  |
| **Writing Strategies****Journal Entries + 1 Additional Writing Strategy** |  |
| **Communication****90 Second Speech Topics** |  |
| **Other Essential Lesson Components** |
| **Enrichment Activity**(e.g., homework assignment) | For enrichment, students will participate in a field trip to a local E-9-1-1 center or Emergency Management Center and then write a summary of the experience. Use the Summary Rubric for assessment. |
| **Family/Community Connection** |  |
| **CTSO connection(s)** | SkillsUSA |
| **Service Learning Projects** |  |
| **Lesson Notes** |  |

1. Visit the Texas College and Career Readiness Standards at <http://www.thecb.state.tx.us/collegereadiness/CRS.pdf>, Texas Higher Education Coordinating Board (THECB), 2009. [↑](#footnote-ref-1)