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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** | Principles of LPSCS |
| **Lesson/Unit Title** | First Aid and CPR |
| **TEKS Student Expectations** | **130.332. (c) Knowledge and Skills**(5) The student implements measures to maintain safe and healthful working conditions in a law and public safety environment. (E)The student is expected to demonstrate first aid, cardiopulmonary resuscitation, and automated external defibrillator procedures. |
| **Basic Direct Teach Lesson**(Includes Special Education Modifications/Accommodations and one English Language Proficiency Standards (ELPS) Strategy) |
| **Instructional Objectives** | The student will be able to:* Identify the steps of CPR
* Differentiate between the three types of bleeding
* Recognize the steps in wound care
* Identify the characteristics, symptoms, and treatment for shock
* Distinguish between the three different degrees of burns and the treatment for each
* List the procedures for responding to poisonings
* Examine the injuries resulting from extreme heat and cold
* Demonstrate first aid and CPR procedures
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| **Rationale** | Many LPSCS professionals are first responders. In order to sustain life until medical personnel arrive on the scene, first responders must know emergency medical procedures in first aid and cardiopulmonary resuscitation (CPR). |
| **Duration of Lesson** | 2-4 hours |
| **Word Wall/Key Vocabulary***(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* |  |
| **Materials/Specialized Equipment Needed** | **Materials*** CPR mannequins or a simulated mannequin
* First aid items
* 5–10 cravats, such as strips of cloth, triangular bandages folded into strips, roller gauze, or other similar material to tie or anchor splints in place
* 6–10 sterile gauze squares, 4 inches by 4 inches in size, (may be packaged as singles, doubles, or multiples)
* 4–6 roller bandages (Kling or similar) any size
* 1 abdominal trauma dressing (ABD)
* adhesive tape
* mouth-to-mask device and bag-mask device
* biohazard bag
* hand sanitizer
* cell phone (for simulating a 911 call)
* 1 pair of scissors
* Personal protective equipment (PPE)
* 10 pairs of gloves
* 2 sets of goggles or safety glasses
* CPR Demonstration Checklist
* First Aid Demonstration Checklist
* Discussion Rubric
* Individual Work Rubric
* Presentation Rubric
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| **Anticipatory Set**(May include pre-assessment for prior knowledge) | Ask the class to brainstorm scenarios they might encounter that wouldrequire either CPR or first aid. Have them consider every day, household items they might use for first aid purposes. Point out that the locations of the scenarios depend upon the agency’s jurisdiction and the main focus of enforcement. For example, a scenario with a rural game warden will differ greatly from a scenario with an urban police officer. Use the Discussion Rubric for assessment. |
| **Direct Instruction \*** | I. Steps of Adult CPRA. Check the scene for safety1. Before giving CPR, make sure that the scene is safe for you andfor the victim2. Example – for a roadway accident, make sure that there is notraffic in the area that could injure you or the victim3. Do not become a victim yourselfB. Position the body1. The victim must be lyinga) On his or her back (if the victim is face down, roll him or her over onto his or her back)b) On a firm, flat surface2. Kneel at the victim’s side3. Remove any restrictive clothing from the victim’s chest areaC. Check the victim for a response before giving CPR1. Tap the victim and shout, “Are you okay?”* 1. Shake the victim gently
	2. If the victim does not respond, get help on the way as soon as possible
1. Get help by following the appropriate steps
	1. Notify dispatch that you need emergency medical service (EMS) or Fire Service en route to the scene
	2. Request an automated external defibrillator (AED) if your vehicle is not equipped with one
2. Check the victim’s breathing
	1. Open the victim’s airway by tilting the head and lifting the chin
	2. Check if the victim is breathing normally (take at least five seconds, but no more than 10 seconds, to do this)
	3. Put your ear next to the victim’s mouth and nose
	4. Look to see if the victim’s chest rises
	5. Listen for breaths from the victim
	6. Feel for the victim’s breaths on your cheek
3. Push on the victim’s chest
	1. Put the heel of your hand on the center of the victim’s chest between the nipples
	2. Put the heel of your other hand on top of the hand that is already on the victim’s chest
	3. Push straight down on the victim’s chest to a depth of one and one-half to two inches with each push (also called a compression)
	4. Push hard and fast
	5. Repeat the compressions at a rate of 100 pushes per minute
	6. After each compression, release the pressure on the victim’s chest and let it come back to its normal position
4. Open the victim’s airway
	1. Tilt the victim’s head by pushing back on his or her forehead
	2. Lift the victim’s chin by putting your fingers on the bony part of the chin
	3. Do not press the soft part of the victim’s neck or under the victim’s chin
	4. Lift the victim’s chin to move the jaw forward
5. Give the victim breaths
	1. Your breaths give the victim air when he or she cannot breathe on his or her own
	2. Follow these steps to give the victim breaths:
		1. Hold the victim’s airway open by tilting the head and lifting the chin
		2. Pinch the victim’s nose closed
		3. Take a normal breath and cover the victim’s mouth with your mouth (use personal protection equipment when available)
		4. Give the victim two one-second breaths
		5. Watch for the victim’s chest to rise as you give each breath
	3. Do sets of 30 pushes and two one-second breaths
		1. Try not to interrupt pushing on the chest for more than a few seconds
		2. Do not take too long to give the victim breaths
	4. Watch for special situations
		1. Gasping is not breathing
			1. In the first few minutes after the heart stops, a victim may only gasp
			2. If the victim gasps when you open the airway to check his or her breathing, continue the steps of CPR
			3. The victim is likely to need all the steps of CPR
		2. If the first breath does not go in
			1. Reopen the airway by tilting the victim’s head and lifting the chin before giving the second breath
			2. Give two one-second breaths and then make 30 compressions
			3. Repeat the sets of 30 pushes and two breaths until the victim starts to move, or trained help takes over
			4. Recognize trained help (i.e., EMS responder, nurse, or doctor)
		3. If the victim is breathing normally but not responding
			1. Roll the victim on his or her side and wait for trained help to take over
			2. Start the steps of CPR from the beginning if the victim stops breathing again
6. Steps of Infant CPR
	1. Check the infant’s condition
		1. See if the infant is conscious
		2. Try to get a response from the infant, such as you would by tapping the infant’s foot
		3. Place the infant on a firm surface
	2. Open the infant’s airways
		1. Tilt the infant’s head back gently with one hand
		2. Lift the chin lightly with your other hand
		3. Check for signs of life
			1. Check the infant for breath by placing your head next to the infant’s mouth
			2. Look to see if the infant’s chest is rising and falling
		4. Give the infant two gentle rescue breaths
			1. Give breaths that are no more than one second
			2. Cover the infant’s nose and mouth with your mouth
			3. Gently breath into the infant
			4. Watch for the infant’s chest to rise, if it does not rise, the infant’s airway is blocked
	3. Give the infant 30 chest compressions
		1. Give the compressions at the rate of 100 per minute
		2. Use two or three fingers in the center of the infant’s chest, just below the infant’s nipples
		3. Press down approximately one-third of the depth of the infant’s chest (about one and one-half inches)
	4. Continue the sets of rescue breathing and compressions until trained help takes over

III. First Aid* 1. Wounds
		1. Three types of bleeding
			1. Capillary – blood oozes slowly
			2. Venus – blood flows steadily
			3. Arterial – blood spurts
		2. Wound attention
			1. Use gloves to protect against disease and infection
			2. Cover the wound with sterile gauze and apply pressure (most bleeding should stop within a few minutes)
			3. If an arm or a leg is involved, elevate the injury above the level of the heart while continually applying pressure to the wound
			4. Use a pressure bandage to hold pressure on the wound
			5. Wrap the bandage in a spiral pattern, snugly over the dressing, but not so tight that it cuts off circulation
			6. Apply another dressing with another bandage over it if the blood soaks through the first bandage
			7. Find a pressure point and apply pressure to slow the blood flow if the bleeding from an arm or leg cannot be controlled
		3. Minor wounds
			1. Clean with soap and water to prevent infection
			2. Flush the wound with running water
			3. Apply some antibiotic ointment to the wound
			4. Cover the wound with a sterile dressing and a bandage
		4. Amputations
			1. Control the bleeding
			2. Wrap the amputated area with a dry, sterile dressing
			3. Recover the amputated part and wrap it in a dry, sterile dressing or clean cloth
			4. Place the amputated part in a container and keep it cool by placing it on ice
		5. Imbedded or Impaled object
			1. Leave the impaled object in place
			2. Stabilize the impaled object to prevent movement which can cause more damage
			3. Control the bleeding by placing pressure around the object
1. Con Wrap the area with gauze or a clean cloth in order to stabilize the object
2. Shock
	1. Affects the circulatory system
		1. Heart
		2. Vessels
		3. Blood
	2. Classified as
		1. Pump failure – happens during a cardiac arrest when the heart does not pump enough blood
		2. Fluid loss – caused by vomiting, diarrhea, or lack of water
		3. Pipe Failure – a spinal cord injury or severe allergic reaction
	3. Do not wait for symptoms instead immediately treat victims for shock
	4. Symptoms
		1. Anxiety/restlessness
		2. Pale lips
		3. Rapid breathing
		4. Pale and cold or clammy skin
		5. Rapid pulse
	5. Treatment
		1. Attend to any immediate life-threatening injuries
		2. Lay alert and/or responsive victims on their backs when appropriate
		3. Elevate the victim’s legs 6 to 12 inches to move blood from the legs to the heart
		4. Place a nonresponsive or vomiting victim on his or her left side in the recovery position
		5. Wrap the victim with blankets to prevent heat loss
	6. Anaphylactic shock
		1. Caused by a severe allergic reaction to a substance either eaten or ingested
			1. Examples
				1. Medications
				2. Foods
				3. Insect stings
				4. Medical dyes
		2. Life-threatening, requires immediate medical care
		3. Signs and symptoms could appear within minutes of contact
			1. Difficulty breathing
			2. Shortness of breath and wheezing
			3. Itching, rash, or hives
			4. Swelling of the tongue, mouth, and throat
3. Burns
4. Tissue receives more thermal energy than it can absorb
5. Types
	1. Heat
	2. Chemical
	3. Electrical
6. Levels
	1. First degree (superficial)
	2. Second degree (partial thickness)
	3. Third degree (full thickness)
7. General Information
	1. Rule of palm – the palm represents about 1 percent of the total body surface
	2. Burns on the face, feet, and genitals are more severe
	3. Burns can be more severe for small children and the elderly
	4. Preexisting conditions may affect the severity of the burn
8. Treatment
	1. Determine the depth, location, and size of the burn
	2. First degree burns
		1. Immerse the affected area in cool water or apply a cold, wet cloth until the burn is pain free
		2. Apply an aloe vera gel or skin moisturizer
	3. Small second degree burns
		1. Apply an antibiotic ointment
		2. Cover the burn with a dry, sterile dressing
	4. Large second degree and third degree burns
		1. Cover with a dry, sterile dressing
		2. Bandage loosely
	5. Chemical burns
		1. Remove the chemical as quickly as possible (brush off any dry or powdered chemical from the victim’s skin)
		2. Remove any contaminated clothing or jewelry before flushing the burn area
		3. Immediately flush the victim’s skin with water
		4. Cover the burn with a dry, sterile dressing
	6. Electrical burn
		1. Remember that electrical current travels along the path of least resistance, often through blood vessels and nerves until it finds an outlet
		2. Make sure that the location is safe by disconnecting or unplugging the source of electricity
		3. Check if the victim is responsive and breathing
		4. Check the victim for a possible spinal injury if he or she fell during electrocution
		5. Treat for shock
9. Cover the burn with a sterile dressing
10. Bandage loosely
11. Poisoning
	1. Factors affecting care
		1. The age and the size of the victim (poisoning is usually intentional when it happens to adults)
		2. The type of poison that was ingested (some substances cause immediate damage)
		3. The amount of the poison ingested
		4. The amount of time that the poison has been ingested
	2. Contact the Poison Control help number for further instructions 1-800-222-1222
12. Cold and Heat Emergencies
	1. Frostbite
		1. Occurs when the skin freezes
		2. Causes the skin to become numb and turn grey or waxy white
		3. May cause the victim to feel stiff and cold
		4. Usually effects the extremities
		5. Treatment
			1. Get the victim out of the cold
			2. Remove all of the victim’s wet or constrictive clothing
			3. Place a dry dressing between the victim’s affected fingers and/or toes
	2. Hypothermia
		1. The victim’s body loses more heat than it produces
		2. Symptoms
			1. Shivering
			2. Confusion
			3. Cold skin
		3. Treatment
			1. Get the victim out of the cold
			2. Remove the victim’s wet clothes
			3. Warm the victim with blankets
			4. Cover the victim’s head
			5. Give the victim a sugary drink
	3. Heat cramps
		1. Move the victim to a cool area
		2. Stretch the muscles
		3. Offer the victim some water or a sports drink
	4. Heat exhaustion
		1. Move the victim to a cool area
		2. Provide the victim some water or a sports drink
		3. Have the victim lie down
		4. Apply a cool cloth to the victim’s head, neck, or groin area
	5. Heat stroke
13. Move the victim to a cool area
14. Remove any heavy clothing that the victim is wearing
15. Cool the victim rapidly by any means possible

*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 \*** | CPR Demonstration. Set up a CPR mannequin or prepare the students to use a simulated one. Have students take turns demonstrating proper CPR procedures on the mannequin. Use the CPR Demonstration Checklist for the activity and the assessment.First Aid Triage. Write the types of injuries on note cards. Divide the class into teams. Have each of the teams draw a card. Then have the teams take turns demonstrating the proper treatment on an imaginary victim with the injury they have selected (*Note:* have the needed first aid supplies available for the students to use. See the materials list for details). For example, if the card says “first degree burn”, the team would perform and explain the steps they would take to treat that injury if they were the first responder. The students would say and demonstrate the following actions: immerse the affected area in cool water or apply a cold, wet cloth until the burn is pain free; then apply aloe vera or skin moisturizer on the affected area. Use the First Aid Demonstration Checklist for assessment.*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*none |
| **Lesson Closure** |  |
| **Summative/End of Lesson Assessment \***  | First Aid and CPR Exam and Key*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*none |
| **References/Resources/****Teacher Preparation** | American Heart Association [www.americanheart.org/cpr](http://www.americanheart.org/cpr)Texas Department of Criminal Justice, First Aid and Infection Control High School Pre-service, 2010Do an Internet search for the following: * baby center infant first aid CPR
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| **Additional Required Components** |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** | **Cross-Disciplinary Standards**I. Key Cognitive SkillsE. Work habits1. Work independently.
2. Work collaboratively.
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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, the students will work as partners to teach CPR or a first aid method to the class. They must create a step-by-step instructional brochure that illustrates the procedure they selected. For example, if one team selects the topic of treating burns with first aid, they would create an informational brochure covering the different types of burns and their treatments, and present that demonstration to the class. Use the Individual Work Rubric and the Presentation 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)