



## HEALTHCARE SCIENCE

**COURSE:** 25.564 Emergency and Disaster Preparedness

**UNIT:** 5.1 Potential Disasters



### INTRODUCTION

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**Annotation:**

This unit will cover a variety of natural and manmade disaster situations, how to prepare in advance for disasters, and the best course of action to take when a given disaster occurs.

**Grade(s):**

X	9 <sup>th</sup>
X	10 <sup>th</sup>
X	11 <sup>th</sup>
X	12 <sup>th</sup>

**Time:**

Ten 50 minute periods

**Author:**

Jama Willbanks, MS, NREMT-P

**Additional Author(s):**

Michael Higgins, Language Arts

Andrea Wheeler, Special Education

**Students with Disabilities:**

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.



# FOCUS STANDARDS

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## **GPS Focus Standards:**

**HS-EDP-4.** Students will identify the types of hazards most likely to affect his/her home and community and describe steps to prepare for emergencies.

- a. Define a disaster and who makes up the response workforce.
- b. Analyze the potential effect of extreme emergencies and disasters on infrastructures, including but not limited to transportation, electrical service, telephone communication, fuel, food, water, shelter, and emergency services.
- c. Identify potentially hazardous conditions in the various types of structures and their contents during a disaster.
- d. Evaluate the steps to reduce the risk of damage from hazards that threaten your area.
- e. Demonstrate preparing the home, school, workplace, and community in advance to minimize disaster repercussions, including but not limited to assembling a disaster supply kit, developing a disaster plan, and designating a safe room.
- f. Understand the difference between evacuations versus sheltering in place.
- g. Understand the laws that protect disaster workers from liability.

## **GPS Academic Standards:**

**ELA11C1.** The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.

## **National / Local Standards / Industry / ISTE:**

Refer to modules 7-1.6 - 7-1.8 at [www.nhtsa.gov/people/injury/ems/pub/frnsc.doc](http://www.nhtsa.gov/people/injury/ems/pub/frnsc.doc)



# UNDERSTANDINGS & GOALS

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## **Enduring Understandings:**

- Students will understand the need to prepare in advance for potential disaster situations and how to do so in their communities. Students will understand the best course of action to take in the face of a variety of disasters including natural and manmade disaster situations.

## **Essential Questions:**

- What disasters are most likely to occur in my community, and how can I prepare for them?
- Why is it important to prepare in advance of a disaster?
- What course of action should I take if a disaster does occur?

## **Knowledge from this Unit:**

- Student knows the types of disasters that can occur and which are most likely to occur in his or her community.
- Student knows the difference between evacuation and shelter-in-place procedures.
- Student knows the best course of action to take if a disaster strikes.

## **Skills from this Unit:**

- Student can prepare in advance for a variety of potential disaster situations.
- Student can take appropriate emergency action steps in the face of a variety of potential disaster situations.



# ASSESSMENT(S)

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## Assessment Method Type:

- Pre-test
- Objective assessment - multiple-choice, true- false, etc.
  - Quizzes/Tests
  - Unit test
- Group project
- Individual project
- Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
  - Self-check rubrics
  - Self-check during writing/planning process
  - Journal reflections on concepts, personal experiences and impact on one's life
  - Reflect on evaluations of work from teachers, business partners, and competition judges
  - Academic prompts
  - Practice quizzes/tests
- Subjective assessment/Informal observations
  - Essay tests
  - Observe students working with partners
  - Observe students role playing
- Peer-assessment
  - Peer editing & commentary of products/projects/presentations using rubrics
  - Peer editing and/or critiquing
- Dialogue and Discussion
  - Student/teacher conferences
  - Partner and small group discussions
  - Whole group discussions
  - Interaction with/feedback from community members/speakers and business partners
- Constructed Responses
  - Chart good reading/writing/listening/speaking habits
  - Application of skills to real-life situations/scenarios
- Post-test

## Assessment(s) Title:

Oral Presentation Rubric

## Assessment(s) Description/Directions:

Oral Presentation Rubric: hand out rubric at time of assignment so students are familiar with expectations.

## Attachments for Assessment(s): Please list.

Oral Presentation Rubric



# LEARNING EXPERIENCES

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## Sequence of Instruction

### 1. Identify the Standards. Standards should be posted in the classroom for each lesson.

**HS-EDP-4.** Students will identify the types of hazards most likely to affect his/her home and community and describe steps to prepare for emergencies.

**ELA11C1.** The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.

### 2. Review Essential Questions.

- What disasters are most likely to occur in my community, and how can I prepare for them?
- Why is it important to prepare in advance of a disaster?
- What course of action should I take if a disaster does occur?

### 3. Identify and review the unit vocabulary.

- Bioterrorism
- Infrastructure
- Man-made disasters
- Mass Casualty Incidents (MCI)
- Natural disasters
- Pandemic
- Patient surge
- Radiation
- Sequester

## LESSON ONE

1. Have students individually write their answer to the question: "What is the difference between an emergency and a disaster?" Discuss.
2. Show slideshow presentation "Introduction to Disasters" and have students take notes.
3. Divide students into groups of 3-4. Have each group think of at least three disasters that could potentially occur in the local community. For each, have students brainstorm the effects each disaster might have on the

community's infrastructure as well as how they would respond in each situation. Have each group write their responses down and choose one to share with the class.

4. Wrap-up activity: Have each group share responses from activity with the class. Discuss.

## LESSON TWO

1. Ask students to brainstorm everything they would need to survive for three days in their homes. Write answers on board and discuss.

2. Show video found at <http://www.swcphp.ouhsc.edu/toolkit/volunteer/media/famprep.html> **OR** the slideshow presentation found at <http://www.swcphp.ouhsc.edu/toolkit/volunteer/media/pdf/family.pdf> and have students take notes. Discuss.

3. Wrap-Up activity: Assign homework: ask students to ensure their homes have enough food and water for three days in preparation for the next assignment which will be to develop a home emergency kit. Students should also determine where in their home they will keep their emergency supplies.

## LESSON THREE

1. Warm-up Activity: Have students share how much food and water they determined their families would need to be sequestered with their families for three days. Have them share where they will store their supplies and why they chose those locations.

2. Show video "Personal Preparedness Kit" found at <http://www.swcphp.ouhsc.edu/toolkit/volunteer/media/pratt.html>

3. Assignment: Students are to develop an emergency kit for their household including a family communication plan. Students will need to write down every item that they included in their kits. Have students bring kits to class (can bring one item to represent larger amounts, such as bringing one can of food, one bottle of water, etc). Kits must include **at least 20 items**. Remind students not to bring items such as knives, razors, or matches that are not allowed at school. This will be due for lesson eight. **Note: for students who may have limited resources it may be good to have some items on hand they can choose from and allow them to purchase the items by performing some special task or assignment which gives them tokens or points for shopping, or allow the student to make a combination kit or pictorial kit using pictures of items needed for they do not have or have access to.**

## LESSON FOUR

1. **(Obtain school permission prior to this activity)** Have students observe evacuation drill in special education department to witness evacuation of wheelchairs, etc.

2. Upon returning to classroom, discuss the different challenges that can be faced during evacuations for individuals with special needs. What accommodations should be in place for various disabilities?

3. Hand out a copy of pages 5-7 (What You Need To Do) from document "Preparing for Disaster for People with Disabilities and other Special Needs" from FEMA website link:

<http://www.fema.gov/library/viewRecord.do?id=1442>

4. Have students read document and determine if they had considered each bullet point under daily living, getting around, and evacuating sections of handbook. Discuss.

5. Wrap-up Activity: Assign student homework research topics (hand out attached rubric). Assign students to research a disaster that has occurred in the world in the past 100 years (such as the St. Francis Dam Disaster). Students should be prepared to present a 4-6 minute oral presentation including the events that led up to the disaster, how many people were injured/killed, the details of the immediate response to the disaster, the effects of the disaster on the infrastructure, and long-term effects. Students should include factors that may have made the disaster more or less significant (tornado hitting a school during school hours, for example) and discuss whether the disaster could have been prevented and how (if applicable). Students will present during lesson six/seven.

#### **LESSON FIVE**

1. Ask students if they would want to volunteer to help during a disaster. Have them brainstorm services that volunteers might provide, specifically teenage volunteers.

2. Show each of the short videos: "Disaster Mindedness," "Becoming a Disaster Volunteer," "What to Expect When Volunteering for a Disaster," and "Putting it All Together" found at

<http://www.swcphp.ouhsc.edu/toolkit/volunteer/media/dismind.html>.

3. Wrap-Up Activity: Recap videos with discussion questions such as "What did the speaker say volunteers might expect to see during a disaster?" "What personal traits are important in a disaster volunteer?" "What sorts of emotions might a volunteer feel?" Ask if everyone who wanted to volunteer at the beginning of the class would still consider doing so after seeing the videos.

#### **LESSON SIX/SEVEN**

1. Warm-up Activity: Ask students to write the names of the disasters they researched on the board to pique student interest in upcoming presentations.

2. Students to present orally. Presentations should take two class periods.

3. Wrap-up Activity: Discuss disaster situations that were presented. Discuss areas for potential improvement (faster evacuation, better warning systems, etc).

#### **LESSON EIGHT (Emergency Kits Due Today)**

1. Warm-up Activity: allow students a few minutes to organize the items in their emergency kits to present to class.

2. Have each student show the items in his or her full (20 item minimum) home emergency kit and explain rationale for each item. NOTE: to save time, students do not have to explain rationale for items already mentioned by classmates unless rationale is different.
3. Wrap-up activity: have students write themselves notes about what they want to add to their own kits based on what their peers' kits had (if anything). Encourage students to make their kits as complete as possible and store in an easily accessible location in their homes.

### **LESSON NINE: Spanish Influenza**

1. Warm-up Activity: Hand out one index card (or sheet of paper cut into quarters) to each student. Ask students to imagine that they can only keep FIVE of the items in their emergency kits other than food and water. Which five would they keep? Have students write their answers individually.
2. Place students into groups of 3-4 and allow them to discuss their answers from the warm-up activity. Then, allow each small group to explain their mini-emergency kit to the class and discuss why they chose each item.
3. Show slideshow presentation: Spanish Influenza.
4. Wrap-up Activity: At conclusion of slideshow, ask students to consider again their supplies. Would they have enough supplies to survive a recurrence of this pandemic today? Would students enjoy having time off school? Remind them that there would be no trips to the mall, no visits to friends' houses, etc...

### **Attachments for Learning Experiences: Spanish Influenza Slideshow**

### **LESSON TEN**

1. Warm-up Activity: Explain what a "tabletop" disaster drill is (situation on paper as opposed to live training).
2. Divide students into groups of 3-4 for the **Tabletop Disaster** (attached). Note: can change the details of the disaster to be specific to school name, favorite sport, etc. Give students time to complete exercise.
3. Allow each group to share how they ordered the victims and what actions they took. Give class opportunity to discuss why different choices were made.
4. Have groups write their own tabletop disaster scenario. Trade with another group and go through each other's scenarios.
5. Wrap-up Activity: discuss importance of "Tabletop" disaster drills and planning for communities, fire departments, police, etc. Discuss the pros and cons of tabletop vs. live training exercises.

### **Attachments for Learning Experiences:**

Tabletop Disaster

### **Notes & Reflections:**

- Invite specialist on terrorism to speak to class.
- Organize a school-wide disaster drill that involves local PD and FD.



# CULMINATING PERFORMANCE TASK (Optional)

**Culminating Unit Performance Task Title:**

**Culminating Unit Performance Task Description/Directions/Differentiated**

**Attachments for Culminating Performance Task**



## UNIT RESOURCES

**Web Resources:**

[www.nhtsa.gov](http://www.nhtsa.gov)

[www.citizencorps.gov/cert/](http://www.citizencorps.gov/cert/)

<http://www.infoplease.com/ipa/A0001437.html>

<http://www.swcphp.ouhsc.edu/toolkit/volunteer/media/famprep.html>

<http://www.swcphp.ouhsc.edu/toolkit/volunteer/media/pdf/family.pdf>

<http://www.swcphp.ouhsc.edu/toolkit/volunteer/media/dismind.html>

<http://www.fema.gov/library/viewRecord.do?id=1442>

**Attachment(s):**

**Materials & Equipment:**

**What 21st Century Technology was used in this unit:**

<input checked="" type="checkbox"/>	Slide Show Software	<input type="checkbox"/>	Graphing Software	<input type="checkbox"/>	Audio File(s)
<input type="checkbox"/>	Interactive Whiteboard	<input type="checkbox"/>	Calculator	<input type="checkbox"/>	Graphic Organizer
<input type="checkbox"/>	Student Response System	<input type="checkbox"/>	Desktop Publishing	<input type="checkbox"/>	Image File(s)
<input type="checkbox"/>	Web Design Software	<input type="checkbox"/>	Blog	<input type="checkbox"/>	Video
<input type="checkbox"/>	Animation Software	<input type="checkbox"/>	Wiki	<input type="checkbox"/>	Electronic Game or Puzzle Maker
<input type="checkbox"/>	Email	<input type="checkbox"/>	Website		