



## HEALTHCARE SCIENCE

**COURSE:** 25.564 Emergency and Disaster Preparedness

**UNIT:** 4.1 Potential Extreme Emergencies



### INTRODUCTION

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**Annotation:**

This unit will cover a variety of potentially extreme natural and manmade emergency situations and the best course of action to take when these emergencies occur.

**Grade(s):**

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

**Time:**

Five 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.

- 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 evacuation versus sheltering in place.

## **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:**



# UNDERSTANDINGS & GOALS

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## **Enduring Understandings:**

- Students will understand the need to prepare in advance for potential extreme emergencies 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 emergencies including natural and manmade emergency situations.

## **Essential Questions:**

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

## **Knowledge from this Unit:**

- Student knows the potential effects of a variety of extreme emergencies.
- Student knows the best course of action to take in a variety of emergency situations.

## **Skills from this Unit:**

- Student can prepare their homes and families for an extreme emergency.
- Student can evacuate or shelter-in-place as needed based on the best possible location for the given emergency.



# 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:

- HS Peer Group Evaluation
- Group Slideshow Grading Rubric
- Public Service Announcement Audience Evaluation

## Assessment(s) Description/Directions:

- Group Slideshow Presentation: Use combination of two rubrics: HS Peer Group Evaluation and Group Slideshow Grading Rubric (attached); rubrics should be distributed when project is assigned so that students know expectations.
- Public Service Announcement Audience Evaluation: distribute when project is assigned so that students know expectations and know that peers will be evaluating project.

## Attachments for Assessment(s):

- HS Peer Group Evaluation
- Group Slideshow Grading Rubric
- Public Service Announcement Audience Evaluation



# 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.

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

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

Pre-assign unit by having students define vocabulary and read unit chapter in textbook for homework.

- Earthquake
- Evacuation
- Flash Flooding
- Hurricane
- Landslide
- Nuclear Power Plant
- Radiological Dispersion Device (RDD)
- Shelter in Place
- Tornado
- Tsunami
- Volcano

#### 4. Assessment Activity.

##### Lesson One

1. Ask students if any have been through an "extreme emergency" and to describe the incident. If no one has been through an extreme emergency, ask students to describe emergencies they can imagine occurring and what impact they might have.
2. Hand out Hazards Worksheet and have students' complete handout *individually*. After students have had an opportunity to complete the worksheet, have students get into groups of 3-4 to compare answers and discuss reasoning for answers.
3. Review worksheet as a class. Discuss possible impact each emergency might have on services such as: transportation, electrical service, telephone communication, fuel, food, water, shelter, and emergency services.
4. Begin slideshow presentation "Thunderstorms and Tornadoes" and have students take notes.
5. After finishing Tornado section, ask students where they would go (in their own house/apartment) during a tornado. Have them discuss pros and cons of various rooms in the house.

Notes for safe room discussion from the FEMA website (listed below):

##### **Where is the best location for the safe room?**

A: A small interior room above grade is the best location for a safe room. Safe rooms are often used for other non-emergency purposes. Bathrooms and large closets are a frequent choice. Because warning times for tornadoes can be very short, quick access to the safe room is important in choosing location. If the owners have any special accessibility needs these should be considered in the location and design of the safe room.

7. Wrap-up activity. Assign homework: have students select safe room in their home or apartment. Write down which room it is on an index card and have a parent or guardian sign that they have discussed the safe room location with the student. Extra credit: bring in picture of the safe room to show class why this room was chosen.

##### **Attachments for Learning Experiences for Lesson One: Hazards Worksheet**

##### **LESSON TWO/THREE**

1. Have students take out their notecards (and pictures for extra credit) and share which room they chose for their safe rooms. Hand in for homework grade.
2. Place students in groups of 3-4. Assign each group an extreme *natural* emergency topic (earthquake, flood, hurricane, tsunamis, heat wave, winter storm, fire, landslide, volcano, wildfires, etc.) to research and create a slideshow presentation discussing where high risk areas are for the emergency, warning signs/risk factors (if applicable), the potential effects of the emergency and what the public should do when facing the situation.

Each group is to create a presentation including a **minimum** of five slides and three pictures plus a works cited slide. Students will then present slideshow to class in five to eight minute presentations. (Day One = research and preparation; Day Two = presentations).

3. Have students watching presentations take notes and remind them that the information presented by their peers will be on the unit exam.
4. After presentations are complete, have students complete and hand-in peer evaluation rubrics.
5. Wrap-up activity. Ask students to name every emergency for which they should evacuate outside. Then, name every emergency for which they should shelter-in-place. Discuss emergencies that may not have a clear answer.

**Notes & Reflections:**

To reduce transition time between group presentations during class, teacher can assign one student to be the master organizer (or teacher can choose to do this him or herself). Have all student groups email their presentations to master organizer; cut and paste all presentations into ONE Slideshow before class starts (or at least into one file folder). For classrooms with limited computer access, may modify this assignment and make poster presentations instead of Slideshow.

**LESSON FOUR**

1. Ask students to brainstorm potential **manmade** extreme emergencies that could occur in their city, in their state, in the nation, in the world. Write these on the board. Examples might include: dam failure, household chemical emergencies, hazardous material leak in the community, nuclear power plant emergency, or a variety of terroristic events.
2. Assign students into groups of 3-4 and assign each group a topic from the list created. Have students visit the FEMA website to gather information about their topic (or print out information ahead of time if computer access limited). *Note: have them keep this information for next day's activity.*
3. Have each group create a 60 second Public Service Announcement telling the community what steps to take in the face of this emergency. This announcement would be broadcast on the television and radio as the emergency was taking place. Give each group 25-30 minutes to put together their announcements.
4. Have groups present announcement to class. Peers should evaluate announcements using attached form.
5. Wrap-Up Activity: Allow groups to review evaluations and discuss suggestions for improvement.

**Attachments for Learning Experiences: PSA Audience Evaluation Form (Note: three per page, cut into slips to save paper. Can also use for a peer review before the final presentations if time allows).**

**LESSON FIVE**

1. Ask students to consider individuals with special needs and how their needs might differ in the face of an emergency. What types of special needs do people have? What extra considerations might they need? Have class brainstorm topic and write thoughts on board.

2. Using same groups and topics from Lesson Four, have each group create a poster that illustrates the steps to take in the face of the emergency they were assigned. Remind students that in our diverse society, not everyone understands English, so pictures and clear symbols must be used to explain the instructions instead of words.
3. Hang posters on the wall. Have groups rotate through the posters to determine if they understand the steps they must take for the given emergency.
4. Wrap-Up Activity: Ask students to share feedback on the posters and on the experience of creating the posters without words.

**Attachments for Learning Experiences:**

**Notes & Reflections:**



# 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.fema.gov/>

<http://www.weather.gov/education.php>

**Attachment(s):**

**Materials & Equipment:**

- Computers for student research
- Posterboard and art supplies for posters

**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		