

CATASTROPHIC NATURAL EVENT: PLAN TO REDUCE IMPACT

Time: approximately 60-120 minutes for research and presentation creation; 15-20 minutes for directions and discussion; 30 minutes for presentations

Instructional Goals:

- The student will use the PebbleGo Next Science online database to research a natural event that impacts humans, such as blizzards, earthquakes, floods, hurricanes, droughts, tornadoes, tsunamis, and volcanic eruptions.
- The student will create a plan to reduce the impact of catastrophic natural events on humans.
- The student will present their background research and plan to the class.
- The student will work with a group to research and complete this assignment.

Materials/Resources:

- PebbleGo Next Science online database
- Catastrophic Natural Events Assignment and Research Organizer (one for each student or each group, as determined by teacher)
- Access to additional resources, either through a student-level search engine (such as Kiddle.com or Kidrex.org), or web sites such as these:
 - › National Hurricane Center - <http://www.nhc.noaa.gov/outreach/history/>
 - › NOAA Educator Resources - Hurricanes - http://www.education.noaa.gov/Weather_and_Atmosphere/Hurricanes.html
 - › NOAA Educator Resources - Tornadoes - http://www.education.noaa.gov/Weather_and_Atmosphere/Tornadoes.html
 - › NOAA Educator Resources - Tsunamis - http://www.education.noaa.gov/Ocean_and_Coasts/Tsunami.html
 - › USGS Earthquakes - <http://pubs.usgs.gov/gip/earthq1/>
 - › USGS Volcanoes - <http://volcanoes.usgs.gov/vhp/education.html>
 - › USGS Flood History - <http://water.usgs.gov/floods/history.html>

Procedures/Lesson Activities:

Focus

1. As a class, brainstorm natural events that have impacted humans in an adverse way. Discuss the various ways these events have damaged properties and affected people's lives.
2. Tell students they are going to work in groups to develop a plan for reducing the impact on humans during future natural events. They will present their findings and plans to the class.

Teach/Model

3. Assign students to a group and have each group choose the natural event they would like to focus on.
4. Explain that each group must first conduct background research on their natural event in order to create the best plan of action for reducing the impact on humans.

5. Give each student or group a copy of the Catastrophic Natural Events Assignment and Research Organizer. Review the assignment, guiding questions, and vocabulary on the organizer.
6. Lead students through a problem-solving process to plan their course of action, how they will divide the work among group members, and how they will present their findings.

Guided Practice

7. Show students the PebbleGo Next Science online database. Highlight the articles that will provide them with much of their background research information. (Note: Many of the PebbleGo Next Science articles mention famous historical events that students can research further using the list of websites listed under Materials in this lesson plan or by searching a student-level search engine. You may also want to help students brainstorm famous catastrophic events in history while remaining sensitive to your community's experiences.) Some famous events include:
 - › Hurricane Katrina (2005)
 - › Indian Ocean earthquake and tsunami (2004)
 - › Japan earthquake and tsunami (2011)
 - › Joplin, Missouri tornado (2011)
 - › Great Dust Bowl drought (1930's)
 - › Mount Vesuvius volcanic eruption (79 AD)
 - › Mount St. Helens volcanic eruption (1980)
 - › "Storm of the Century" blizzard (1993)
8. Demonstrate how students can use additional information sources to research the catastrophic example of their chosen natural event. One example:
 - › Go to NOAA Educator Resources- Hurricanes-(http://www.education.noaa.gov/Weather_and_Atmosphere/Hurricanes.html) and click on Hurricane Histories. Scroll down to Katrina (2005). As you skim through the article, point out some of the details about the damage, hurricane category, and other information useful for this project.

Independent Practice

9. Students work with their groups to research their natural events and complete the Catastrophic Natural Events Assignment and Research Organizer. Monitor for accuracy and success, as well as to clarify difficult geological or meteorological concepts.
10. Students use their research to develop a plan that will help reduce the impact on humans in the case of a future catastrophic natural event. (Plans may include building special structures, improving warning systems, or streamlining emergency response efforts.)
11. Students create a presentation that provides general background information on their chosen natural event, gives an example of such an event in history, and outlines their plan to reduce the impact on humans in the future.

Closure

12. Students share their presentations with the class.

Names: _____

Catastrophic Natural Events Assignment and Research Organizer

Questions:

- What threats do natural events pose for humans? Why do some events harm people and property, while similar events do not?
- What could be created or put into action to reduce the potentially catastrophic human impact of this type of natural event in the future?

Assignment:

Select one type of natural event to research. Study a historic catastrophic example of this natural event. Create a plan to reduce the impact on humans in future event occurrences. Present your findings and plan to the class.

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| <ul style="list-style-type: none">• Blizzards• Earthquakes• Floods• Hurricanes | <ul style="list-style-type: none">• Droughts• Tornadoes• Tsunamis• Volcanic Eruptions |
|---|--|

Natural Event General Information
Natural Event:
Causes:
How it is forecasted:
Rating and/or classifications:
Potential impact on humans:
Ways humans can protect themselves:
Location(s) these events typically happen:

Names: _____

Historic Catastrophic Example of this Natural Event

Common name (What do people call it when they talk about this specific event?):

Date:

Description of event:

Measurement:

Property damage caused:

Impact on human life:

Potential factors for catastrophic impact on human life:

Names: _____

Plan to Reduce Human Impact

Plan to reduce the potentially catastrophic human impact of this type of natural event in the future:

Resources needed to implement this plan:

Description of how this plan will reduce impact on humans:

Bibliography
