Hazard Cards

Global climate change will have impacts big and small on the weather and climate of every corner of the globe. This means hotter sea temperatures and smaller ice flows in the poles, but it also includes changing local weather patterns. Through this activity, students will explore the way climate change may impact the climate where they live and the create a pamphlet to inform others of weather hazards.

Grade Level	6th-8th Grade
Activity Length	2-3 Class periods in person or a week for at home learning
Materials	Photos Paper Computer

Disciplinary Core Ideas
(ESS2) Earth's Systems
(ESS3) Earth and Human Activity
(ETS1.A) Defining and Delimiting and Engineering Problem
(ETS1.B) Developing Possible Solutions

SEEd Standards:

Standard 6.4.4 Construct an argument supported by evidence that the stability of populations is affected by changes to an ecosystem.

Standard 8.4.3 Design a solution to monitor or mitigate the potential effects of the use of natural resources.

Standard 8.4.4 Analyze and interpret data on the factors that change global temperatures and their effects on regional climates.

Standard 8.4.5 Analyze and interpret patterns of the occurrence of natural hazards to forecast future catastrophic events, and investigate how data are used to develop technologies to mitigate their effects.

Hazard Cards

Global climate change will have impacts big and small on the weather and climate of every corner of the globe. This means hotter sea temperatures and smaller ice flows in the poles, but it also includes changing local weather patterns. Global climate change means that extreme weather hazards will likely increase in frequency, intensity, and impacts. For example, when the sea temperatures rise by a few degrees, this will increase the severity of coastal storms and hotter summers can place more stress on water supplies during drought. As these kinds of severe weather impacts become more common, it is important to begin educating yourself and your community about them and to think of ways to mitigate the damage they can cause.

Work together with your class to create hazard cards (example linked here or on last page). These hazard cards are pamphlets that will work to quickly inform others about a hazard, its impacts, and ways to mitigate the damage. When you are finished, you will share your cards with your class. When we share language around extreme weather, we increase the chances that our communities will be prepared to reduce the harm these events can have on our neighborhoods.

Activity Instructions:

1. Choose one weather hazard to research on your own or in small groups of 2-3 people. Make sure that you're choosing weather hazards, and not natural disasters. For example, you can choose something such as hurricanes, tornadoes, thunderstorms, lightning, winds, winter weather, storm runoff, flooding, heat waves, cold snaps, etc. You cannot choose something such as an earthquake, as those are not caused by atmospheric changes.

2. Every person/group in your class should work on a separate weather hazard. At the end of the assignment, students will be sharing their individual sheets.
    Students can choose their own weather hazard (localized flooding, wildfire, storms, etc.), or teachers can assign a hazard to each group.

3. Your group should research what the hazard is, what the impacts of the hazard are on humans and other living beings, and what is a solution to prevent the hazard or something that can help your community in the event that this hazard occurs.

4. Once your group finishes researching your hazard and the ways to prevent or mitigate the hazard, it is time to start designing your card. Start by writing the text for the card. It does not need to be perfect on the first draft.

    a. Hazard cards need to get to the point quickly and convey information in clear, easy-to-understand ways. Because of this, it is important to be brief in your descriptions while also giving a lot of information. While your hazard card can be designed however you like, it must include:

        i. Information about the hazard (1 paragraph of 3-5 sentences)
        ii. Information about the impacts (1 paragraph of 3-5 sentences)
        iii. To help prevent.../To help protect your community (1-3 sentences)

5. After you come up with a working draft of the text that you'll use for your hazard card, add images and stylize your cards to make it interesting to look at. Hazard cards should be bold, easy to read, and catch people's eyes.

6. Once your group finishes their assignment, either present it to your class or post it on a class website. This will allow you to create common language for students to discuss and share information about hazards and disasters.

WILDFIRE

A wildfire is an unwanted, uncontrolled, unplanned fire in an area with vegetation that can burn. They can be caused by human actions like: campfires, arson, cigarettes, unextinguished embers, gender-reveal parties, general accidents, etc. They can also be caused by lightning strikes in susceptible areas like forests, grasslands, or brush filled locations. Some areas in the world do naturally experience wildfires from time to time but the frequency and the intensity of wildfires around the globe are increasing as temperatures rise globally.

These wildfires have massive impacts on the areas they occur in. Local plant and animal populations are quickly killed by wildfires and it may take many years for these ecosystems to recover. These fires also can quickly displace people from their homes and their source of work/income along with the very real threat of killing people caught in or near wildfires. You may live far from anywhere that experiences wildfires but your community may still experience the atmospheric effects of wildfires due to inhaling smoke and particulate matter from these wildfires that can occur many states away. People of color, elderly people, children with uncontrolled asthma, and people living in poverty may experience more health effects because these populations already have higher rates of heart and lung conditions.

Overall, addressing the severity and frequency of wildfires starts by addressing climate change and working to mitigate its causes which can start at the individual and community level! Another step to mitigate wildfires is in having controlled burning/cutting of the plants that fuel these massive fires. Finally, when the inevitable happens, city and community efforts must be present to assist those in need due to wildfires: shelters for the displaced, proper masks for sensitive populations breathing in the air, and future mitigation efforts.