What is A NATURAL DISASTER?
-Do you remember these recent DMV area natural disasters?

1. Who did you interview?

2. Name of the Natural Disaster

3. When did it occur?

4. How did it impact the community?

5. How did the community recover from the disaster?
### What is a natural disaster?

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<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>C</td>
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<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
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**What are the children doing? For what reason(s)?**

Your Answer: 

Correct Answer: 

**What are they wearing? What are the children doing? For what reason(s)?**

Your Answer: 

Correct Answer: 

**What are these objects? What are they used for?**

Your Answer: 

Correct Answer:
How does a classroom in Japan respond to an earthquake?

Please select the correct actions (choose four) that a student in Japan take when an earthquake occurs during class and place them to an appropriate order.

a. Evacuate to the schoolyard by following teacher’s guidance after earthquake stops
b. Run back home immediately during tremors
c. Wear a disaster prevention hood to protect around your head and cover your nose and mouth with a towel to avoid breathing the harmful air caused at earthquake
d. Push your classmates away if necessary when you evacuate from the classroom
e. Keep talking with friends during an earthquake
f. Take shelter under a desk and hold the desk leg during tremors
g. Open doors and windows and provide an exit route

Correct Answer: f → g → c → a (f & g at the same time if possible)
### Task 1: Research Natural Disasters That Have Occurred in Japan

**Directions:**

1. Create Groups of 4
2. **Pick** an example of a recent historical natural disaster in Japan (e.g. Earthquake / Tsunami / Typhoon / Volcanic Eruption)
3. **Research** the **scientific mechanism** of the disaster - what do scientists know about the causes of that disaster?

   In your research, look at *primary* sources (scientists’ research articles) and secondary sources (news reports, educational websites, etc.).

<table>
<thead>
<tr>
<th>Member</th>
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<tbody>
<tr>
<td>Name and date of the disaster:</td>
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<tr>
<td>About the disaster – What was the impact of the disaster?</td>
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<tr>
<td>Scientific mechanism – How did the disaster occur? What caused the disaster?</td>
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</table>
Task 2: Research the Ways That Japan Prepares for Natural Disasters

Directions:
1. **Stay** with same group and disaster as selected in Task 1
2. **Research** how that type of natural disaster impacts people's lives (economy, society, etc.) in Japan. Consult quantitative and qualitative data.
3. **Draw** a conclusion about whether and how the selected type natural disaster is still a danger in Japan, and how Japan is preparing for the disaster.
4. **Create** an exhibit (display, chart, diagram, etc.) and share what you found from Task 1 & 2 with the class!

You can present with any style, such as a poster, infographics, multimedia (videos, podcasts, songs), etc. Be Creative!

<table>
<thead>
<tr>
<th>About the natural disaster</th>
<th>What was the impact(s) of this disaster on Japan?</th>
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<tbody>
<tr>
<td></td>
<td>What did Japanese society (communities, organizations, government, etc.) learn from the disaster?</td>
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<td></td>
<td>What is Japan doing now in preparation for similar natural disasters?</td>
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</tbody>
</table>

| How to present | |
|----------------|
Final Task: As A Scientist, How Can You Protect Vulnerable Populations?

Directions:
1. **Pair Up**

2. **Research** a natural disaster event (or the disaster from Task 1) and identify which population(s) was disproportionately affected in the disaster.
   - ✓ Who were highly vulnerable during the disaster?
   - ✓ Was the community able to evacuate safely or access resources in a timely manner? Why or why not?
   - ✓ What kind of challenges has the community experienced after the disaster? What kinds of resources were accessible, and what kinds were not?
   - ✓ Research the issues and collect data from a variety of information sources.

3. **Come up** with some ideas on types of technologies and/or scientific systems that would protect vulnerable communities. What kinds of technologies or systems would you create?

4. **Create** a display and share your ideas with the class!
   You can present with any style, such as a poster, infographics, multimedia (videos, podcasts, songs), etc. Be Creative!
| Member | | Name/Date of the Disaster |
|--------|-----------------------|

About the disaster – what was the impact of the disaster on society?

Were there any vulnerable communities affected by the disaster? If so, which one(s)?

What element(s) made the community(ies) listed above vulnerable during the disaster?

How would you develop technology and/or a scientific system to protect the vulnerable population?
Worksheet created by Aika Okishige,
Curriculum Developer at the East Asia National Resource Center
The George Washington University