ROLE PLAY: SIX AMERICAS, SIX VIEWS ON GLOBAL WARMING

EDUCATOR PAGE

GOALS AND STANDARDS

1. Articulate differences in public perceptions of climate change through the Six Americas framework.
2. Apply knowledge of differences in public perceptions of climate change to developing effective science communications.
3. Use evidence to support claims when constructing an argument.

NGSS Science and Engineering Practices: Analyzing and interpreting data; Engaging in argument from evidence; Obtaining, evaluating, and communicating information

NGSS Performance Expectations: MS-ESS3-5, MS-LS2-4, MS-LS2-5, HS-ETS1-2, HS-ETS1-3, HS-LS2-7

Common Core ELA Standards: RH.11-12.7, WHST.6-8.1, WHST.9-10.1, WHST.11-12.1

Common Core Math Standards: MP.2

LEVEL

11-12 grade or anyone looking to use data visualization and analysis, surveying, and writing skills in real world applications of climate change communication science.

BACKGROUND

Through national survey data, YPCCC has identified Global Warming's Six Americas: six unique audiences within the American public that each responds to climate change in their own distinct way.

- The **Alarmed** are fully convinced of the reality and seriousness of climate change and are already taking individual, consumer, or political action to address it.
- The **Concerned** are convinced that global warming is happening and is a serious problem, but have not yet engaged the issue personally.
- Three other Americas – the **Cautious** , the **Disengaged** , and the **Doubtful** – represent different stages of understanding and acceptance of the problem, and none are actively involved.
- The final America – the **Dismissive** are very sure it is not happening and oppose any efforts to reduce greenhouse gas emissions.

In addition to identifying the Six Americas, YPCCC has created a 4-question multiple choice survey that will tell you which of the Six Americas you are in. This survey is called the Six Americas Super Short SurveY (SASSY).

ACTIVITY DESCRIPTION (60-90 MINS)

This activity asks students to write a script for a discussion about a climate change-related scenario. Each character will represent one of the Six Americas.

You may choose one of the scenarios provided following the Tips for Success (complete with vocabulary and description of roles) or create a scenario of your own. The first scenario asks students to put themselves in the shoes of a county that has to decide on a proposed coastal zoning law. The second scenario is about a student council that has to decide whether to build a rain garden on an athletic field. The third scenario also takes place in a school setting, where the student council has to take a position on a school sustainability plan proposal.

This activity is as much a social-emotional learning opportunity as it is a climate change learning opportunity: by role playing the Six Americas, students will explore climate change beliefs that are different from their own and think critically about how to effectively communicate with those who possess those beliefs. Students will be able to practice using evidence and reasoning to support their claims as a part of this communication exercise.

TIPS FOR SUCCESS

- Make sure students understand the scenario's vocabulary before starting the activity.
- Consider assigning students to their groups and roles in advance.
- While you may choose to use one of the scenarios we have provided, you are encouraged to develop your own scenario that is relevant to your students' location and the themes you are studying as a class.
- For more information on the Six Americas, check out our Six Americas page where you can find readings, charts and graphs, and the 4-question multiple choice Six Americas quiz that students can take to find out which of the Six Americas they are. You and your students can also take a look at our Meet the Six Americas text, which summarizes the Six Americas well, too.
- Either before or after the activity, have students play Cranky Uncle, a game that improves resilience and critical thinking around misinformation. Check out The Teachers' Guide to Cranky Uncle for more information.
- The instructions for this activity have students in groups of 6 where each student is one of the Six Americas. Alternatively, each group as a whole can represent one of the Six Americas (i.e. Group 1 is Alarmed, Group 2 is Concerned, etc.). Groups can prepare statements to present for the rest of the class and the groups can engage in a full class debate about the scenario.

SCENARIOS

SCENARIO 1

Your county, Dune County, is about to vote on a proposed law. The law would ban all construction in Dune County's coastal areas. Salt marshes, mangrove swamps, and sand dunes in coastal areas protect against erosion and storm surge. We need this protection now more than ever because of sea level rise and increased storms caused by climate change. Passing the law would help citizens by reducing costly flooding. However, real estate developers, builders, and other workers would lose out on money and jobs if construction is banned. Additionally, some citizens are not convinced that climate change is causing increased storms and flooding. These citizens do not think this law is necessary. There is a town hall happening tonight where citizens will have a chance to discuss their opinions of the law before the vote.

SCENARIO 1 VOCABULARY

- **EROSION:**

When wind and water wear away rock, sand, and dirt over time. When erosion happens, habitats are destroyed. Erosion also leads to flooding for people living near bodies of water, such as oceans or rivers.

> **How erosion is related to climate change:** Climate change makes erosion happen more quickly. This is because climate change causes sea level rise and stronger storms.
>
> **What erosion looks like:** "As Severe Erosion Takes its Toll, Summer Closure Planned for Wasque Point," an article from the Vineyard Gazette includes a great series of photos of coastal erosion on Martha's Vineyard. ArcGIS shows images of the Top 12 Major Coastal Erosion in the United States.
>
> **What can slow erosion:** Vegetation like grasses, trees, and shrubs can slow erosion. Plant roots "grab onto" soil and sand and also absorb water. These factors make it harder for water (i.e. rain, storm surge, rising sea levels) to wash away soil and sand. The article "How do Beach Grasses Prevent Erosion" from the San Francisco Gate and Massachusetts' Climate Action Tool explain more about how plants can slow erosion.

- **STORM SURGE:**

The rise in seawater levels caused by a storm. Storm surge is caused by storm winds pushing water onshore (NOAA). Storm surge can cause great harm to people and natural habitats.

> **How storm surge is related to climate change:** Climate change makes storms stronger and more frequent. This worsens storm surge. Rising sea levels, due to climate change, also makes storm surge more severe.
>
> **What storm surge looks like:** Check out footage from NOAA to see just how powerful storm surge can be at https://oceantoday.noaa.gov/hurricanestormsurge/.

SCENARIO 1 ROLES

- **Alarmed:** Alarmed is very worried about climate change and how it will impact them and their children. Alarmed loves to hike in their spare time, and participates in climate change marches.
- **Concerned:** Concerned is also worried about climate change and understands that scientists agree that it is happening. Concerned is more worried about how climate change will impact their children and grandchildren in the future. They participate in charity organizations like the local food bank and try to take public transportation as much as possible.
- **Cautious:** Cautious is not sure whether climate change is real or human-caused. If it is indeed happening, Cautious thinks that it won't affect people for a long time. Cautious likes to hang out in outdoor areas (i.e. beaches, parks) with their friends.
- **Disengaged:** Disengaged does not know much at all about climate change. Therefore, they do not have an opinion about whether or not it is happening. Disengaged does not think climate change is so relevant to them and prefers to spend time participating in church and community functions.
- **Doubtful:** Doubtful is pretty sure that climate change is not happening and is very sure that they should not have to pay taxes on gas. Just because they have a decent income does not mean that they should have to pay more to drive their SUV to their veteran's group!
- **Dismissive:** Dismissive is convinced that climate change is neither real nor human caused. They frequently call their government representatives to express their displeasure at policies that reduce greenhouse gas emissions.

SCENARIO 2

Your school has been experiencing more flooding in recent years because of climate change, which causes increased storm frequency and storm intensity. This more frequent flooding is incredibly disruptive to the school: every time there is flooding, the school has to shut down until it is safe to go back, and the damages (mold, electrical problems, ruined floors and furniture, etc.) caused by the flooding are extremely costly. In response to increased flooding events, your school wants to build a rain garden. A rain garden would reduce flooding by absorbing the rain water runoff from storms. It has been determined that the best place for the rain garden would encroach on one of the school's athletic fields. Building the rain garden would also take funding away from the school's long-anticipated auditorium renovation; the renovation would be delayed for 1-2 years. Your school has asked the student council to take a position on the rain garden proposal before putting it to a vote with the school board.

SCENARIO 2 VOCABULARY

- **RAIN GARDEN:**

A rain garden is a special type of garden that is designed to temporarily absorb rain water from a roof, street, or other surface that cannot absorb rain water. Typically, a rain garden is made of native plants, layers of soil that are designed to increase water infiltration (the amount of water that can be absorbed!), and a stone bottom. The Alliance for the Chesapeake Bay's webpage on rain gardens provides more information about rain gardens, as well as diagrams, photos, and videos to help you see how to build one!

> **How rain gardens are related to climate change:** Two consequences of climate change are increased storm frequency and storm intensity. With more precipitation falling more frequently, we are more likely to experience flooding. Rain gardens can help reduce flooding by absorbing massive amounts of water that could otherwise flood our streets, homes, schools, and workplaces.

- **RUNOFF:**

Water from precipitation (i.e. rain, snow) that flows across the surface of the land when the land cannot absorb the water. When there is a big storm, for example, the rain water will be able to infiltrate into the soil at first, but eventually, the soil will not be able to absorb any more water; this water will become runoff. Runoff also occurs when water lands on surfaces like rooftops, streets, sidewalks, and parking lots, which cannot absorb any water.

> **How runoff is related to climate change:** Climate change causes an increase in storm frequency and storm intensity. When storms occur more often and more intensely, runoff increases because there is so much more water landing on the Earth's surface. With more water running off land surfaces, we become more likely to experience flooding and water pollution. Visit the EPA's Sources and Solutions: Stormwater page for more information about runoff, what it looks like, and what we can do to reduce it.

SCENARIO 2 ROLES

- **Alarmed:** Alarmed is very worried about climate change and how it will impact them and their family. Alarmed is a member of their school's Environmental Club, loves to hike in their spare time, and participates in climate change marches.

- **Concerned:** Concerned is also worried about climate change and understands that scientists agree that it is happening. Concerned is more worried about how climate change will impact people in the future. They volunteer at the local food bank and try to take public transportation or carpool with friends as much as possible.

- **Cautious:** Cautious is not sure whether climate change is real or human-caused. If it is indeed happening, Cautious thinks that it won't affect people for a long time. Cautious is on the school's soccer team and likes to hang out in outdoor areas (i.e. beaches, parks) with their friends.

- **Disengaged:** Disengaged does not know much at all about climate change. Therefore, they do not have an opinion about whether or not it is happening. Disengaged does not think climate change is so relevant to them and prefers to spend time hanging out with friends or working at their after school job at Target.

- **Doubtful:** Doubtful is pretty sure that climate change is not happening and is very sure that their parents should not have to pay taxes on gas. Just because their parents have a decent income does not mean that they should have to pay more to drive their SUV to their rehearsals for the school play!

- **Dismissive:** Dismissive is convinced that climate change is neither real nor human caused. They like school, are involved with their church's youth group, and frequently call their government representatives to express their displeasure at policies that reduce greenhouse gas emissions.

SCENARIO 3

Your school is considering adopting a sustainability plan, which includes incorporating climate change curriculum into science classes, starting a compost program, and replacing school buses with a fleet of electric buses. The goal of the program is to reduce the school's carbon footprint and to empower students to be active, responsible, environmentally-friendly citizens. You are a part of the student council. Before your school makes a final decision to adopt the sustainability plan proposal, the council has been asked to provide an opinion: Does the council support the new sustainability proposal or not?

SCENARIO 3 VOCABULARY

- **CARBON FOOTPRINT:**

A carbon footprint is the total amount of carbon dioxide and other greenhouse gases emitted by the actions of a person, group, event, or industry.

> **How carbon footprint is related to climate change:** The greater your carbon footprint, the more greenhouse gases are released into the atmosphere. Once in the atmosphere, greenhouse gases act like a blanket, trapping in heat, which causes global temperatures to rise and climate to change. Understanding your carbon footprint can help you figure out ways to reduce your greenhouse gas emissions, thereby minimizing your contribution to climate change. You can figure out what your carbon footprint is by using free carbon footprint calculators, like ones from Conservation International or The Nature Conservancy.

SCENARIO 3 ROLES

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