Performance Task Organizer

Unit 4 Climate Change	Earth and Space Science
Student Name:	

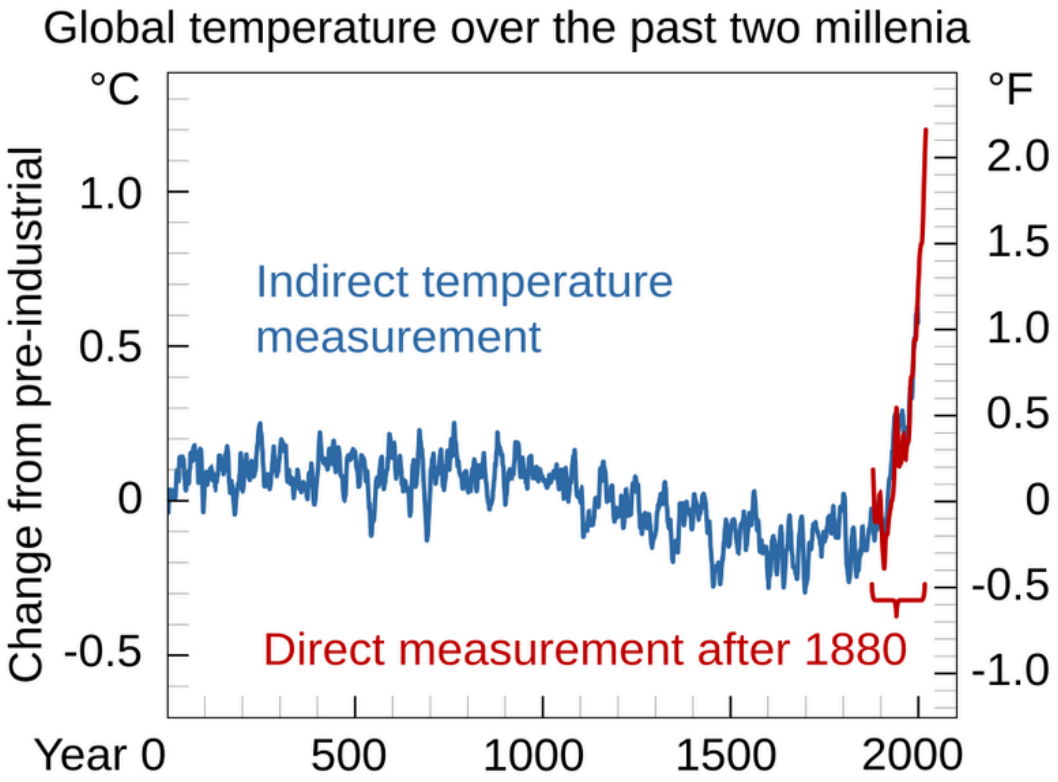
Tell the Story

The Effects of Climate Change and its Perceptions

Directions:

1. Silently read or watch the “text” provided to you.
2. Record or annotate three details that are most important to the phenomenon being described for each text.
3. Share with your group. Each person should identify the details that they circled.
4. Discuss as a group, and determine the overall story. What is the phenomenon?

Text #1: Arctic (above 65° north) Summer Temperature Over Last 2000 Years



- The y-axis is difference **compared** to the average Arctic Temperature over the last 2000 years
- The blue line shows estimates of Arctic temperatures over the last 2,000 years, based on records from lake sediments, ice cores and tree rings
- The red line shows the recent warming based on actual observations

Important Details

1.

2.

3.

Text #2: Climate-Related Human Displacement in 2023

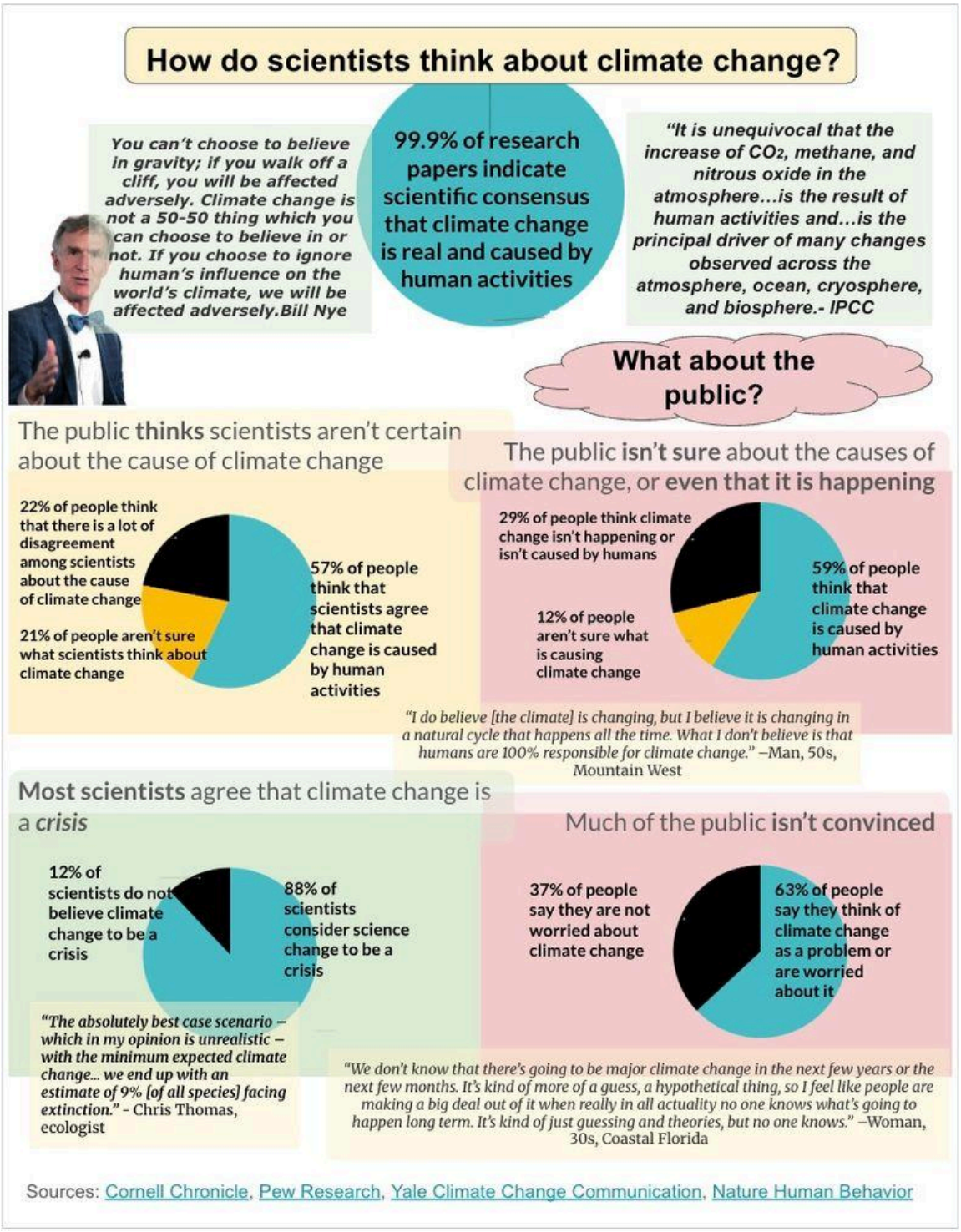
Important Details

1.

2.

3.

Text #3: Scientist vs. Public Opinions of Climate Change



Important Details

4. _____

5. _____

6.

Important details our group surfaced (provide at least 5):

1.

2.

3.

4.

5.

Overall Story of the Phenomenon (based on group discussion):

Use details from above to tell the story of the phenomenon.

Performance Task Introduction

Educating your Community about the Predicted Impacts of Climate Change on Human Populations

Climate change, a scientifically proven phenomenon with dire consequences, faces significant public skepticism despite overwhelming consensus among experts. Research reveals that 99.9% of climate scientists attribute global warming to human activities. However, in the United States, skepticism persists, with over 40% of citizens doubting human involvement and one-third unconcerned about its repercussions.

While global efforts intensify, political leaders are not taking enough action to adequately address the challenge. Urgent public demand is crucial to motivating leaders into meaningful climate policies. This will require educating individuals to grasp why experts overwhelmingly blame human actions, specifically greenhouse gas emissions, for climate shifts, and what negative effects will likely result from these shifts.

Your task in this unit is to communicate the validity of the scientific consensus around the cause and importance of climate change. To do so, you will:

1. Analyze and interpret data to confirm scientists' understanding of human activities as the cause of climate change in this moment in time
2. Analyze and interpret data to determine future impacts of climate change
3. Explain how these impacts are expected to affect human populations

Initial Model

What factors are contributing to climate change, and how is that resulting in human displacement?

Your first step in this investigation is to work with classmates to develop an initial model that illustrates how different climate factors and how those factors impact average global temperatures.

Initial Climate Change Models

Directions

1. Review all the climate factor ideas the class surfaced during the Rumors routine.
2. In your group, identify the most likely causes of present climate change on Earth.
3. Consider how those factors and resulting climate change could result in the climate displacements we observed
4. Represent all your ideas in the form of a model.

Revisiting the Performance Task: Earth-Sun Dynamics 5E

Disproving climate skeptics

Using the data about historical temperature changes over time, the changes in orbital factors over the past 9,000 years, the solar cycles, and the effect of solar factors on energy entering Earth's systems, make and support a valid claim about the role of orbital factors and solar cycles on the melting of ice caps today.

Revisiting the Performance Task: Climate Feedbacks 5E

Disproving Climate Skeptics

Using the data about carbon dioxide levels and temperature changes, the roles of carbon dioxide and ice caps in climate change, and the feedback mechanisms between parts of Earth's systems, make and support a valid claim about the role of carbon dioxide and human activities on the warming of the planet today.

Revisiting the Performance Task: The Past and the Future 5E

Disproving Climate Skeptics

Using the data about projected temperature changes, other projected climate changes, and information about their role in shaping human lives, make and support a claim about how human populations will likely be impacted by climate related hazards in the near future.

Final Performance Task

Share with the community

For this final task, communicate to someone in your community who is skeptical about climate change. In a letter, public service announcement, pamphlet, or other format:

1. Explain how the data demonstrates human causes of climate change
2. Describe the ongoing and future impacts on the planet of climate change
3. Explain how these changes are likely to affect people in your community

Use the space below to craft your communication. If you are using a written format, you can write it below. If you are using something with video/audio elements, write the script below.