

SCIENCE·3D

GILA MONSTER

In this packet, sample student answers are provided in **red** and notes to teacher are in **blue**.

This **Mission Research**, students will create posters that explore the greenhouse effect, how humans can cause the climate to change, and the effects of climate change.

This is a student driven activity that will help them learn about climate change. They should use online resources to help them conduct the activities below. Several good websites include:

- <https://climate.nasa.gov> <https://www.c2es.org/content/climate-basics-for-kids/>
- <https://www.nationalgeographic.com/environment/global-warming/global-warming-overview/>
- <https://www.ncei.noaa.gov/news/weather-vs-climate>



Before we study Gila monsters, we need to better understand the changes that are occurring in their environments. Some of these changes happen quickly. For example, periods of bad weather or human development can rapidly change their habitat. Other changes occur over much longer periods of time. In this activity, you are going to explore climate change and the role humans play in it.

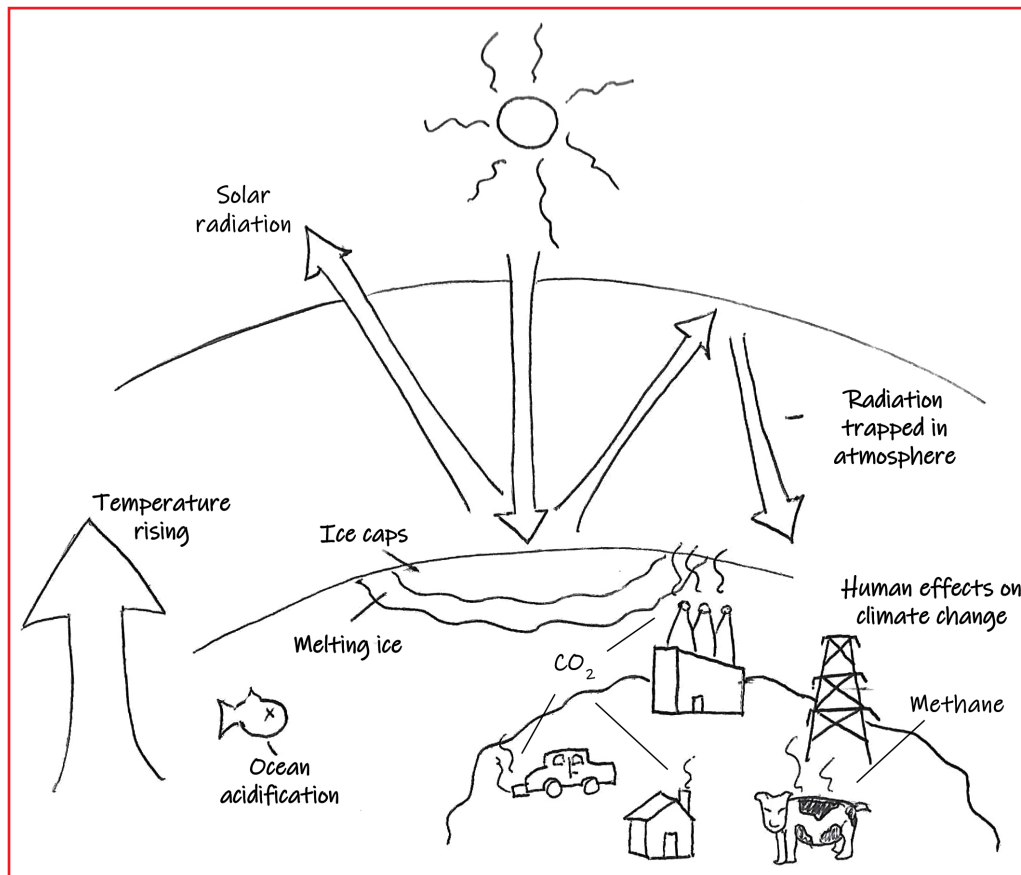
ACTIVITY I: HUMAN IMPACTS ON THE DESERT

Begin the activity with a classroom discussion of the difference between weather and climate. Have students volunteer conditions that describe weather or climate. Another option is to give the students the following conditions and have them vote on whether they are a part of the weather or the climate.

The temperature today	Weather
Monthly average temperature	Climate
Monthly average rainfall	Climate
Is it foggy?	Weather
It's snowing!	Weather
How windy is it?	Weather
Chance of rain	Weather
Seasonal pattern of temperature	Climate
Humidity	Weather
Seasonal pattern of rainfall	Climate

By the conclusion of the discussion, students should understand that weather is the conditions that occur over periods of minutes to weeks. Climate is the average conditions that occur over years. Some people say, "Climate is what you expect and weather is what you get."

1. **Create** a poster or presentation that shows:
 - A. at least three of the major greenhouse gasses. [carbon dioxide, water, methane, ozone, NO₂]
 - B. how greenhouse gasses affect the temperature on Earth. [it causes the temperature to rise]
 - C. how humans affect the amount of greenhouse gasses in the atmosphere. [we produce more gas through industrialization]
 - D. the effects of climate change. [major possibilities include: temperature increases, melting ice, sea level rise, ocean acidification, changes in precipitation patterns]



2. Present your poster or presentation to the class.