What has been the hottest year since the beginning of the 2000s?   
a. 2018   
b. 2006  
c. 2012  
d. 2016  
e. 2021

What percentage of CH₄ emissions over the last 275 years have been from human activity?   
a. 100%  
b. 70%   
c. 55%   
d. 84%

What is the term for long term climate change cycles?

Define permafrost and the effect it has on climate change if melted.

What is the world’s largest island?  
A. Hawaii  
B. Greenland  
C. Antarctica  
D. Maldives

What is the explanation for “The Blob?”  
A. The water is naturally cooler there  
B. The sun doesn’t get direct access there  
C. Ice from the arctic drifts down to the Greenland area  
D. “The Blob” is just built different

What is the difference between weather and climate?

What are some solutions to the problem of CO2 and methane?

Nitrogen dioxide take \_ years to degrade  
a. 114   
b. 10   
c. 200  
d. 500

If Greenland melts completely, the sea level will rise \_ meter(s)  
a. 1  
b. 6  
c. 60  
d. 10

How does climate change effect biodiversity?

What are some solutions to control and prevent greenhouse gas emissions?

How do we know that global warming is not natural?

What are possible effects of global warming?

1. Global climate change will cause:  
a. Warmer oceans  
b. Sea level rise  
c. Warmer atmosphere  
d. All of the above

2. Are weather and climate the same thing?  
a. Yes- they both refer to short term  
b. Yes- they both refer to long term  
c. No- they are like apples and oranges  
d. No- weather is short term and climate is long term

1. Give a working definition of climate change.

1. Explain why the melting of snow and ice is a positive feedback loop. Draw a diagram if necessary.

What is not one characteristic of weather?  
a. average conditions in a particular area over a long period of time  
b. Short term changes  
c. wind  
d. Short term changes

True or false: dealing with climate change would be cheap.  
a. True   
b. False

Why would severe droughts become more common due to climate change? Name 2 ways.

Name and explain 4 ways we can control and prevent greenhouse gas emissions.

1. What is the minimum sea levels will rise (m) by 2100?  
a. .25  
b. .5  
c. .75  
d. 1.5

2. Climate change isn’t new but it’s \_\_\_\_\_\_\_.  
a. worse  
b. changed  
c. increased   
d. accelerated

3. What happens when there’s less ozone in the stratosphere?

4. Why is the Earth’s climate changing?

1. Why are Sea Levels Rising?  
a. Thermal expansion   
b. Too much marine life  
c. Melting glaciers   
d. Land mass expansion   
e. Both: a and c  
f. All of above

2. True or False: climate is the same thing as weather.   
A. True  
B. False

3. How should you respond to someone that says “I don't believe in climate change” ?

4. Does Ozone Effect Climate Change? Explain your answer

What is the #1 record year for the highest temperature globally?  
1. 2018  
2. 2005  
3. 2016  
4. 2020

What is Nitrous Oxides atmospheric warming potential?  
1. 25x  
2. 100x  
3. 1x  
4. 300x

Why does snow in cities melt faster?

Give three reasons why the glaciers melting is detrimental for the environment.

# What are some potential risks and benefits, and hurdles of switching PET plastic products to biodegradable PHA?

# Explain how melting ice and global warming is a positive feedback loop

1. What US state is most likely to suffer the most from rising sea levels?  
a. Ohio  
b. Michigan  
c. Florida  
d. Texas

2. How many meters would sea level rise with the melting of Greenland?  
a. 2  
b. 4  
c. 6  
d. 8

3. What risks does the permafrost melting pose?

4. Is Global Warming natural?

1. What is the “tipping point” of carbon in the atmosphere  
a. 450 ppm  
b. 250 ppm  
c. 400 ppm  
d. 300 ppm

2. If Greenland melted how much would the sea levels rise  
a. 15 m  
b. 60 m  
c. 3 m  
d. 6 m  
e. 10 m

3. What are greenhouse gases and how do they effect the climate?

4. Explain the U.S and China have to take the lead on solving Anthropocene warming.

1). How do we measure CO2 content for much of global average data?  
a). CO2 in air bubbles in arctic ice cores  
b). CO2 molecules in the ocean  
c). CO2 levels in old-growth forests biomatter  
d). all of the above  
e). none of the above

2). How do we measure temperature for much of global average data?  
a). Hydrogen and Oxygen isotopic ratios  
b). UV radiation volume measurements  
c). Density of ozone molecules  
d). all of the above  
e). none of the above

3). The long-term climate change patterns based on the earth’s orbit and axial   
tilt/precession are called \_\_\_\_?

4). What are some of the main (conspiracy) arguments against climate changes’   
validity and what is the reality of the matter?

Which one of these is the most potent greenhouse gas?  
a. Methane  
b. Carbon Dioxide  
c. Nitrous Oxide  
d. Sulfur

When is considered the “tipping point” for greenhouse gas-related climate change?  
a. When there’s not enough oxygen to breathe  
b. When CO2 reaches 450 parts per million in the atmosphere  
c. When all of Greenland melts  
d. When the ocean is too acidic for coral

Short Answer: What is a Milankovitch Cycle and how is it not the cause of our current climate   
troubles?

Essay: describe, in detail, exactly what global warming is doing to our planet right now.

1. Weather and Climate are not the same. Weather is \_\_\_\_\_\_ and Climate is \_\_\_\_\_\_.  
a. Long term, Short term  
b. Short term, Long term  
c. Local, Global  
d. Global, Local

2. What molecule is very prevalent in Permafrost? If it melts, the molecule will release into   
atmosphere and heat up the planet even more.  
a. Carbon Dioxide  
b. Nitrous Oxide  
c. Methane  
d. Chlorine Gas

1. What are the two main reasons for Sea Level Rise?

1. Explain some of the lasting effects of Sea Level Rise. What areas of the globe will end up underwater? How would weather events change?

How many meters of ocean level change would occur if all of Greenland’s glaciers melted?  
a) 6m  
b) 4m  
c) 12m  
d) 2m

What is a less common explanation for ocean level rising?  
a) Thermal expansion  
b) Increase in sea turtle population  
c) Decrease in human water consumption  
d) Dense plastics sinking to ocean floor

What are some examples of natural climate change?

What is the most detrimental effect of climate change in your opinion?

1) What is a milankovitch cycle?  
a) It is another name for an ice age  
b) It is a cycle that involves the Earth’s orbit around the sun and the tilt of the Earth   
that influences climate change  
c) It involves the cycle of how water drops from the sky via precipitation and returns   
back to the sky via evaporation  
d) It influences how the Earth’s magnetic field changes every 10,000 years

2) Which greenhouse gas pollutant is the biggest concern creating the largest changes in   
climate change?  
a) Methane  
b) Carbon dioxide  
c) CFCs  
d) Nitric Oxide

1) What is the difference between simple weather variances and climate change?

1) While the Earth naturally has a certain level of climate change, is the climate change within the last 100 years unprecedented? Why or why not?

What was the hottest global year?

Which places will be negatively impacted by rising sea levels?  
a. Florida   
b. China  
c. Bangladesh  
d. All of the Above

What is NOT a result of climate change?  
a. Rising sea levels  
b. Disruptions in ocean circulation  
c. Increase use of single-use plastic  
d. Increased variable weather

Give at least one example of the negative impacts of rising sea levels and relate that to how that would impact you, or the US.