Climate on Tap

Facilitator: Laura Tucker

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- Finnriver Farm & Cidery
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- Local 2020
What Have You Heard About Climate Change?

Write down what you’ve heard about climate change from any source:
• television/movies
• the internet
• social media
• books
• magazines/newspapers
• something someone told you

You don’t need to agree with what you’ve heard.
Thought Swap

1) Each person will read their list to their table group

2) No one is allowed to interrupt the speaker or comment on the information shared

3) You may add what someone else says to your list

4) After all members have had a turn, you can ask questions and discuss what was said
What We Want to Know About Climate Change

• Use your notes to create questions to put on sentence strips

• Post your questions on the wall as you write them

• Monitor the wall to make sure you don’t write a duplicate question
A little science to get us started ...
Our Atmosphere
Gases in the Earth’s atmosphere by percentages:

Nitrogen – 78%  
Oxygen – 21%  
Argon – less than 1%  
Carbon dioxide

plus Greenhouse Gases:

CO₂ - 0.040%
Methane – 0.00017%
N₂O – 0.00003%

Water vapor (4% of the atmosphere) can also be considered a Greenhouse Gas, but is not always included in statistical data.
Over the past 4 billion years, the greenhouse gases such as CO$_2$, water vapor and methane have stabilized to trap enough heat so our planet is not too hot ... not too cold ... but ‘just right’!
History of Atmospheric CO2 Levels

Atmospheric CO₂ (ppm)

GLOBALVIEW–CO₂ (1979–2014); http://www.esrl.noaa.gov/gmd/ccgg/globalview/

Contact: andy.jacobson@noaa.gov
Global Warming, 1884 – 2011

Difference from 1951 – 1980 Average

- 2°C  0  + 2°C

Source: NASA Goddard Space Flight Center
Scientific Visualization Studio
Summer Temperatures Have Shifted
1951 – 1980

The “extreme” temperature events used to cover 0.1% of the Earth. Now they cover 14.5%.

What We Want to Know About Climate Change

• Add any additional questions on sentence strips
• Post your questions on the wall as you write them
• Monitor the wall to make sure you don’t write a duplicate question
Graph #1: Atmospheric CO$_2$ Levels Measured at Mauna Loa Observatory, Hawaii
Graph #2: Atmospheric CO₂ Levels Measured in Greenland and Antarctica
Statement #1:
The data in this graph indicates that our planet is warming and is cause for concern.

Statement #2:
The data in this graph indicates that human activity is causing global warming.

Statement #3:
I need more evidence to determine the cause of global warming.
Scientific Discourse Circle

1) For each statement on the data sheet, one person says if they agree or disagree with the statement and provides their evidence for their claim.

2) No one may make any comments while another person is speaking.

3) The next person takes their turn, either agreeing or disagreeing with what the previous person just said, and then offering their evidence for their claim.

4) After all group members have had a chance to speak, try to come to an agreement on the correct answer.
Explaining Misconceptions About Climate Change

• It has been warmer before, so no need to worry
• Increased solar activity is causing Earth to warm
• The Arctic is gaining ice.
• It has not warmed since 1998
• Increasing CO2 has little or no effect on climate
• Scientists don’t agree that humans are causing the Earth to get warmer
Explaining Misconceptions About Climate Change

1) Select your favorite misconception

2) Use Handout 4.5 *Lines of Evidence* to evaluate

3) Record the following information on Handout 4.6:
   - List the misconception.
   - Identify scientific reasoning that dispels it.
   - Find an explanation of why someone might accept the misconception.
Explaining Misconceptions About Climate Change

Did the evidence change your thinking on any of the misconceptions?

Which misconception was the easiest to dispel? Why?

Which misconception was the most difficult to dispel? Why?
Challenge:

Can you find evidence that global warming is not directly related to the consumption of fossil fuels by humans?
Climate on Tap

Thank you for coming!

Questions?

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