


Examining Misconceptions of Climate Change Using Formative Assessment

A large, realistic-looking globe of the Earth is the central focus of the image. It shows the continents of North and South America in green and yellow, surrounded by blue oceans. The globe is positioned slightly to the right of the center. The background is a light blue sky and a flat, sandy ground. The text is overlaid on the globe and the background.

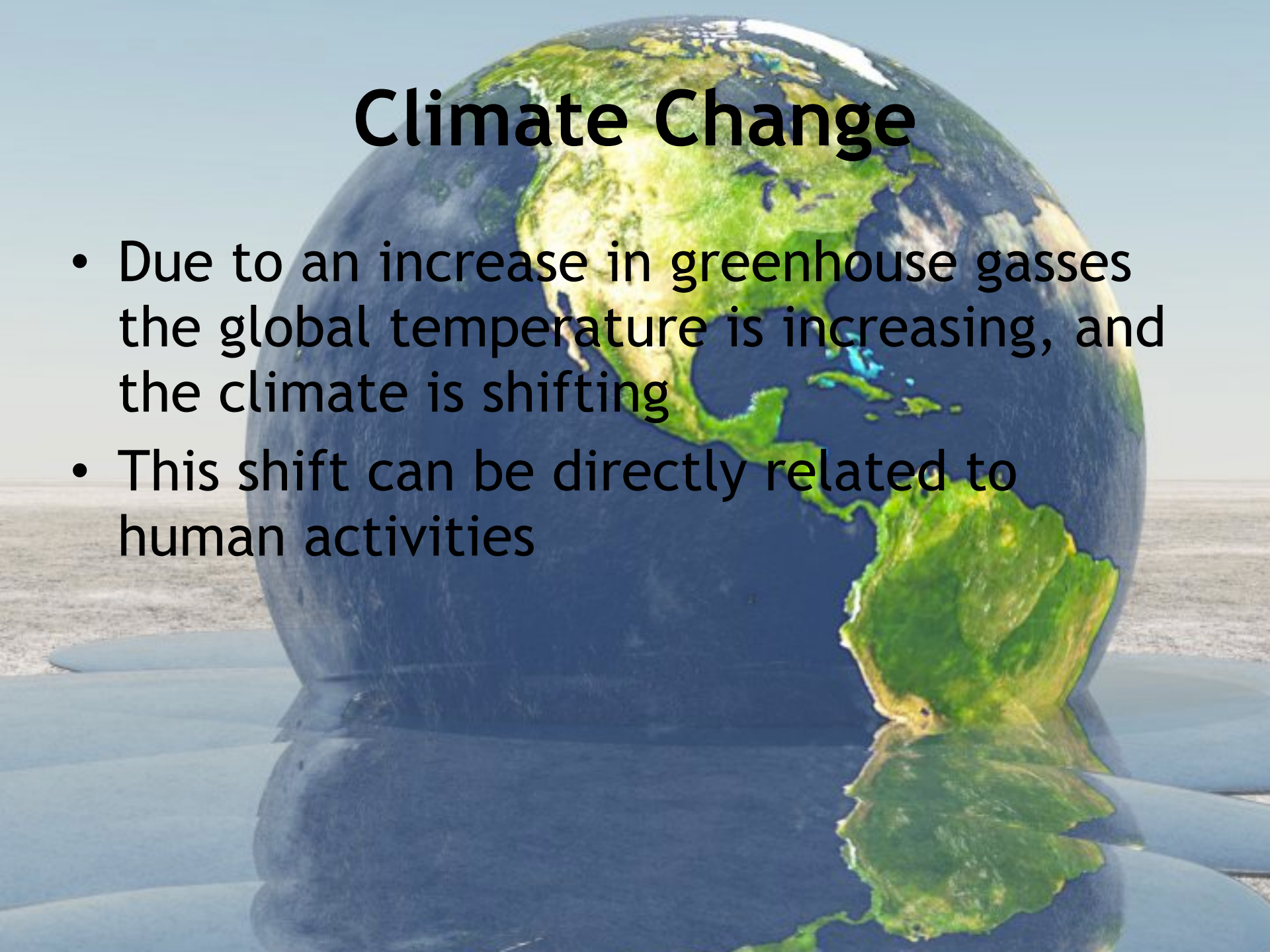
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Climate Change

- Due to an increase in greenhouse gasses the global temperature is increasing, and the climate is shifting
- This shift can be directly related to human activities



Climate Change Misconceptions

- It is a natural cycle
- Humans are not contributing to it
- ‘It cant be global warming it was freezing this winter!’



My Formative Assessment

- Students were given the following questions 3 times; and also asked to have a friend or family member answer them
 - What is global climate change
 - Is it the same thing as global warming? Why or why not?
 - What is the cause of climate change?
 - What can we do to help address climate change?

Assessment #1

- **Positives**

- Students had ideas as to how to address the problem
- Students had a rough idea of what climate change was
- Students agreed that climate change exists

- **Negatives**

- Students' ideas for change are too large or too broad
- Lots of confusion on the cause
- Lots of confusion thinking climate change and global warming are the same

Assessment #2

A large, realistic-looking globe of the Earth is the central background element. It shows the continents of North and South America in green and yellow, surrounded by blue oceans. The globe is positioned slightly to the right of the center. Below the globe, there is a dark, reflective surface that mirrors the bottom half of the globe, creating a symmetrical effect. The background behind the globe is a clear, light blue sky.

- **Positives**

- 100% students showing a difference between climate change and global warming
- More specific answers

- **Negatives**

- Climate change not due to humans
- Still incomplete or less than perfect answers in the 'what could be done' section

Assessment # 3

- **Positives**

- 100% responses indicating a difference between climate change and global warming
- Most know how they are different
- Identification of greenhouse gases
- More specific ways to help

- **Negatives**

- Some students still confused on why global climate change and global warming are different
- Some students have difficulty accepting how much of it is human's responsibility still

Reflections on my Practice

- Value of formative assessment REAFFIRMED
- That you can't always predict students' misconceptions
- The importance of reading and evaluating formative assessments
- There is a HUGE benefit in asking a friend/family member to answer questions about the class; forcing students to discuss what they learn outside of class

Learning

A large, realistic-looking globe of the Earth is the central focus. It shows the continents of North and South America in green and yellow, surrounded by blue oceans. The globe is positioned on a dark, reflective surface that mirrors its image. The background is a clear blue sky with a hint of a horizon line.

- I loved to be able to reflect as I went; changing my daily instruction based off their misconceptions
- Its important to remember however long you've been teaching or however many degrees you have you can always learn!