

# Global Warming and Climate Change



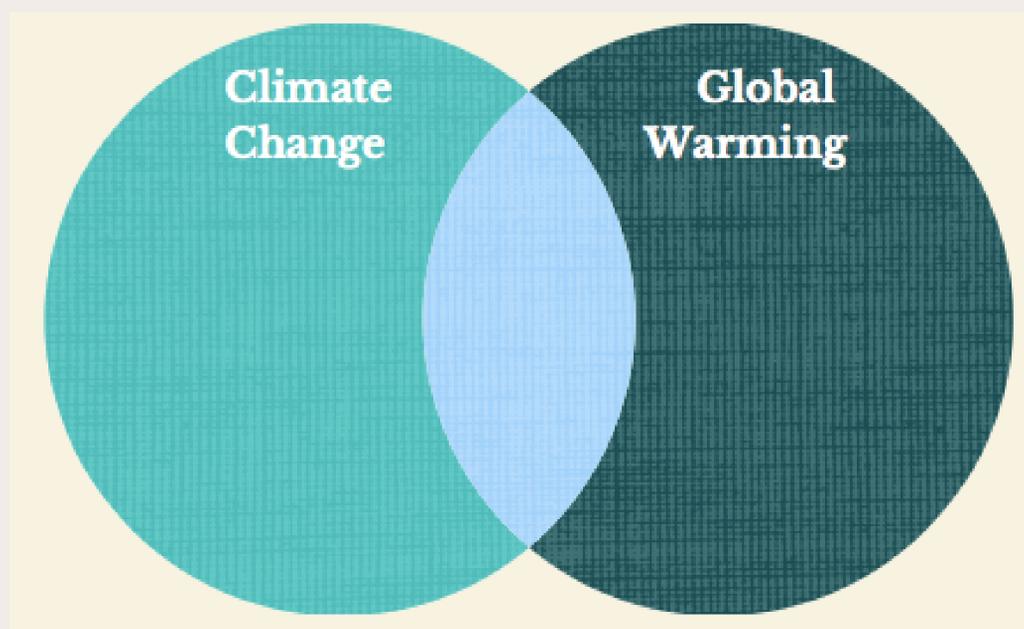
## Materials

- Venn diagram (or piece of paper)
- Attached planning worksheet

## Procedure

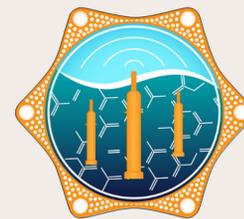
### Part 1

1. After students have learned about both climate change and global warming, have them complete a Venn diagram (individually, in pairs, or in groups) comparing and contrasting both of these topics.
2. Upon completion of the Venn diagrams, have each student or group share one idea that they put on their diagram with the whole class.
3. Class discussion about how both climate change and global warming are affecting the ocean specifically.
4. Is the ocean changing? How? Why?
  - a. Increase in ocean temperature, changing currents, rising sea level, etc.



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## Part 2

1. Students can work individually or in a small group to develop a plan for helping to improve ocean health in their daily lives.
2. Essential question: What changes can I make in my home and/or work life and how will these changes help protect ocean health?
3. Students will fill out the attached worksheet and prepare to present their ideas to the whole class.
4. If students are struggling, challenge them to think about some ways that they may already be helping the issue (reusable water bottles, composting, etc.)
5. Also challenge them to ideas that may have a larger impact, even though they may be more difficult or time consuming (limiting air travel, biking to school, etc.)

## Discussion

- Were there any common solutions between the groups?
- What impact can an individual make in the world? Can an individual make a positive impact?
- What sustainability practices do you already use? Are there any you want to try?
- How can your classroom make changes at school? Can you implement these school-wide?

## Extension

- Implement some of these changes in your classroom!
- Set up goals to ensure that you are making progress.



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### **Next Generation Science Standards:**

5-ESS3-1 Earth and Human Activity

Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

MS-ESS3-3 Earth and Human Activity

Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

### **Ocean Literacy Principles:**

#4 - The ocean is a major influence on weather and climate.

#5 - The ocean and humans are inextricably interconnected.

### **Climate Literacy Principles:**

#2 - Climate is regulated by complex interactions among components of the Earth system.

#3 - Life on Earth depends on, is shaped by, and affects climate.

#4 - Climate varies over space and time through both natural and man-made processes.

#5 - Our understanding of the climate system is improved through observations, theoretical studies, and modeling.

#6 - Human activities are impacting the climate system.

#7 - Climate change will have consequences for the Earth System and human lives.



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