STEM@CGI
SCIENCE - TECHNOLOGY - ENGINEERING - MATHEMATICS

CGI

Climate Change Lesson Plan Part 2 — Ages 11 to 18 years old

The lesson plan provides basic instructions for educators and CGI STEM Champions who are executing the Climate Change virtual lesson for students who are ages 11-18. This is a high-level overview that will require adjusting to the unique needs of your students.

High Level Overview

- **Time Needed**

  This plan is designed for a course that has a total of three (3) parts. This lesson plan is focused on Part 2. This lesson is 60 minutes in length. With student welcome, organization and movement required across teams, we have structured this content to be 55 minutes in length to add some padding. Note: this course can be expanded to more time based on the age group of the students.

- **Student Learning Objectives**

  Given the duration of this course, we expect the students to focus on:

  - Using modeling clay to create a model of ocean floor sediment.
  - Simulating the study of a core drilling sample.

- **Instructors needed**
  - A minimum of 2 instructors is needed to run this course. One to present the slide deck and one to watch and respond to the chat and the presenter.

❖ **Materials needed**

Student preparation in advance of lesson:

- Have computer capable of running the video conferencing platform you'll be using.
- Have three (3) various colors of modeling clay
- Pair of fingernail scissors
- Plastic straw
- Printable Venn diagram template
- Printable storyboard template

Climate Change Part 2

High level Task	Time (min)	Description
Welcome	5 min	This is the time for the instructors to introduce themselves, including their credentials for teaching the course. If there is something they can say to connect with the participants at this point, this would be a good time to do it. Review group norms and agenda.
Introduction to Be the Explorer!	5 min	Explain that scientists take core samples of the ocean floor. This is called "core drilling".
Part 1: How does a Polar Scientist study climate change?	5 min	Show core drilling video retrieved from: PolarTREC Expedition 2017 https://youtu.be/zSpuUSyWCSw
Part 2: Core Drilling Activity	40 min	Have students collect materials and conduct the modeling clay core drilling activity and analyze their core samples. Ask students to compare and contrast high sediments to low sediments in their clay core samples using the printable Venn diagram template found in the supplemental materials for this lesson.
Closing	5 min	Have the students complete a storyboarding assignment using the printable storyboard template included in the supplemental materials for this lesson to draw and present what they have witnessed within the core drilling activity.
Total Time	**60 min**	

Supplemental materials for this lesson can be found in the STEM@CGI at Home Activity Pack.

Citations

The following sources were used as a reference to create the work for this course:

VanCleave, J. (1994). *Janice VanCleave's 201 Awesome, Magical, Bizarre, and Incredible Experiments.* United States of America & Canada: John Wiley & Sons, Inc.