

Climate Change & Human Health

Created by: Caley Gallison (Horizons K-8 School)

Students will explore interactions between climate change and human health. This ties in well with the human body as students will focus on one body system and the specific climate impacts on that body system. After researching climate impacts, students apply systems thinking to brainstorm possible implications and solutions.

*Adapted from CLEAN lesson

Lesson Overview

In this lesson, students will research the connection between climate change and health by researching how different body systems are connected to environments and ecosystems. The accompanying slideshow will guide students through this research and lesson time can be adjusted based on depth of research.

Instructional Overview	
Grade Level	Middle School
Instructional Time	1-2 60-minute class periods (depending on student background)
Driving Question	How are climate change and human health connected?
Standards	NGSS middle school standards included, see the “Standards” section at the end of this lesson for details.
Concepts	• Climate change and human health are closely connected because humans are part of their environment
Outcomes	• Students will be able to describe how specific body systems may be affected by climate change in the United States.
Materials	❏ Tablets or computers for digital access to documents OR printed student copies ❏ Presentation Slides
Vocabulary	Mitigation - Mitigation is a conservation tool that includes avoiding, minimizing, or compensating for negative impacts to natural



	resources and their habitats. (NOAA definition) Body Systems- Groups of tissues and organs that function together to perform a specific task for the body. Climate Vulnerability- "Climate vulnerability describes the degree to which natural, built, and human systems are at risk of exposure to climate change impacts." (California Governor's office definition)
DEI/human rights connections	The human health impacts of climate change impact those less privileged more frequently because they may not have the resources to migrate or pay for health services.
Instructional Strategies	This lesson focuses on independent student research.

For an overview of this lesson, please see the accompanying slide deck which provides introductory activities, strategies for research, and guides students to consider pathways to action.

Lesson Plan - Presentation Slides	
Slides 2-4	Intro - look at climate maps of the U.S. - Turn & Share with your partner: What are some impacts of a warming climate on human health? - Solo think time: Think about the impact(s) of both a **wetter** AND/OR **drier** climate on human health.
Slide 5	Explore Impacts of Climate Change on Human Health 1) Pick 1 article to read 2) In your science notebook, answer these questions as you read: a) How is climate change impacting the problem?



	b) What body systems does this relate to?
Slide 6-7	Credibility of Sources - Class discussion on what makes sources credible (what to look for) - Go over the While You Read checklist (or make one as a class)
Slide 8	Climate Change & Body Systems - Pick a human body system you want to focus on - Find 2-3 articles that connect climate change to that body system - Complete the graphic organizer as you read
Slide 9-10	Mitigation Strategies - Discuss as a whole group - Get in body system groups (groups of 2-3) → what is the biggest problem within the climate
Slide 11	Adaptation Strategies What are some actions we can take to reduce our risk/vulnerability to climate impacts? - Here in Boulder? - In the United States? - Globally and especially in vulnerable populations?

Additional Resources

Project Drawdown climate solutions:https://drawdown.org/solutions/table-of-solutions



Boulder County, CO climate action plan: https://bouldercounty.gov/climate-action-2/

The NOAA Climate Resilience Toolkit:
https://www.climate.gov/teaching/resources/climate-resilience-toolkit

The Fourth National Climate Assessment, Ch. 14 on human health:
https://nca2018.globalchange.gov/chapter/14/#key-message-1
Climate Change Impacts by State.

Standards:

NGSS Practices

MS-LS1-8 - Use arguments supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

MS-ESS3-3 - Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.*

* Also see: NGSS Science & Engineering Practices: Asking Questions and Defining Problems, Obtaining, Evaluating, and Communicating Information

Find more curriculum from the Right Here Right Now Global Climate Summit here:
https://cires.colorado.edu/outreach/programs/right-here-right-now-global-climate-summit