

Episode 1: COG LOOKS INTO CO₂ AND CLIMATE

**QUESTIONS: How does weather affect climate?
How does climate affect weather?**

Before-You-View-Video Activities

Activity 1:

Increase your visual literacy and “warm up” by pondering what you already know about weather and climate. Draw an icon that represents these words to you.

Weather - Sunny	Weather - Rainy	Weather - Snow	Today's weather forecast
A tropical climate	A dry climate	A polar climate	Your climate

Share your icons with classmates. Add or redraw icons if you choose.

Activity 2:

Think about the icons from Activity 1. Did pictures describing climate include adaptations people have made to live in these climates? Did you include animals that live there? Why might these images have come to mind?

Use this rectangle to make a sketchnote (notes that include words and images). Use icons from Activity 1 and words that connect ideas. What do you already know about how weather and climate affect each other. Leave room to add ideas later.

How does weather affect climate?**How does climate affect weather?**

Post-Viewing Activities

Activity 3:

After viewing *Cog Looks Into CO₂ and Climate*, "add any new information from the video to your sketchnote.

Activity 4:

Explore "Weather vs Climate" explanations. Afterwards, add icons and words to the sketchnote from Activity 2.

Videos/Articles:

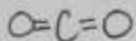
- Neil deGrasse Tyson's explains climate vs weather the *Cosmos* series: https://www.youtube.com/watch?v=cBdxDFpDp_k
- How Weather Works Part I (It's Just Astronomical): https://www.youtube.com/watch?v=cBdxDFpDp_k
- What Causes the Earth's Climate to Change? (British Geological Survey): <https://www.bgs.ac.uk/discovering-geology/climate-change/what-causes-the-earths-climate-to-change/>
- Oceans of Climate Change from NASA <https://youtu.be/WNpzc3SLkxs>
- Weather vs Climate <https://nm.pbslearningmedia.org/resource/d364c333-6d2a-456c-ab63-621488866b06/nc-science-now-wondering-about-the-weather/>

Step 5: Discussion

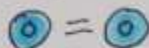
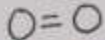
How would you answer the question, "Does weather affect climate or does climate affect weather?"

A molecule made of atoms

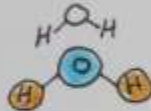
carbon dioxide



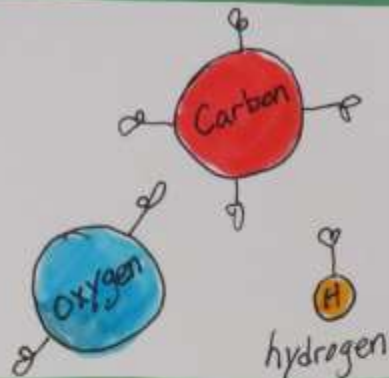
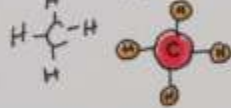
oxygen



water



methane



An invisible, odorless gas

Gas is NOT Nothing!



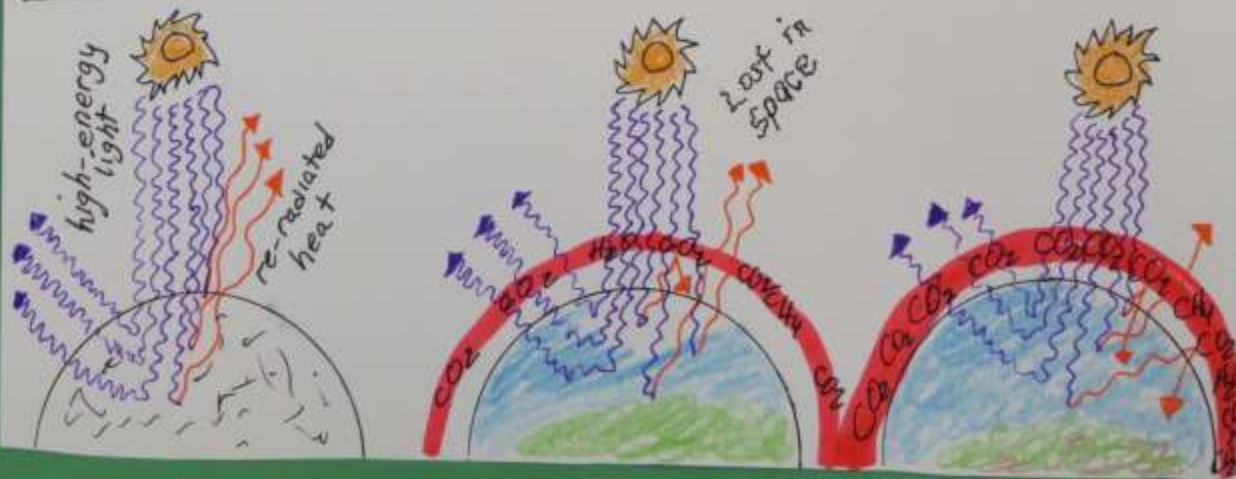
What Is CO₂?

A greenhouse gas

water cycle
H₂O (doesn't accumulate)

CH₄ powerful!
methane

CO₂ stays longer!
carbon dioxide more of it!



Note:

Weather is local and temporary

vs



Climate is the average over many years