

CLIMATE Learning Objectives

Students should be able to...

(Based on Bloom's taxonomy of learning objectives)

Remember

- ... Be able to draw an energy balance for the earth showing how greenhouse gases contribute to temperature increase
- ... list (anthropogenic) processes that change this energy balance
- ... name the time scales of such processes (time CO₂ remains in atmosphere, time until new energy balance is found after stabilizing climate emissions, etc.)
- ... name the consequences of a changing energy balance for climate
- ... name the impacts of climate change (like severe weather, etc.)
- ... describe the expected emissions in the next few decades and their reasons
- ... list strategies to reduce emissions
- ... list strategies to adapt to different impacts
- ... know which sectors are the biggest CO₂ emitters
- ... name the most important evidences of climate change

Understand

- ... explain the largest obstacles to reducing emissions/adapting to climate change in the U.S.
- ... describe how the obstacles to reduce emissions/adapt to climate change in developing nations differ from those in the U.S.
- ... explain what are the best opportunities to reduce emissions/adapt to climate change
- ... distinguish between a future with stabilized emissions and a future with still increasing emissions
- ... distinguish between current emissions and accumulated CO₂ in the atmosphere
- ... distinguish between adaptation and mitigation
- ... explain how climate change affects different parts of the world/biomes differently
- ... distinguish between climate change and variability
- ... distinguish between climate and weather
- ... describe how climate change is attributed to different processes

Apply

- ... interpret data on international emissions
- ... rank strategies to reduce emissions by their effectiveness
- ... extend climate expectations to their own city
- ... visualize how mitigating/adapting to climate change would change their city/ lifestyle

Analyze

- ... appraise/judge the problems being discussed at international climate conferences.

- ... understand new climate policy proposals/judge their feasibility
- ... identify ways to cut their own emissions/ the emissions of their city
- ... identify vulnerabilities of their city to climate change

Evaluate

- ... evaluate which efforts are feasible and will make a difference to decrease emissions (incl. costs)
- ... evaluate opinions on climate change and adaptation/mitigation in the newspapers/on TV
- ... evaluate U.S. and international climate policies

Create

- ... draft proposals how their community/school can reduce emissions
- ... develop ways to illustrate the impact of climate change to their parents/siblings
- ... write opinion piece on climate topics