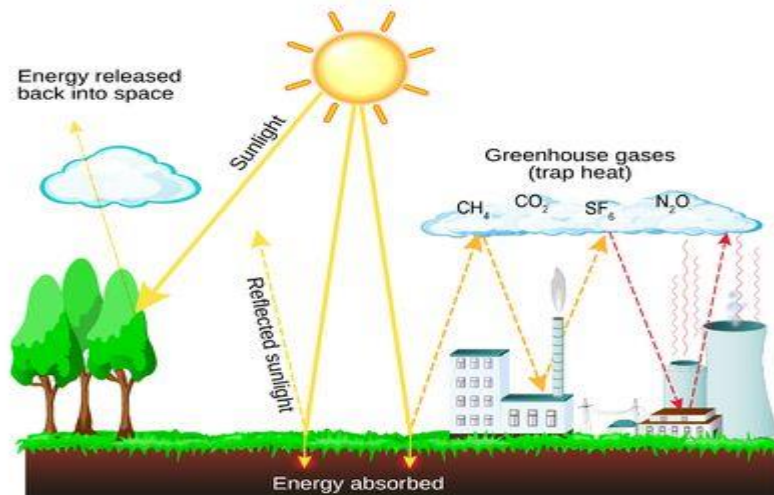


Week 4 – The Week of August 16 to 22, 2021

Greenhouse effect



The Basic Mechanism of Climate Change

Lesson 1 and 2: How we Got Here in the First Place?

Success Criteria

Students will gain an understanding of the key mechanisms that are driving global warming.

Activities:

1. Reading
2. Writing
3. Class Discussion
4. Critical Thinking

Task 1:

Watch the clip, "Earth's population over Time." This will show how increase in population growth is placing unprecedented on resources and generating large amounts of pollution and trash:

<https://www.youtube.com/watch?v=PUwmA3Q0> OE 6:24 (start at 1:01)

Class discussion: Is it realistic to think that the earth and humanity can survive indefinitely without some changes to this situation? In other words, can we keep going on this way indefinitely before we could see serious consequences to the Earth's ecosystem?

List in your Red Book, at least four problems that are a result of overpopulation:

- 1.
- 2.
- 3.
- 4.

Task 2:

Watch the NASA clip on global temperatures.

<https://www.youtube.com/watch?v=Z4bSxb5THm4>

Coincidence? Discuss.

Could greenhouse gasses created by humans be responsible? NASA says yes – that the build-up of CO² in the atmosphere is related to human activity.

While some people claim that global warming is a hoax or ‘fake news,’ nearly all of the world’s climate scientists are convinced that the evidence is overwhelming and that something must be done quickly to stop the temperature rise.

Task 3: Google the article: ‘What’s the difference between global warming and climate change?’ and read it. Look up any words you do not understand and place them in your glossary.

Access the article by typing the title into Google or go to:

<https://www.climate.gov/news-features/climate-qa/whats-difference-between-global-warming-and-climate-change>

In your Red Book under the heading ‘Climate Change’ vs ‘Global Warming,’ write a one-paragraph summary comparing the difference between ‘global warming’ and ‘climate change.’

Task 4: In your book, write a newspaper article that explains the process of global warming. Include a catchy title. Explain why this can have a serious impact on the earth’s future.

Lesson # 2 and 3: Climate Change: The Facts (with David Attenborough)

<https://www.youtube.com/watch?v=Ornz7UHqn8w>

The documentary will be stopped and started over two classes as students will take notes, interspersed with periodic class discussions. Below are some key facts that should be written into your books:

Key information:

Fossil fuels are the villain – when burned they produce carbon dioxide

What are some of the alarming changes to earth’s climate in recent years?

The earth has warmed by 1 degree C, but it’s having a big impact

Extreme Heat: 20 of the last 22 years have been the hottest on record
More heatwaves and droughts

Harming animals – increasing extinction rates

Weather systems are changing = more moisture and rainfall
Super storms

8% of species are under threat of extinction – harming earth's ecosystem

Ice loss is increasing;
Greenland ice sheet is losing ice 5 x faster than 25 years ago
Antarctica – 3 x faster than 25 years ago
= Sea levels are rising (20 cm in past 100 years)

Pacific Islands are under threat
Coastal cities

The US state of Louisiana is losing land at a rate of a football field every 45 minutes.
90% of increased heat is trapped in the oceans and is killing coral

Why have we not addressed the issue better?

What are the costs to the economy?

Fossil fuel industry making profits and mudding the waters by claiming there is a debate
– the debate is over – the only debatable question is the extent of human-generated climate change.