Climate Change and Cars Worksheet

Do gas-powered and electric cars affect our climate?
Together, we are going to find out:

- What is the greenhouse effect?
- What is the carbon cycle?
- How does transportation affect the greenhouse effect?

### 1. What is the Greenhouse Effect?

**Instructions:** After watching the video “What is the Greenhouse Effect?” answer following questions.

- Describe the **greenhouse effect** in your own words.

- Why is the greenhouse effect **important to life** on Earth?

- What else did you learn from the video?
### 2. Carbon Dioxide (CO₂) on Earth

**Carbon dioxide**, also called CO₂, is a type of gas naturally found on Earth. After watching “What is the Carbon Cycle?” video, answer the following questions.

- Where can we find CO₂ on Earth?
- How does it get into the atmosphere?
- Why is CO₂ important for life?

**Let’s review!**

- CO₂ comes from natural sources... (respiration of animals and humans, decay of dead plants & animals, etc.)
- CO₂ also comes from human sources... (burning of fossil fuels for energy in cars, power plants, etc.)
- CO₂ moves through Earth’s atmosphere (air), hydrosphere (water), biosphere (living things), and geosphere (land).
### 3. How are humans increasing CO₂ levels in the atmosphere?

After watching the video “Climate Change” answer the following questions:

- In our cities and towns, **what adds more CO₂ into the atmosphere?**

- What **kind of energy** causes more CO₂ to enter the atmosphere?

- In 2009, **how many tons of CO₂** did the average person use? How many African elephants is that equivalent to?

- How many **parts per million of CO₂** is in the atmosphere right now? What do we want to change that to?
4. Carbon emissions (exhaust) from cars.

After watching the video “What if Carbon Left Your Tailpipe as Solid Chunks?” answer the following questions:

- What do they show coming out of the car’s tailpipe in the video?

- How are car “turds” shown in the video?

Class Reflection: Share your thoughts on the following questions as a class:

- How do you get to school? Do you take the bus? Do your parents drop you in their car? Do you walk? Do you carpool with a friend?
- Which form of transportation do you think is cleaner?
- Which form of transportation do you think is less clean?
- Are there cars out there that do not have exhaust or (or “turds” like the car in the video)?