Name: Date: Class:

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 (CO$_2$) on Earth

Carbon dioxide, also called **CO$_2$**, 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 **CO$_2$** on Earth?

- How does it get into the atmosphere?
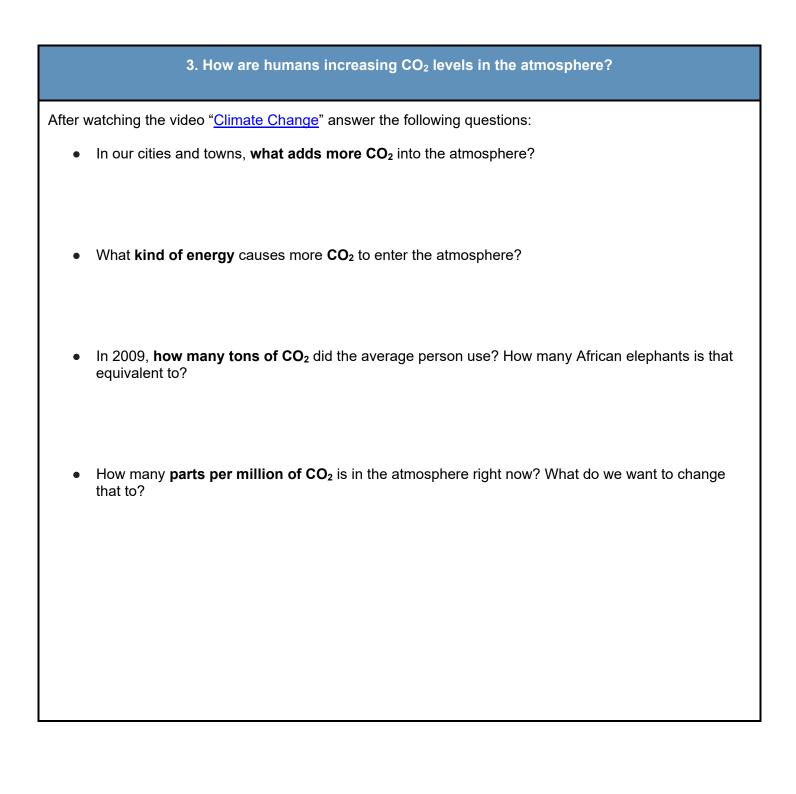
- Why is **CO$_2$** important for life?

Let's review!
- **CO$_2$** comes from natural sources…(respiration of animals and humans, decay of dead plants & animals, etc.)
- **CO$_2$** also comes from human sources…(burning of fossil fuels for energy in cars, power plants, etc.)
- **CO$_2$** moves through Earth's atmosphere (air), hydrosphere (water), biosphere (living things), and geosphere (land).

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3. How are humans increasing CO_2 levels in the atmosphere?

After watching the video "Climate Change" answer the following questions:

- In our cities and towns, **what adds more CO_2** into the atmosphere?

- What **kind of energy** causes more **CO_2** to enter the atmosphere?

- In 2009, **how many tons of CO_2** did the average person use? How many African elephants is that equivalent to?

- How many **parts per million of CO_2** 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)?

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