**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?

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| 1. **What is the Greenhouse Effect?**
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| **Instructions:** After watching the video “[What is the Greenhouse Effect](https://www.youtube.com/watch?v=SN5-DnOHQmE&t=1s)?” 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?
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| **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?](https://oceanservice.noaa.gov/facts/carbon-cycle.html)” 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?
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| **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).
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| **3. How are humans increasing CO2 levels in the atmosphere?** |
| After watching the video “[Climate Change](https://www.youtube.com/watch?v=bpazvRVh4y0)” 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?
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| **4. Carbon *emissions* (exhaust) from cars.** |
| After watching the video “[What if Carbon Left Your Tailpipe as Solid Chunks?](https://www.pbs.org/video/carbon-car-tailpipe-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?
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| **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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