**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?** |
| **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? |
| **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? |
| **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)? |