**Cars and Air Quality Connections (K-2)**

Do gas-powered and electric cars affect our air?

Together, we are going to find out:

* Do cars change how clean the air is?
* Does dirty air affect our health?
* Can certain cars help make the air cleaner?

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| **1. Watch the** [**video**](https://www.youtube.com/watch?v=i6CRcO32-Xs) **of vehicles in traffic. Draw or write about what you saw:** |
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| **Class Reflection:** Do you think cars affect how clean the air is? Share your thoughts as a class. |
| **2. Let’s find out about one type of air pollution that comes from vehicles.** |
| **Particulate Matter (PM)** |
| **Particulate Matter**, also called **PM**, is a type of air pollution. Let’s learn more about air pollution in this [video](https://www.youtube.com/watch?v=Yjtgu2CxtEk) (watch up to 2:24). |
| **Particulate Matter** is a **pollutant** made up of **very** **tiny particles** and **droplets** that **float** in the air.   * PM comes from **natural** sources like **dirt**, **dust**, and **wildfire smoke**. * PM comes from **human-made** sources like **soot** from **burning fuels** for energy and heat. * PM can make the air **hazy**. |
| A city with trees in the background  Description automatically generatedA city with trees in the background  Description automatically generated  Look at two photos that were taken on the same day at different times.  What looks the same? What looks different? Describe what you observe.   1. Write a plus sign “**+**” on the photo that has **more PM.**  * Tell why you think this photo has more PM.  1. Write a minus sign “**−**” on the photo that has **less PM**.  * Tell why you think this photo has less PM.  1. Draw a “**🙁**” on the photo that has **dirtier air**.  * Tell why you think this photo has dirtier air.  1. Draw a **“🙂”** on the photo that has **cleaner air**.  * Tell why you think this photo has cleaner air. |

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| **3. How does air pollution affect our health?** | |
| Draw a line to **match the words and pictures** to explain how **breathing PM affects our health**: | |
| Words:     * Irritates the **eyes, nose, and throat** * Gets into the **lungs** and bloodstream * Triggers **asthma and allergies** | Pictures:  A black background with a black square  Description automatically generated with medium confidence  A black background with a black square  Description automatically generated with medium confidence  A black background with a black square  Description automatically generated with medium confidence |

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| **4. Let’s figure out how gas-powered cars and electric cars work.** |
| Now, let’s put together what we now know about **PM air pollution** and its **health effects** to learn how different types of **vehicles** affect how clean the air is.   * First, watch the [video](https://www.youtube.com/watch?v=qClXTmOtFy8) about how a **gas-powered car** works. * Now, watch the [video](https://www.youtube.com/watch?v=kfhuzje8Zjs) about how an **electric vehicle**, also called an EV, works. |
| How are **electric cars** and **gas-powered cars** the **same**? Draw or write your answer: |
| How are **electric cars** and **gas-powered cars** **different**? Draw or write your answer: |
| **Class Reflection:** Share your thoughts on the following questions as a class:   * Is **clean air** important? * Do **gas-powered** or **electric cars** make our air **dirtier**? * Do **gas-powered** or **electric cars** make our air **cleaner**? |