**Monitoring Air Quality**

The air you take in is mainly \_\_\_\_\_\_\_\_\_\_\_\_\_ (78%) and \_\_\_\_\_\_\_\_\_\_\_\_ (21%), with some \_\_\_\_\_\_\_\_\_ (less than 1%), \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ (0.03%), and traces of \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_.

Air quality can be determined in two ways:

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Monitoring chemicals in the air over a period of many years provides information about seasonal variations, as well as long-term trends.

**Sulfur dioxide** (SO2*(g)*) is a major air pollutant that forms both \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_. It can affect your \_\_\_\_\_\_\_\_\_\_\_\_\_\_ system (throat and lungs) and irritate your eyes.

* Devices to reduce sulfur dioxide emissions are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. *Explain how these work in the space below.*

**Nitrogen oxides** (NOx*(g)*) are also major air pollutants that form both smog and acid rain. They affect the respiratory system and eyes. Nitrogen oxides (NOx*(g)*) form mainly from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in vehicles. They also form by combustion in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ and some industrial processes, such as \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Carbon monoxide** is called the silent killer because it is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gas. When chemicals containing carbon burn, they produce carbon dioxide or carbon monoxide. *Explain how carbon monoxide is formed in the space below.*

If inhaled, carbon monoxide reduces the amount of \_\_\_\_\_\_\_\_\_\_ carried by the \_\_\_\_\_\_\_\_.

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| --- | --- |
| As a result, it can cause: | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Ozone** (O3*(g)*) is an odourless, colourless gas composed of \_\_\_\_\_\_\_ oxygen \_\_\_\_\_\_\_\_. The major source of ground-level ozone is \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in vehicle engines and industry. Ozone is especially harmful to people who have \_\_\_\_\_\_\_ diseases such as asthma, and anyone with a \_\_\_\_\_\_\_. All children are at a higher risk than healthy adults because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*re*SEARCH Catalytic Converters

A catalytic converter is a device that uses platinum and palladium catalysts to remove pollutants from vehicle exhaust. Identify the harmful compounds in car exhausts and explain why they are harmful to the environment. Explain the chemical reactions that take place in a catalytic converter. Do they eliminate pollutants entirely? Explain why catalytic converters have become an issue for people concerned about global warming.