

Name:

Date:

Class:

Connecting to the Big Picture Handout

Topic: Air Quality and Energy Use/Development

Follow the instructions below; then answer the *Reflection Question*.

In this activity, we looked specifically at emissions from vehicles, but the extraction* and use of fossil fuels can lead to many other air quality impacts as well. Describe a potential impact on air quality related to either the extraction or use of each of the three fuels below and explain how that impact could occur.

Hints are provided to help you reach an answer, but many correct answers exist for each fuel and you do not have to respond to the questions posed in the hints.

*Essentially, extraction means how we get the raw material out of the ground, such as mining in the case of coal.

Example (using today's activity)

Oil is refined to make gasoline that is combusted in vehicle engines, which generates pollutants that can affect the environment (such as carbon dioxide and climate change) and human health (such as nitrogen oxides).

Natural gas (Hint: Natural gas is mostly made of methane, which is a powerful greenhouse gas. In addition to burning natural gas, what if it were to leak from a pipeline, for example?)

Oil (Hint: What do you think causes that “gasoline smell” when you pump gas for your car? Could it be harmful to humans at high levels? Does it include any “ingredients” of ozone?)

Coal (Hint: Think about the shipping of coal around the world. Sometimes coal mined in the U.S. is shipped to China for power plants. Might air quality impacts be associated with shipping activities?)

Reflection Question

In a brief paragraph, explain one way in which fossil fuels have a positive impact on your daily life and one way in which they have a negative impact on your daily life. (Write on the back of this sheet.)