

## **Topic 04: Fossil Fuels**

What are the three major fossil fuels and what do they consist of?

What is the most commonly used fossil fuel used in energy production in the US?

What is the most commonly used fossil fuel in transportation?

What fossil fuel is found throughout items in our lives?

Explain how coal forms

Describe what a typical coal swamp might have been like

What are the four major grades of coal and what makes them different?

Explain how a coal-fired power plant works and its components

What early use did prehistoric and historic humans have for coal?

How did early “humans” probably discover that coal can burn?

What historical relationship exists between coal use and deforestation?

What uses did coal have in the “Age of Steam”?

Why does Santa bring coal to kids who misbehaved?

What explain the drop in US coal production in the 1930s?

What drove the surge in US coal production beginning in the 1960s?

The highest employment numbers in the coal industry were reached in which year?

Why has coal employment steadily decreased since then?

Explain how Clean Air Act/EPA regulations, and the opening of the Western coal field changed US coal production in the US

What are six additional ways, other than GHG production, in which coal production and burning impacts the environment?

Explain how petroleum forms

How are tar seeps and petroleum related?

Explain the geological nature of petroleum traps?

Explain how a refinery turns petroleum into a variety of products

What are the four major constituents of raw natural gas?

Explain how gas refinement works and its products

Discuss porosity versus permeability

Explain how a conventional reservoir works, and why drilling into an unconventional reservoir quickly leads to the dry well

What is fracking/hydro-fracturing? How does it make unconventional reservoirs useful to gas extraction?

What do petroleum companies mean when they say “clean natural gas”? What do they NOT mean?