**Guided Notes: Fossil Fuels and Climate Change**

Burning \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ significantly increases greenhouse gas concentrations in the atmosphere, leading to climate change

**Key Concepts:**

• Fossil fuels are formed from \_\_\_\_\_\_\_\_\_\_\_\_ organisms over millions of years.

• Major fossil fuels:

1. \_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_

3. Natural gas

• Fossil fuels provide about \_\_\_\_\_\_% of energy used in the United States.

• Burning fossil fuels releases \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_, a major greenhouse gas.

• The greenhouse effect:

- Greenhouse gases trap \_\_\_\_\_\_\_\_\_\_\_\_ in Earth's atmosphere

- Without it, Earth's average temperature would be near \_\_\_\_\_\_\_\_\_\_\_\_

• Carbon dioxide levels:

- Pre-Industrial Revolution: \_\_\_\_\_\_ ppm

- Current levels: over \_\_\_\_\_\_ ppm

• \_\_\_\_\_\_\_\_\_\_\_\_ also contributes to increased CO2 levels.

• Effects of increased greenhouse gases:

1. Rising global \_\_\_\_\_\_\_\_\_\_\_\_

2. More frequent \_\_\_\_\_\_\_\_\_\_\_\_ events (e.g., heat waves, storms)

3. \_\_\_\_\_\_\_\_\_\_\_\_ sea levels

4. Changes in \_\_\_\_\_\_\_\_\_\_\_\_ patterns

5. Ocean \_\_\_\_\_\_\_\_\_\_\_\_

• Scientists study past climates through \_\_\_\_\_\_\_\_\_\_\_\_, which involves analyzing ice cores.

**Real World Examples:**

1. Keeling Curve: Shows steady increase in atmospheric CO2 since 1958.

2. Mauna Loa Observatory: Location for monitoring background CO2 levels away from direct human sources.

**Word Bank:**

fossil fuels

once-living

coal

oil

80

carbon dioxide

heat

freezing

280

400

deforestation

temperatures

extreme

rising

precipitation

acidification

paleoclimatology