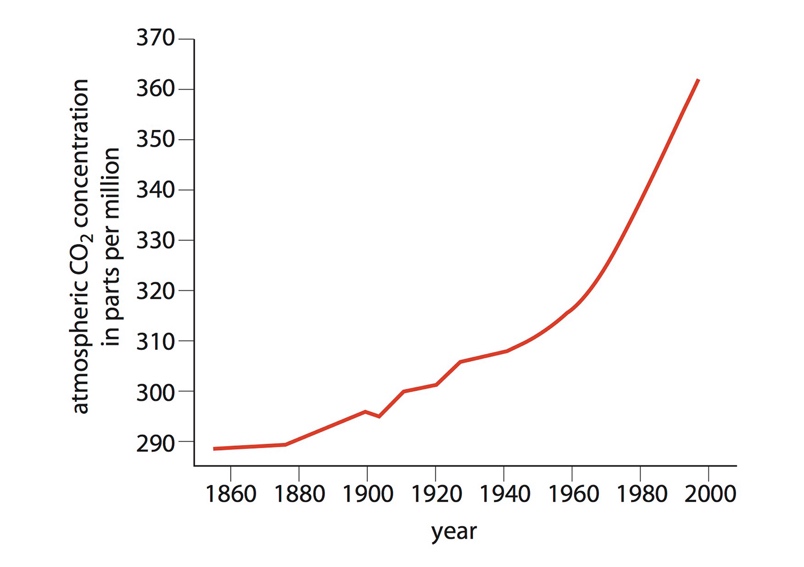
**Guided Notes: Climate Change Over Time**



Earth's climate has naturally changed over time due to various factors, but recent climate change is occurring at an unprecedented \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_.

**Key Concepts:**

• Natural causes of climate change include:

1. The Great Oxygenation Event:

- Caused by \_\_\_\_\_\_\_\_\_\_\_\_ producing oxygen through photosynthesis

- Led to a drop in Earth's temperature and mass extinction of \_\_\_\_\_\_\_\_\_\_\_\_ bacteria

2. Milankovitch Cycles:

- Changes in Earth's \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_

- Occur over cycles of \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_ years

- Result in periodic \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_ periods

• \_\_\_\_\_\_\_\_\_\_\_\_ are changes in a system that lead to further changes

• Recent climate change:

- Began in the late \_\_\_\_\_\_\_\_\_\_\_\_ century

- Caused by increased human emissions of \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

- CO2 levels have risen from 180-280 ppm to nearly \_\_\_\_\_\_\_\_\_\_\_\_ ppm

• Evidence of recent climate change:

- Unprecedented \_\_\_\_\_\_\_\_\_\_\_\_ of change

- Rapid increase in global \_\_\_\_\_\_\_\_\_\_\_\_

- Rising \_\_\_\_\_\_\_\_\_\_\_\_ levels

R**eal World Examples:**

1. Glacier National Park: Glaciers that shaped the landscape millennia ago disappeared due to \_\_\_\_\_\_\_\_\_\_\_\_ climate change processes.

2. Arctic ice: Decreasing ice cover due to \_\_\_\_\_\_\_\_\_\_\_\_ climate change.

**Word Bank:**

scale

rate

cyanobacteria

anaerobic

orbit

tilt

wobble

100,000

41,000

26,000

glacial

interglacial

feedbacks

19th

carbon dioxide

420

rate

temperature

sea

natural

rapid