

→Check for understanding

→Define:

1. **Geology:** Geology is the study of the earth's physical structures and the processes that change those structures
2. **Paleontologist:** A scientist that studies fossils
3. **Fossil fuels:** oil, coal, and natural gas now found in Montana
4. **Glacier:** masses or slow-moving rivers of ice that advanced across the land.
5. **Caldera:** a large crater formed by a volcanic explosion or the collapse of a volcanic cone
6. **Rain shadow:** an area on the inland side of a mountain range that is dryer because it is sheltered from rain-bearing clouds

→Identify:

1. **Megafauna:** large animals
2. **Intermountain Seismic Belt:** seismic belt the region of active earthquakes
3. **Chinook Corridor:** Blustery, warm dry winds that blow down the eastern slopes
4. **Alberta Clipper:** a frigid, dry wind that forms on high plains of Alberta.

→Describe the four geologic time intervals.

Pre-Cambrian was 46 billion years ago

Paleozoic was 544 million years ago

Mesozoic-middle life was 245 million years ago

Cenozoic- recent life was 65 million years ago-pre historic (Ice Age)

1. What caused the formation of fossil fuels?
  - a. When plants and animals from the Mesozoic era, many layers of sediment piled on top of them and the heat and pressure of the earth caused the formation of fossil fuels.
2. Why did evergreen forests appear west of the Continental Divide?
  - b. The Evergreen forest only appears in the west of the Continental Divide because the eastern part is high above sea level.
3. Explain how glaciers change the landscape.
  - c. Glaciers are like bulldozers. They push away everything in front of them.
4. Describe the three regions of Montana.
  - d. WEST: Colombia plateau, high precipitation regions, thick forest.

CENTRAL: Rocky mountain front isolated clustered mountains, elevated plains.  
 EAST: Northern plains- dry, windy, extreme temperature, low precipitation.

→Critical Thinking:

1. Why did some mammals die during the end of the Cenozoic era while other species survived?  
 a. Some of the animals that were in the Cenozoic era weren't adapted to the weather. The animals that survived this era were used to the climate changing.

2. What are some of the positive and negative effects of erosion? When, and how, should people try to control erosion?  
 b. A positive effect I would say is that new soil will get scattered around and replace the old soil. A negative effect could be that the soil erosion would take some land out and affect the land. The way we should try and control erosion is we should help the soil. We can start more vegetation by planting vegetables and other plants.

3. How do you suppose the geography and climate of Montana's three regions affects the lives of the people who live there today?  
 c. The climate of Montana's three regions affects the lives of people because at times, the climate changes and some people can't adapt to it.

→Past to Present:

1. How would you classify the geologic forces still at work shaping Montana? Do they make rapid or gradual changes to the land?  
 Erosion and earthquakes still occur. Earthquakes have a sudden and drastic effects. Erosion is a slower process that takes a longer time.

→ Make it Local:

1. In what ways is the landscape changing in the region you live? Are there more human than natural forces involved in the changes? What is the difference between human and natural forces that change the landscape?

a. Different types of gases are being put into the air which is causing the sun rays to stay.

2. Think about the region of Montana in which you live. What were the primary geologic forces that created the present landscape? Can you find evidence of their work?

a. Glaciers, Earthquakes, and tectonic plates.