

# How was the Geologic Column Created?

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Evidence: Ocean Sediments on the Continents

- There is much more sediment on the \_\_\_\_\_ than there is on the ocean floor, and about half of it contains fossils of marine organisms.
- The presence of \_\_\_\_\_ fossils on land raises some interesting questions, especially since some are located on the top of Mount Everest.
- Some marine fossils appear to have been deposited as water \_\_\_\_\_ across the continents.
- Others that are found on mountain tops would have been deposited on the ocean floor and then thrust up later as plates collided to form \_\_\_\_\_.
- Both scenarios – flood waters and oceanic crust being thrust up – would be consistent with a \_\_\_\_\_ flood.

## Evidence: Continental-scale Currents

- Geologists studying sedimentary layers can often tell which \_\_\_\_\_ the water was flowing when the sediments were deposited.
- Today water flows in all directions over the continents as \_\_\_\_\_ flow to the oceans.
- However, many sedimentary layers indicate that they were laid down by water that was flowing in the \_\_\_\_\_ direction across the continent.

## Evidence: Incomplete Ecological Systems

- In the geologic column scientists sometimes find animal fossils without any fossilized \_\_\_\_\_ nearby.
- For example, in the Morrison Formation, which is one of the world's richest sources of dinosaur fossils, plant remains are \_\_\_\_\_.
- However, in a catastrophic flood, animals could have been washed away from their \_\_\_\_\_, explaining why we sometimes do not find them preserved near their food sources.

## Ice Age

- In addition to the direct impact, it is possible that the Flood created certain conditions that indirectly \_\_\_\_\_ the Earth in another significant way.

- You will recall that an \_\_\_\_\_ is defined as a period when glaciers spread beyond the polar regions and covered more of our planet than they do now.
- Recall several facts that you learned about glaciers in Chapter 9:
  - \_\_\_\_\_ glaciers are found in very high mountains.
  - \_\_\_\_\_ glaciers are found in cold regions near the North and south Poles (like Greenland and Antarctica).
  - Because of gravity, both alpine and continental glaciers \_\_\_\_\_, changing the ground underneath.
  - Moraines, eskers, erratics, and U-shaped valleys are \_\_\_\_\_ that glaciers existed in the past.
- Although glaciers are only found in very high mountains or in cold regions near the poles today, many geologists believe that was \_\_\_\_\_ always the case.
- Recall that fossils of tropical plants and animals have been found in the \_\_\_\_\_.
- Apparently at some point in the past, Earth was \_\_\_\_\_ and the poles were free of ice.
- The fact that the poles are now covered with huge ice sheets means that at some time, temperatures \_\_\_\_\_ and sufficient snow fell to create these glaciers.
- With evidence of glacial processes in places where no glaciers currently exist, scientists know that glaciers were there \_\_\_\_\_ in the past.
- Throughout much of Canada and the northern United States, we see clues left by \_\_\_\_\_, but no glaciers.
- Many scientists who believe Earth has been around for millions of years believe that glaciers have advanced and retreated many times, creating \_\_\_\_\_ ice ages.
- \_\_\_\_\_ conditions are necessary to initiate an ice age.
- First, there must be enough \_\_\_\_\_ to build up an ice sheet.
- Second, summers must be \_\_\_\_\_ enough to keep the ice sheet from melting.
- A \_\_\_\_\_ of theories have been suggested by scientists to explain how these conditions could occur.
- Most of the theories in some way involve a reduction in the amount of \_\_\_\_\_ that reaches Earth's surface.
- One such theory is that \_\_\_\_\_ eruptions, which spew millions of tons of ash into the air, blocked out the Sun's warmth and caused a drop in temperature.

- Another theory cites the cause of colder weather as a change in the \_\_\_\_\_ or orbit of Earth, causing the Sun's rays to reach the planet at an oblique angle.
- \_\_\_\_\_ have suggested that volcanic eruptions connected with the Flood could have caused the cold weather.
- Some scientists have suggested the "Foundations of the deep," which the Bible says erupted during the Flood, could have contributed to \_\_\_\_\_ the oceans.
- Warm water would evaporate \_\_\_\_\_ and create many clouds carrying large amounts of moisture.
- Once these moisture-laden clouds move to an area of \_\_\_\_\_ temperature, heavy snowfall would result.
- These conditions, which could reasonably \_\_\_\_\_ from the Genesis Flood, are the conditions that could be expected to cause an ice age.

#### Drawing Conclusions

- Evidence presented in this lesson can be interpreted in ways that are \_\_\_\_\_ with the Genesis Flood.
- Our interpretations are influenced by a \_\_\_\_\_ worldview.
- Conventional geologists also offer explanations of these data that are \_\_\_\_\_ by their worldview.
- And while geologists may disagree about the interpretations of the evidence, they agree that \_\_\_\_\_ conditions existed in the past than what we see now.