

Due Thursday April 16, 2009. (Please hand in before class on Thursday)
Read each question carefully.

1. Which of the following statements does **NOT** accurately relate to the two mass extinctions that characterized the Late Permian Period? [circle one]
 - A. Relative to earlier extinction events, the Late Permian extinctions occurred over many millions of years as taxa sequentially died out because of intensified predation.**
 - B. A rapid drop in sea level isolated shallow seas and narrowed continental margins.
 - C. Moisture-loving flora of high-latitudes on Gondwanaland were succeeded by flora adapted to drier climates.
 - D. The final Permian mass extinction appears to coincide with a period of global anoxia in the deep oceans.
 - E. Recent evidence suggests that a meteorite impact may have played a role in the late Permian mass extinction.
2. Discuss two distinctive geological characteristics of the Late Pennsylvanian Ancestral Rocky Mountains [please answer on back of this paper].
3. During the Triassic Period of the Mesozoic Era, the supercontinent Pangaea began to rift apart, a deep, narrow arm of ocean formed between what is now southern Europe and Africa. What is the name of this ancestral seaway that was the progenitor (ancestor) of the Mediterranean?

Tethys.

4. The opening of the Atlantic Ocean, with the initiation of rifting in Laurasia began in the [please circle one]
 - A. Early Triassic
 - B. Late Triassic**
 - C. Early Jurassic
 - D. Late Jurassic
 - E. Mid Cretaceous
5. *Short answer.* The Mesozoic fossil *Archeopteryx* (meaning “ancient wing”) is considered the transition form between the dinosaurs and modern birds. Using a list of features, explain why [use the space on the back of this sheet].

2.

[Two of the uplifts, the Front Range and the Uncompahgre uplifts are commonly referred to as the ancestral Rocky Mountains. The Ancestral Rockies developed during late Carboniferous time; they were elevated and then subdued by erosion in an area where portions of the Rocky Mountains stand today.]

answers:

1. Growth of the Ancestral Rockies elevated Precambrian rocks beneath, which later were leveled by erosion. [Precambrian roots can still be seen where more recent secondary uplift has caused rivers to cut deep gorges.]

2. At places in the basin between the Uncompahgre and Front Range, sediments accumulated to thicknesses exceeding 3 kilometers. Some of these sediments are what form the spectacular Flatirons.

5.

You will have made a list that included the following basic information:

Its fossilized feathers are that of a bird, but its teeth, tail and clawed forelimbs are of dinosaur ancestry.

