



## Bellwork April 12-16, 2004

**Bell #58:** Paleozoic Index Fossil Critical Thinking, Page 627 (1) During which geologic period(s) did the Trilobite *Isoteles* live?

(2) What is the range of geologic periods for the porifera *Actinostroma*?

(3) Two brachiopods appear in the list. Neither brachiopod can be used to identify a Mississippian age rock. Why?

(4) What is the probable age of a rock layer that contains the porifera *Actinostroma* and the crinoid *Pentremites*?

(5) What is the possible age of a rock layer that contains *Halysites* and *Atrypa*?

(6) List the fossils that might be expected to occur in a rock of Devonian age.

(7) Two trilobites are shown in the list. How do you know that at least one other kind of trilobite must exist?

**Bell #59:** Mesozoic Plants Critical Thinking, Page 643 (1) Which groups have steadily increased in abundance since the early Triassic Period?

(2) According to the chart, which group(s) died out at the end of the Mesozoic?

(3) Which group expanded rapidly in the Cretaceous and remained abundant during the Tertiary and Quaternary periods?

(4) Which group existed only during the Mesozoic Era?

(5) Which group still found today was more abundant in the Jurassic?

(6) What is the most likely age of a rock layer that contains the fossil remains of sauropods, conifers, and flowering plants?

(7) According to the chart, which group would be the best index fossil? Why?

(8) Compared to the abundance of insects today, how abundant were insects during the Jurassic Period?

(9) Could a rock that contains sauropods also contain impressions of ammonites? Why or why not?

**Bell #60:** Half-Life Critical Thinking, Page 613. (1) What percent of the original material decayed during the first half-life?

(2) What percent of the original material remains after the second half-life? (

(3) If this material has a half-life of 2 billion years, how long will be needed for three half-lives?

(4) Will the sixth half-life use all of the unshaded portion that remains? Explain.

(5) If the original mass of another radioactive material was 24 grams, how many grams of the radioactive material were left at the end of the third half-life? Show your work.

(6) At the end of the fourth half-life, 10 grams of a third radioactive material remain. What was the total amount of radioactive material at the start? Show your work.

**Bell #61:** What are the four eras and what biological event defines each era?

**Bell #62: TEST REVIEW:** (1) List the four eras in order.

(2) Put these rock layers and geologic events in order. List the cause of each.

(3) Calculate the Selenium has a half-life of 25 minutes. How many minutes would it take for a 5 gram sample to decay to only 2.5 grams? Show your work.

(4) How do Missouri's and Earth's timelines differ?