

Name: _____ Class Period: _____ Date: _____

Book F Chapter 3
Lesson 4 and 5 Review-ANSWER KEY

Make sure to review all vocabulary words!!

___B___1. fossil

A. a type of fossil that forms when sediments fill in the cavity left by a decomposed organism

___C___2. trace fossil

B. the trace remains of an organism that lived long ago, most commonly preserved in sedimentary rock

___F___3. Geologic time scale

C. a fossilized mark that is formed in soft sediment by the movement of an animal (tracks, burrows, footprints)

___A___4. cast

D. a fossil that is found in the rock layers of only one geologic age and that is used to establish the age of rock layers

___D___5. index fossil

E. a mark or cavity made in a sedimentary surface by a shell or other body

___E___6. mold

F. a method used to divide Earth's 4.6 billion year history into manageable time intervals

Answer the following questions using complete sentences.

6. How old is Earth?

The Earth is approximately 4.6 billion years old.

7. How are fossils helpful when learning about the history of Earth?

Fossils help scientists organize the entire history of Earth. Fossils can provide clues to organisms that once lived on the planet as well as reveal information about past climates and conditions on Earth. The fossil record is not complete; scientists must fill in the gaps by making inferences based on the evidence they uncover in the rocks and fossils.

8. Compare and contrast relative dating and absolute dating.

* 1 similarity

* 2 – 3 differences

RELATIVE DATING	SIMILARITIES	ABSOLUTE DATING
<p>*compares objects or events</p> <p>*used to determine which object or event is older than another object or event</p> <p>*does not always result in an actual numerical age of an object or event</p> <p>*uses SUPERPOSITION – objects found in the top layers of the Earth are normally younger than objects found in the bottom layers of Earth</p> <p>*must be done in the field – you must observe and record where objects were found before removing the objects for further study</p>	<p>*both are methods used to scientifically prove the age of a rock or fossil</p>	<p>*looking at ONE object</p> <p>*uses radiometric dating – identifying radioactive particles to determine the actual age of an object</p> <p>*done in the lab with sophisticated lab equipment</p>

9. What is the difference between a body fossil and a trace fossil?

* provide 3 examples of each type of fossil

BODY FOSSIL: the remains of once-living organisms – can be altered or non-altered

EXAMPLES: skull of a T-Rex, fossilized teeth from a prehistoric shark, fossilized insect

TRACE FOSSIL: clues or signs that an organism was once present

EXAMPLES: footprints, tracks, trails, burrows, nests, insect hives

10. Explain how mummification is different from petrification. (These are two types of body fossils)

Mummification is an example of a **NON-ALTERED** body fossil. In this type of fossil, actual tissue or bone is present from the organism. A scientist may actually be able to study the cells from these types of organisms. Other types of **NON ALTERED** body fossils include organisms preserved in amber or tar.

Petrification is an example of an **ALTERED** body fossil. In this type of fossil, minerals replace the actual cells of the organism. No genetic material is left behind. Other types of **ALTERED** body fossils include molds and casts. A mold is formed when an organism dies and the remains decay, leaving behind an imprint in the sediment. A cast is formed from a mold – sediment or other minerals fill in the hollowed area, creating a three dimensional cast of the organism.

11. What is an index fossil?

An index fossil can assist scientists to estimate the age of rock layers. Index fossils are special because they are fossils of one specific organism and they are found all over the planet. An index fossil can be used as a 'reference point' because the organisms existed at around the same time all over the planet.

12. If you find fossils of fish and other marine creatures in a desert, what can you infer about the history of the desert?

Marine fossils discovered in a desert environment indicate that at one time, the desert must have been an aquatic environment. A lake or ocean must have been present in order for marine organisms to survive. The discovery of this type illustrates the drastic changes that occurred on our planet over its 4.6 billion year history.

13. What kinds of events can cause species to disappear?

- natural geologic events
- climate changes
- interactions among species

Lesson 5

IMPORTANT INFORMATION TO KNOW FOR THE TEST

*On Earth, there have been **FIVE major extinction events**.

*An **extinction event** happens due to natural events or man-made events.

***A scientist can prove that an extinction event happened by using the fossil record.** A layer of rock that does not have ANY fossils of living organisms (or very few fossils of living organisms) is strong evidence that an extinction event occurred.

***Naturally occurring extinction events** include asteroid and meteor impacts, volcanic eruptions all over the world, earthquakes occurring all over the world, global changes in climate – the entire Earth cooling down or warming up.

***Man-made extinction events** include pollution, overpopulation, habitat destruction, over-hunting and over-fishing.

*The **Cambrian Explosion** happened about 570 – 530 million years ago. Scientists used the fossil record to discover that during this span of about 40 million years, there was an “explosion” of life. Thousands of different forms of animals and plants were discovered in the fossil record. Scientists DO NOT know what caused this event!