Paleontology Study Guide 2013 Name _____ Class _____

1. A fossil is the preserved remains or traces of an organism.

2. Most fossils form when living things die and are buried by sediments and can be found in sedimentary rock.

3. Younger fossils contain complex organisms, while older fossils contain more simple organisms.

4. A petrified fossil is formed when minerals replace all or part of an organism.

5. A trace fossil tells us about the ACTIVITIES of ancient organisms.

Examples are: footprint, trails, burrows, coprolites (poop).

6. An insect is sometimes preserved with little or no change in amber (preserved remains – also in tar and ice for other organisms).

7. An index fossil was widely distributed, but only lived in a short period of time.

A well-known example is a trilobite. These are useful to scientists because they help scientists determine the RELATIVE age of the rocks in which they are found.

8. The La Brea TAR pits contain preserved remains.

9. If I found a seashell in the desert, what would that tell me about the history of the desert? The desert used to be an ocean or REALLY close to an ocean (like a beach).

10. List three reasons scientists study fossils:

   a. to see how the environment has changed

   b. to see how the earth has changed

   c. to see how life (organisms) has changed

11. Over time, how has the earth and her organisms changed? Organisms have ADAPTED or become EXTINCT. The ADAPTATIONS have turned SIMPLE organisms into more COMPLEX organisms for survival. These changes have occurred OVER TIME in PLANTS and ANIMALS.

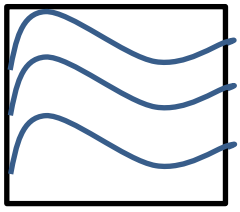
12. What is the difference between evolution and extinction? An organism EVOLVES when it adapts to its surroundings and changes for the survival of the species (EVOLUTION). If the organism does not EVOLVE, eventually it will become EXTINCT and none of the species will exist ever again.

13. Think about rock layers – if layer a is younger than b and older than c, what is the order of layers from the top to the bottom? C,A,B. This comparison is called relative age. We know this because of the law of superposition.

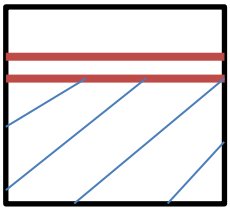
14. Those layers originally fell in horizontal layers. We know this because of the principle of horizontality.

15. If an intrusion pushes through these layers, what do you know about its age? The intrusion/extrusion/fault is YOUNGER than the layers it passes through.

16. What are some "disturbed rocks" and how do they look?



FOLDING



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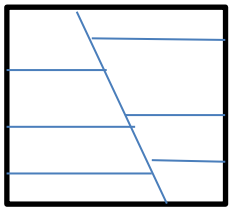
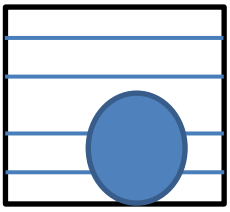


FAULT



INTRUSION

17. Tell me about the principle of UNIFORMITARIANISM. The geological processes that occur today are the same ones that occurred in the past. This helps scientists understand the events of the past.

18. The geologic time scale is a record of life forms and Earth's history.

19. We currently live in the Cenozoic era.

20. The supercontinent from 250 million years ago is Pangaea.

21. Tell me as many ways as you can how fossils form – all different types of fossils!!

A TRACE fossil is formed when footprints (or other TRACES) of an organisms life) are fossilized before they disappear. PRESERVED REMAINS form when an organism is preserved almost entirely intact, with little or no change, in amber, ice or tar. The organism cannot decompose while in this substance. A MOLD fossil is formed when an organism gets trapped in sediment and eventually decomposes, leaving an imprint of itself in the rock. When minerals fill that mold and become a "copy" of the organism, a CAST fossil is formed. PETRIFIED fossils occur when minerals replace the cells of an organism and it "changes" to rock. When an organism leaves a thin film of carbon on a rock, a CARBON FILM is formed. Think about what we have seen in class as examples.