

Geology : Test-40

- 1) What is Geology?
- 2) Name the three main types of rocks.
- 3) Give the rock type.
 - a) most strata are made of _____ rock
 - b) dikes are made of _____ rock
- 4)a) What is the "Law of Superposition"?
- b) What is the "Crosscutting Rule"?
- 5)a) What are strata?
- b) How are strata formed?
- 6) What two things are necessary for a fossil to be considered an index fossil?
- 7) The following six fossils are index fossils. They were found in rocks from five different locations. Arrange them according to their relative ages. Put the youngest on top.

A	B	C	D	E	F	
						Put letter in blank
						young
						—
Location	1	2	3	4	5	—
						—
						—
						old

8) A fossil is found in a Devonian stratum. What is the absolute age of the fossil?

9) Which rock is older; one from the Permian epoch or one from the Paleocene epoch?

10) There are very few fossils found in Precambrian rock. Explain.

11) In what epoch did the dinosaurs die out?

12) Give the order of appearance of the following; reptiles, mammals, fish, amphibians.

13) How is the absolute age of an igneous rock determined?

14) The half-life of radioactive calcium-40 is 1.3 billion years. A rock is found that is known to have had 1.2 grams of calcium-40 when it was formed.

a) How many grams are left after 1.3 billion years?

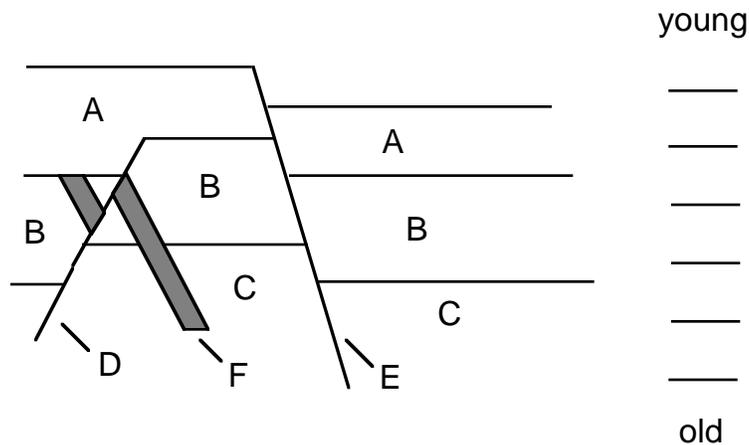
b) How many grams are left after 2.6 billion years?

15) A rock contains a fossil snail which lived from 3.3 million to 1.9 million years ago and a fossil clam which lived from 5.7 million to 2.8 million years ago. Give the age range for the rock.

16) State whether the following are examples of relative age or absolute age. (circle R or A)

- | | | |
|---|---|---|
| a) Bob is older than Ted. | R | A |
| b) World War II started in 1939 | R | A |
| c) A stratum of shale lies under a stratum of sandstone. | R | A |
| d) A dike contains a known amount of uranium-235 and lead-207. | R | A |
| e) A layer of mud contains a layer of ash from the Mt. St. Helens eruption. | R | A |

17) Find the relative ages of the rocks and faults in the diagram below. Put the letter representing the youngest on top.



Answers: 1) It is the study of the Earth., 2) igneous, sedimentary, metamorphic, 3)a) sedimentary, b) igneous, 4)a) younger layers of rock lie on top of older layers of rock, b) a disturbance (fault or dike) in a rock is younger than that rock, 5)a) They are layers of rock., b)

They formed at the bottom of lakes or seas., 6) They must have had hard parts and lived for a short period of time., 7) C, F, A, E, B, D, 8) 400 million years, 9) Permian, 10) There was very little life at this time., 11) Cretaceous, 12) fish, amphibians, reptiles, mammals, 13) It is found by radiometric dating. The amounts of a radioactive isotope and its decay product are compared., 14)a) 0.60, b) 0.30, 15) 2.8-3.3 million years, 16)a) R, b) A, c) R, d) A, e) A (Mt. St. Helens erupted in 1981), 17) E, A, D, F, B, C.