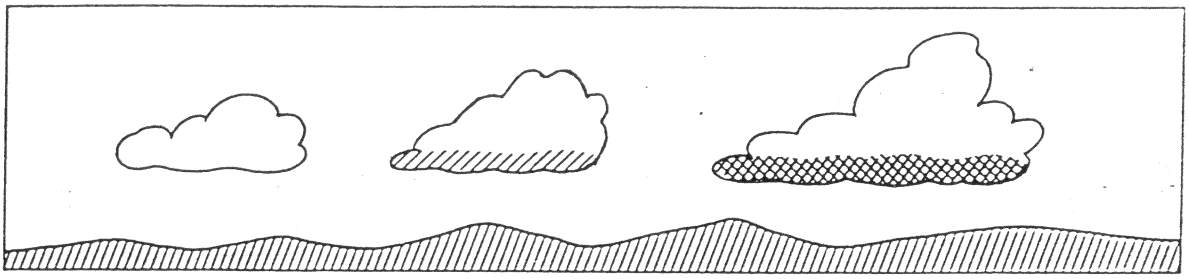
Name _____ Date _____

Observation/Inference Earth Science

Base your answers to Questions #1 - 3 on the diagram and information below.



A student drew these diagrams of a cloud he saw at a distance of several kilometers at 3-minute intervals.

_____ 1. Which statement is best described as an observation? (1) The air in the cloud is rising. (2) The air under the cloud is very humid. (3) The cloud is getting darker near the bottom. (4) Rain will soon form in the cloud.

_____ 2. Which statement is best described as an interpretation? (1) The cloud has a flatter bottom than top. (2) The cloud appears to be growing larger. (3) The cloud base height appears to be constant. (4) The air in the cloud is rising.

_____ 3. Which statement is best described as a prediction? (1) Rain usually falls from this type of cloud. (2) This type of cloud is common in this area. (3) A bolt of lightning will descend from this cloud. (4) Clouds of this type do not last very long.

_____ 4. What is the relationship between observations and interpretations? (1) They are the same thing. (2) Interpretations are conclusions based on observations. (3) Interpretations can be made without observations.

_____ 5. How are basic powers of observation limited? (1) By the number of senses that can be used. (2) By the number of observations that are made. (3) By the number of interpretations that can be made. (4) By the number of measuring instruments that can be used.

_____ 6. In order to make observations, an observer must always use
(1) experiments (3) proportions
(2) the senses (4) mathematical calculations

_____ 7. In the classroom during a visual inspection of a rock, a student recorded four statements about the rock. Which statement about the rock is an observation?
(1) The rock formed deep in the Earth's interior.
(2) The rock cooled very rapidly.
(3) The rock dates from the Precambrian Era.
(4) The rock is black and shiny.

_____ 8. An interpretation based upon an observation is called
(1) a fact (3) a classification
(2) an inference (4) a measurement

_____ 9. A student observed a freshly dug hole in the ground and recorded statements about the sediments at the bottom of the hole. Which statement is an inference?
(1) The hole is 2 meters deep.
(2) Some of the particles are rounded.
(3) The sediments were deposited by a stream.
(4) Over 50% of the sediments are the size of sand grains or smaller.

_____10. While on a field trip to a large lake in New York State, an observer recorded four statements about this lake. Which of these statements is most likely an inference? (1) The lake was formed by glacial action. (2) The water is clear enough to see the bottom of the lake. (3) A log is floating in the lake. (4) The surface temperature of the lake is 18.5°C.