

Name: \_\_\_\_\_

Foundations

Date: \_\_\_\_\_ Period: \_\_\_\_\_

Earth Science

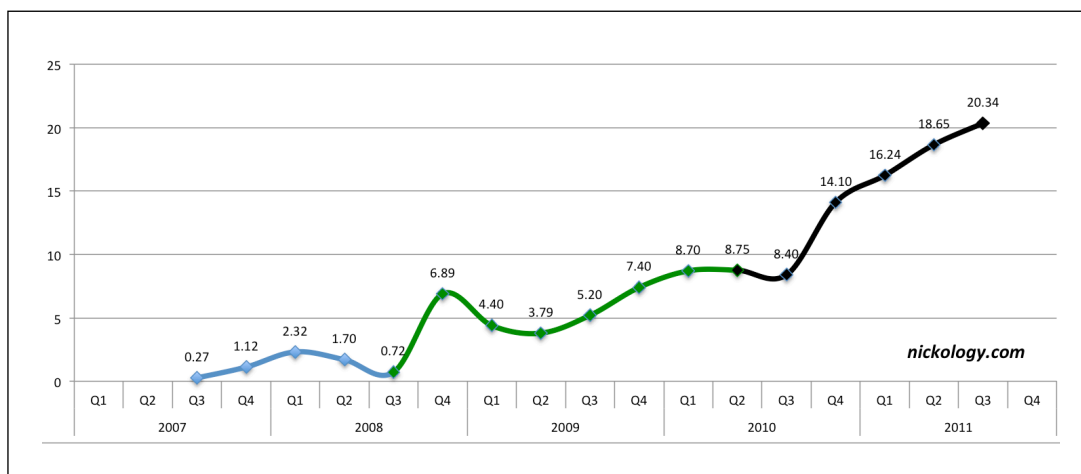
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## Packet: Observation and Inference

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### CLASS NOTES

- Observation - \_\_\_\_\_  
\_\_\_\_\_
  - Example: there is one SmartBoard in the classroom
- Quantitative - \_\_\_\_\_  
\_\_\_\_\_
  - Example: Tampa is 239 mi away
- Qualitative - \_\_\_\_\_  
\_\_\_\_\_
  - Example: the sign is colorful
- Inference - \_\_\_\_\_  
\_\_\_\_\_
  - Example: the individual in the front is the teacher
- Classification - \_\_\_\_\_  
\_\_\_\_\_
  - Example: the different types of teachers
- Prediction - \_\_\_\_\_  
\_\_\_\_\_



Number of iPhones Sold

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# Packet: Observation and Inference

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## PART I QUESTIONS: MULTIPLE CHOICE

1. A number of objects are grouped on the basis of common properties. What is this process called?
  - a. observation
  - b. inference
  - c. classification
  - d. measurement
2. Which statement about a cumulus cloud seen over Syracuse, NY, is an inference?
  - a. The cloud has an irregular shape.
  - b. The cloud formed over Lake Ontario.
  - c. The cloud appears white.
  - d. The base of the cloud is determined to be 2.6 km above ground.
3. An interpretation based upon an observation is called
  - a. a fact
  - b. a classification
  - c. a measurement
  - d. an inference
4. Scientists often use classification systems in order to
  - a. extend their powers of observation
  - b. make direct comparisons with standard units of measurement
  - c. make more accurate interpretations
  - d. organize their observations in a meaningful way
5. A student observed a freshly dug hole in the ground and recorded statements about the sediment at the bottom of the hole. Which statement is an inference?
  - a. The sediments were deposited by a stream.
  - b. Over 50% of the sediments are the size of sand grains or smaller.
  - c. Some of the particles are rounded.
  - d. The hole is 2 meters deep.
6. 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?
  - a. The rock cooled very rapidly.
  - b. The rock is black and shiny.
  - c. The rock formed deep in the Earth's interior.
  - d. The rock dates from the Precambrian Era.
7. A classification system is based on the use of
  - a. the human senses to observe properties of objects
  - b. predictions made by observing data
  - c. observed properties to group objects with similar characteristics
  - d. inferences to make observations

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## Packet: Observation and Inference

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8. 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?
- A log is floating in the lake.
  - The lake was formed by glacial action.
  - The water is clear enough to see the bottom of the lake.
  - The surface temperature of the lake is 18.5°C.
9. A prediction of next winter's weather is an example of
- observation
  - inference
  - classification
  - measurement
10. Which statement about a burning candle is most likely an inference?
- Carbon dioxide and water vapor are produced by the burning.
  - The wick gets shorter as the candle burns.
  - The candle wax is melting.
  - The flame is yellow.
11. Which statement about a rock sample is an inference?
- The rock was formed 100 million years ago.
  - The rock has no visible crystals and is red.
  - A balance indicates the rock's mass is 254 grams.
  - The rock scratches a glass plate.
12. 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?
- A log is floating in the lake.
  - The lake was formed by glacial action.
  - The water is clear enough to see the bottom of the lake.
  - The surface temperature of the lake is 18.5°C.
13. Which property was probably used to classify the substances below?

Group A	Group B	Group C
water gasoline alcohol	aluminum ice iron	water vapor oxygen air

- abundance within the Earth
- specific heat
- state of matter
- chemical composition