

Remediation 1.1 AB

(Scientific Method, Qualitative/Quantitative, Chemical/Physical Properties)

Can You Spot the Scientific Method?

Each sentence below describes a step of the scientific method. Match each sentence with a step of the scientific method listed below.

- ____ 1. Stephen predicted that seeds would start to grow faster if an electric current traveled through the soil in which they were planted.
- ____ 2. Susan said, "If I fertilize my geranium plants, they will blossom."
- ____ 3. Jonathan's data showed that household cockroaches moved away from raw cucumber slices.
- ____ 4. Rene grew bacteria from the mouth on special plates in the laboratory. She placed drops of different mouthwashes on bacteria on each plate.
- ____ 5. Kathy used a survey to determine how many of her classmates were left-handed and how many were right-handed.
- ____ 6. Jose saw bats catching insects after dark. He asked, "How do bats find the insects in the dark?"
- ____ 7. Justin wondered if dyes could be taken out of plant leaves, flowers, and stems.
- ____ 8. Alice soaked six different kinds of seeds in water for 24 hours. Then she planted the seeds in soil at a depth of 1 cm. She used the same amount of water, light, and heat for each kind of seed.
- ____ 9. Bob read about growing plants in water. He wanted to know how plants could grow without soil.
- ____ 10. Kevin said, "If I grow five seedlings in red light, I think the plants will grow faster than the five plants grown in white light."

- A. State the problem
 B. Research the problem
 C. Form a hypothesis
 D. Test the hypothesis
 E. Analyze the data
 F. Form a conclusion

Qualitative vs. Quantitative

Determine which of the following statements are qualitative and which are quantitative.

1. _____ The cup had a mass of 454 grams.
2. _____ The temperature outside is 25°C.
3. _____ It is warm outside.
4. _____ The tree is 30 feet tall.
5. _____ The building has 25 stories.
6. _____ The building is taller than the tree.
7. _____ The sidewalk is long.
8. _____ The sidewalk is 100 meters long.
9. _____ The race was over quickly.
10. _____ The race was over in 10 minutes.

Physical and Chemical Properties

Identify if the following are chemical or physical properties:

1. Oxygen is odorless and colorless
2. Copper turns green when exposed to the environment
3. The piece of metal is magnetic
4. The density of water is 1.0 gram per cubic centimeter
5. Diamonds are a very hard substance
6. The tree is 8 meters high
7. Sodium reacts very easily with other elements.
8. Copper conducts electricity
9. Water is a liquid
10. The mass of the NaCl sample is 30 grams
11. Gold is nonflammable
12. Alka-Seltzer tablets react with water to produce gas
13. The color of the ball is red
14. Iron reacts with oxygen and forms rust