

Student's Name \_\_\_\_\_

## THINKING WITH SCIENCE

### Observation Quiz

#### Lesson 7 (The Lamp)

1. If a lamp on a circuit lights, you know that the circuit is:
  - A. a nonconductor
  - B. complete
  - C. battery operated
  - D. direct current
2. Electricity comes out of:
  - A. the negative end of a battery
  - B. a generator
  - C. both of the above
  - D. neither of the above
3. The filament of light bulbs that Thomas Edison invented were made of:
  - A. iron
  - B. copper
  - C. silver
  - D. tungsten
4. Most conductors are:
  - A. metals
  - B. plastics
  - C. ions
  - D. wood
5. The word "tentative", when applied to a conclusion, means:
  - A. incomplete
  - B. valid
  - C. temporary
  - D. final
6. In experiment A-B, water is a controlled variable because it is:
  - A. a liquid
  - B. in both A and B
  - C. not a solid
  - D. pure

7. After the question "Does A contain any water?", the question that should be asked next about A is "Does A contain ---- water?"
- A. salt
  - B. pure
  - C. only
  - D. filtered
8. A scientist usually changes his conclusion if:
- A. he gets new data
  - B. he gets refuting data
  - C. he thinks he's right
  - D. he thinks new data are wrong
9. The difference between the control group and the experimental group is the:
- A. controlled variable
  - B. manipulated variable
  - C. focus
  - D. only variable
10. You would not know what was causing the result of an experiment if the experiment included:
- A. two experimental groups
  - B. two manipulated variables
  - C. two controlled variables
  - D. all of the above
11. The particles of sodium and chlorine that have positive and negative charges are called:
- A. atoms
  - B. molecules
  - C. ions
  - D. all of the above
12. A universal law of electricity and magnetism is:
- A. opposites attract
  - B. they consist of electrons
  - C. they flow
  - D. ions repel each other
13. Ions in water act like \_\_\_\_ for the electricity.
- A. molecules
  - B. energy
  - C. atoms
  - D. ferryboats

14. The liquid containing only water and sugar didn't cause the lamp to light because:
- A. it was a nonconductor
  - B. it contained no ions
  - C. it didn't complete the circuit
  - D. all of the above
15. Battery acid is also called:
- A. a conductor
  - B. sulfuric acid
  - C. caustic
  - D. all of the above
16. How do you know that liquid D contained more than pure water?
- A. it was cloudy
  - B. it caused the lamp to light
  - C. it contained no sugar
  - D. it wasn't a solid
17. A turbine has:
- A. blades
  - B. a motor
  - C. a generator
  - D. all of the above
18. Most of the electrical generators in the Midwestern United States are:
- A. water powered
  - B. nuclear powered
  - C. coal powered
  - D. atomic powered
19. When the ingoing and outgoing electrical wires from a generator touch each other, it creates:
- A. sparks
  - B. heat
  - C. a short circuit
  - D. all of the above
20. Why won't the current from the six-volt battery pass through pure water:
- A. six volts isn't strong enough
  - B. water contains too few ions
  - C. both of the above
  - D. neither of the above

Students's Name ANSWER KEY

**OBSERVATION QUIZ FOR "THINKING WITH SCIENCE"**

Quiz for Lesson 7

Quiz Number \_\_\_\_\_

1. A ☒ B C D E
2. A B ☒ C D E
3. A B C ☒ D E
4. ☒ A B C D E
5. A B ☒ C D E
6. A ☒ B C D E
7. A B ☒ C D E
8. ☒ A B C D E
9. A ☒ B C D E
10. A ☒ B C D E
11. A B ☒ C D E
12. ☒ A B C D E
13. A B C ☒ D E
14. A B C ☒ D E
15. A B C ☒ D E
16. A ☒ B C D E
17. ☒ A B C D E
18. A B ☒ C D E
19. A B C ☒ D E
20. A B ☒ C D E