

Miami-Dade County Public Schools
NGSSS Quarterly Science Benchmark Assessment (QSBA)
Grade 3 (Quarter 2)

Name: _____ Date: _____

1. A flashlight uses a battery for energy. Which best describes how energy flows and changes in a flashlight? (SC.3.P.10.1)

- A. electrical → chemical (battery) → light
- B. chemical (battery) → electrical
- C. chemical (battery) → light
- D. chemical (battery) → electrical → light

2. A burning match gives off light. What else does it give off? (SC.3.P.10.1)

- A. chemical energy
- B. electricity
- C. heat
- D. sound



3. Your mother turns on the burner of an electric stove. The burner gets hot. How do you know by looking at the burner that it is hot? (SC.3.P.10.1)

- A. The burner glows and gives off light.
- B. The burner gives off magnetism
- C. The burner gives off chemical energy.
- D. The burner uses electricity.

4. Eddy's classroom window shakes when an airplane passes over his school. What kind of energy caused this movement? (SC.3.P.10.2)

- A. heat
- B. sound
- C. electrical
- D. light

5. How does heat energy from the sun change an ice cube? (SC.3.P.10.2)

- A. The ice cube doesn't change.
- B. The ice cube freezes.
- C. The ice cube changes to a solid.
- D. The ice cube melts.

6. _____ is the ability to do work or to cause change. (SC.3.P.10.2)

- A. friction
- B. magnetism
- C. energy
- D. force



7. The light from the flashlight will shine on book because _____. (SC.3.P.10.3)



- A. light is absorbed
- B. light is bent or refracted
- C. light is reflected
- D. light travels in a straight line

8. Jessica holds a mirror in the light. She sees a spot of light on the wall. What conclusion can you draw about the mirror? (SC.3.P.10.3)

- A. It reflects light onto the wall.
- B. It reflects light into the air.
- C. It absorbs the light.
- D. It bends or refracts the light.

9. What is the main source of light on Earth? (SC.3.P.10.3)

- A. the moon
- B. the stars
- C. the sun
- D. the planets

10. The BEST way to make a shadow on a bedroom wall is to _____. (SC.3.P.10.4)

- A. Hold a lamp near the floor.
- B. Stand between a light and the wall.
- C. Sit close to the wall near a window.
- D. Turn off the lights in the room.

11. Bob notices that he feels cooler when he wears a white T-shirt during PE class than when he wears a black T-shirt. What could explain why Bob feels a difference in temperature when he wears T-shirts of different colors? (SC.3.P.10.4)

- A. Dark colors produce more light energy, while light colors produce more heat energy.
- B. Dark colors produce more heat energy, while light colors produce more light energy.
- C. Dark colors reflect more light energy, while light colors absorb more light energy.
- D. Dark colors absorb more light energy, while light colors reflect more light energy.

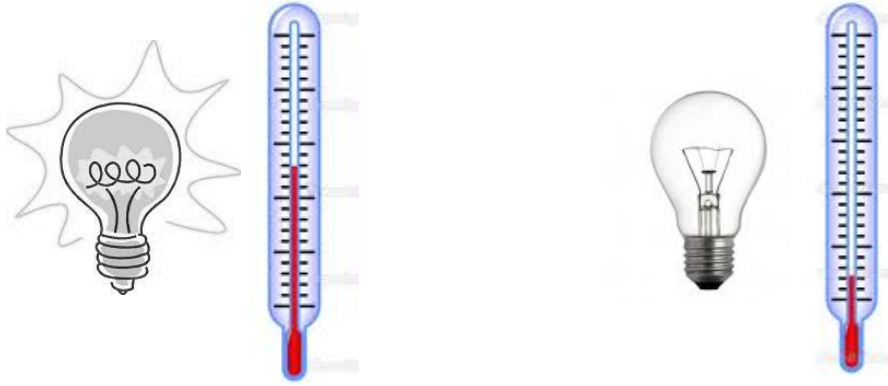
12. When light is blocked a _____ forms. (SC.3.P.10.4)

- A. vibration
- B. light source
- C. shadow
- D. straight path

13. Imagine a cool spoon in a mug of hot tea. Heat travels from _____. (SC.3.P.11.1)

- A. the mug to the spoon
- B. the air to the spoon
- C. the tea to the spoon
- D. the air to the mug

14. Why does the thermometer next to the lighted bulb have a higher temperature? (SC.3.P.11.1)



- A. Heat is transferred from the air to the lighted bulb.
- B. The lighted bulb gives off heat.
- C. Heat from the air moves to the bulb that is not lit.
- D. The thermometer is broken.

15. Two forms of energy that Earth gets from the Sun are _____. (SC.3.P.11.1)

- A. sound energy and light energy
- B. chemical energy and light energy
- C. heat energy and sound energy
- D. heat energy and light energy

16. Torri's father cut some wood with a handsaw. When Torri touched the wood, it was warm. How was energy transferred from the saw to the wood? (SC.3.P.11.2)

- A. heat to mechanical
- B. mechanical to heat
- C. mechanical to mechanical
- D. solar to mechanical

17. Which action creates the MOST heat and friction? (SC.3.P.11.2)

- A. Gently rubbing hand sanitizer on your hands.
- B. Rubbing your bare hands together quickly for several minutes.
- C. Rubbing your soapy hands together underwater.
- D. Smoothing hand lotion onto the palms of your hands.

18. A mover pushes a box up a ramp. Which produces the most heat? (SC.3.P.11.2)

- A. The ramp sitting against the truck.
- B. The wind pushing against the box.
- C. The mover's hand on the box.
- D. The box moving against the ramp.



19. Use this picture to answer the question below: (SC.3.E.6.1)



On a sunny day, which takes the longest to get warm?

- A. the rocks
- B. the sand
- C. the lake
- D. the sidewalk

20. While visiting the beach with his family during summer vacation, Jordan noticed that during the day when he sat on the beach he was usually sweating. He also noticed that when he sat on the beach at night he did not sweat as much and he felt cooler. Which statement explains why Jordan was hotter during the day? (SC.3.E.6.1)

- A. Sunlight provides light energy that helps us see.
- B. Sunlight provides light energy for plants to make their own food.
- C. Sunlight provides heat energy that increases the outside temperature.
- D. Sunlight provides heat energy that decreases the outside temperature.



21. How might the water change in a swimming pool when it is heated by the sun's radiant energy? (SC.3.E.6.1)

- A. The water turns red.
- B. The temperature rises.
- C. The temperature lowers.
- D. The temperature stays the same.

22. The table shows the temperatures of 3 jars of water outside. (SC.3.E.6.1, SC.3.N.1.2, SC.3.N 1.3)

Time (min)	Jar 1 (°C)	Jar 2 (°C)	Jar 3 (°C)
0	24	24	24
30	27	25	26
60	32	26	27
90	38	26	29

Which statement is **most likely** true?

- A. Jar 1 is in full shade.
- B. Jar 1 is in full sun.
- C. Jar 2 is in full sun.
- D. Jar 3 is in full shade.