

Unit Test

Multiple Choice

1. Which phrase best describes a *photon*?
 - A. refracted light wave
 - B. gamma ray
 - C. packet of energy
 - D. sound wave

2. Which is NOT part of the electromagnetic spectrum?
 - A. radio waves
 - B. microwaves
 - C. water waves
 - D. x-rays

3. Which phrase best describes the most powerful EM radiation?
 - A. longer wavelength
 - B. shorter wavelength
 - C. x-ray
 - D. radio wave

4. Which type of light bulb is the most powerful and efficient?
 - A. incandescent
 - B. halogen
 - C. fluorescent
 - D. high-intensity discharge

5. The Inverse Square Law says that if you double the distance between you and a light source, the light will be
 - A. one-tenth as bright
 - B. half as bright
 - C. twice as bright
 - D. equally bright

Constructed Response

6. Why does a dark-colored car get hotter sitting in the sun than a light-colored car?

7. Write a step-by-step description of how a fluorescent bulb lights up. Use sentences such as the following:

- An electric current arcs between the ballasts.
- Electricity heats gas in the tube.
- Hot gases make the glass coating glow.
- Electricity flows through ballasts.

8. Why was the invention of a glass chimney for a candle lamp a significant achievement?

9. List at least three things Thomas Edison invented or improved.

10. Put the following events in the correct order:

People used oil lamps for light.

People used fire for light.

People used the electric light bulb for light.

People used candles for light.

Unit Test Answers

1. C

2. C

3. B

4. D

5. A

6. Since dark colors absorb light and light colors reflect them, a dark car will get hotter in the sunlight.

7. Electricity flows through ballasts. An electric current arcs between the ballasts. Electricity heats gas in the tube. Hot gases make the glass coating glow.

8. It protected the candle flame from wind, etc. It was the first major improvement in more than 1,000 years.

9. List could include phonograph (record player), electric light bulb, automatic telegraph, moving picture (movies), electric voting machine, etc.

10. People used fire for light. People used candles for light. People used oil lamps for light. People used the electric light bulb for light.