

Light and Optical Systems

Topic 7 - The Wave Model of Light Practice Quiz

1. Wavelengths can be determined by measuring ...
 - the height of a crest**

 - the depth of a trough**

 - the distance between two crests**

 - the difference in height between a crest and a trough**

2. The rate at which an object is moving up to the top of a crest and down to the bottom of a trough is called ...
 - amplitude**

 - frequency**

 - hertz**

 - rest position**

3. When scientists examine how something happens and then try to explain how they see it happen, this is developed
 - a law**

 - a model**

 - a theory**

 - a principle**

4. When light passes through a small opening, the waves spread out. How far they spread out depends on this ...

amplitude

frequency

wavelength

one complete trough

5. At sunset, the colors we are able to see are reds and oranges. This is made possible because when light hits the atmosphere, this happens.

blue and violet are absorbed by dust particles

red and violet are refracted through the atmosphere

blue and orange are reflected back into space

red and orange pass around the particles

6. The difference between incoherent light and coherent light is demonstrated by a laser. The laser, which is used for many purposes gives off coherent light, which are ...

waves with multiple frequencies

waves with only one frequency

waves with variable wavelengths

waves with a variable amplitude

Check your
Answers

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Topic 7 - The Wave Model of Light Practice Quiz

1. Wavelengths can be determined by measuring ...
 - the height of a crest**
 - the depth of a trough**
 - the distance between two crests (Text p. 238) Figure 3.56**
 - the difference in height between a crest and a trough**

2. The rate at which an object is moving up to the top of a crest and down to the bottom of a trough is called ...
 - amplitude**
 - frequency (Text p. 239) This indicates how fast the object moves through each crest and trough (the number of cycles completed by the object in a unit of time)**
 - hertz**
 - rest position**

3. When scientists examine how something happens and then try to explain how they see it happen, this is developed
 - a law**
 - a model (Text p. 239) The Wave Model of Light**
 - a theory**
 - a principle**

4. When light passes through a small opening, the waves spread out. How far they spread out depends on this ...

amplitude

frequency

wavelength (Text p. 239) The distance they spread out depends on the wavelength. Waves with short wavelengths spread out very little

one complete trough

5. At sunset, the colors we are able to see are reds and oranges. This is made possible because when light hits the atmosphere, this happens.

blue and violet are absorbed by dust particles

red and violet are refracted through the atmosphere

blue and orange are reflected back into space

red and orange pass around the particles (Text p. 245) Figure 3.59

6. The difference between incoherent light and coherent light is demonstrated by a laser. The laser, which is used for many purposes gives off coherent light, which are ...

waves with multiple frequencies

waves with only one frequency (Text p. 246) Figure 3.60B

waves with variable wavelengths

waves with a variable amplitude