

## **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**

## 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 (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**