

Light and Optical Systems - Section 1.0 - Quiz

Our knowledge about light and vision comes from explanations, inventions and investigations.

Student Name _____

Class _____

1.1 The Challenge of light

1. **Aristotle's** plan to sink the enemy war ships demonstrated his understanding of this principle of light ...

- A. Light travels in straight lines
- B. Light can be reflected
- C. Light can be bent
- D. Light is a form of energy

2. **Pythagoras'** thoughts about light were proven wrong because it was impossible to see ...

- A. the light beams
- B. dark objects
- C. in the dark
- D. shiny objects

3. When light is shone into a mirror, the angle of the incoming beam is equal to the angle of the outgoing beam. This understanding of light was suggested by ...

- A. Ptolemy
- B. Aristotle
- C. al-Haytham
- D. Euclid

4. **Sir Isaac Newton** is well known for many things. One thing that he showed was that white light is actually a mixture of different colors. He was able to demonstrate this by shining a light through ...

- A. prism
- B. water
- C. glass
- D. mirror

5. **Albert A Michelson** was able to accurately measure the speed of light by using mirrors on a mountain top. This was a refined measurement of the work of ...

- A. Albert Einstein
- B. Ole Romer
- C. Euclid
- D. Isaac Newton

1.2 Optical Devices

6. Any technology that uses light is called ...

- A. a reflecting telescope
- B. a refracting telescope
- C. an optical device
- D. a lens and mirror

7. **Antonie van Leeuwenhoek** used a simple microscope and discovered, what he called ...

- A. little animalcules
- B. tiny cells
- C. miniature vacuoles
- D. bacteria armies

8. **Microbiology** - the study of micro-organisms, began with the invention of these ...

- A. binoculars
- B. telescopes
- C. mirrors
- D. **microscopes**

9. In 1608 **Hans Lippershey** manufactured the very first telescope. This scientist used the discovery of the telescope to discover mountains and craters on the Moon, small objects circling Jupiter, and Venus had phases – just like the Moon. This scientist was ...

- A. Edwin Hubble
- B. **Galileo Galilei**
- C. Sir Isaac Newton
- D. Alessandro della Spina

10. The type of telescope that collects light from distant objects and focuses it in the eyepiece is called ...

- A. retracting
- B. reflecting
- C. **refracting**
- D. resisting

11. Binoculars are optical devices and are built using two of these types of prisms ...

- A. retracting
- B. **reflecting**
- C. refracting
- D. resisting

12. The properties of light include all of the following EXCEPT ...

- A. **Light can go around a corner**
- B. Light can bend
- C. Light can be reflected
- D. Light is a form of energy

Label parts of the following: (Illustration 1 – **Binoculars** Illustration 2 – **Refracting telescope**)

