

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

Student Name _____

Class _____

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**

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

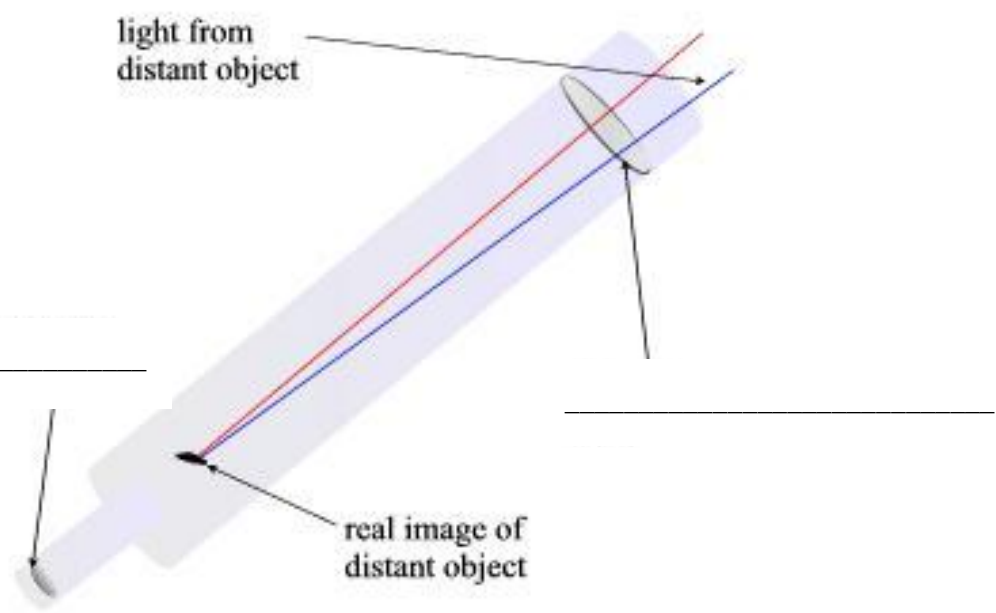
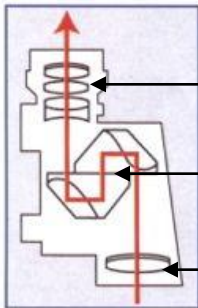
11. Binoculars are optical devices and are built using two of these types of prisms ...

- 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**)



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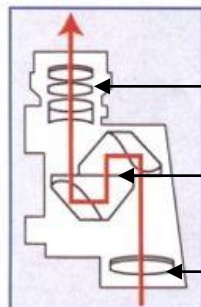
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Label parts of the following: (Illustration 1 – Binoculars Illustration 2 – Refracting telescope)



- Eyepiece Lens**
- Reflective Prisms**
- Objective Lens**

