

Light sources and straight-line rays

Grade 6 science (Year 7 · Class 6) · Test

Name: _____ Date: _____ Class: _____ Mark: ____ / 20

This test checks sources of light, how we see, material types and light travel times. Show all working with units. Answer every question. The test lasts 45 minutes and is worth 20 marks.

Level: Grade 6 science (Year 7 · Class 6) · **Curriculum:** MS-PS4-2

Time: 45 minutes · 8 questions · Total: 20 marks · Calculator allowed

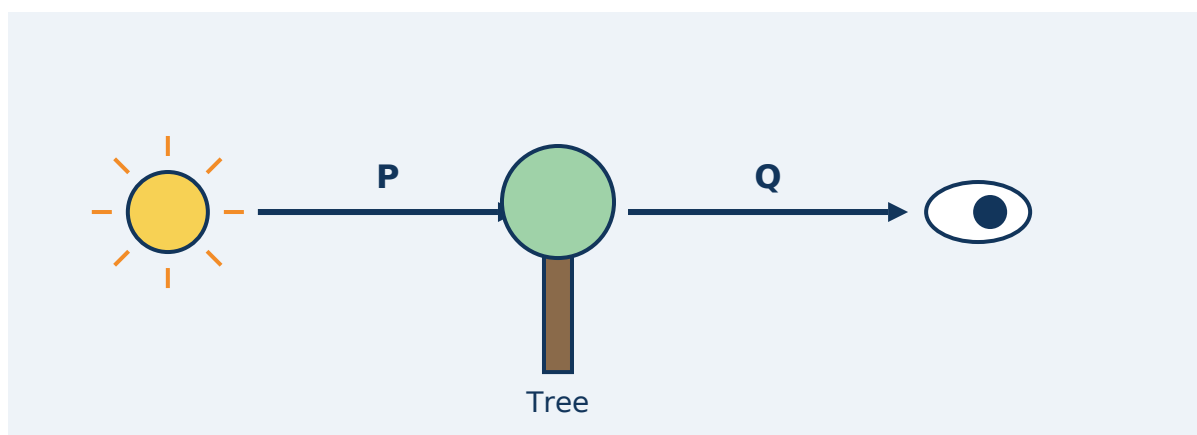
Question 1 Sources of light (2 marks)

Classify each as a luminous source or a non-luminous object: (a) a candle flame, (b) a mirror, (c) a lit phone screen, (d) the planet Mars. (0.5 mark each)

Question 2 Lamp, tree and eye (3 marks)

Use the figure.

- State which arrow shows light from a luminous source. (1 mark)
- State what happens to the light at the tree. (1 mark)
- Explain why the eye sees the tree. (1 mark)



A lamp, a tree and an eye. Use this figure for Question 2.

Question 3 Types of material (3 marks)

Name the type of material, transparent, translucent or opaque, and give a reason: (a) clear window glass, (b) tracing paper, (c) a wooden door. (1 mark each)

Question 4 Light across a pitch (3 marks)

A football pitch is 105 m long. The speed of light is 3.0×10^8 m/s.

- Write the formula for the time taken by light. (1 mark)
- Calculate the time to cross the pitch. (1 mark)
- Give the answer in microseconds. (1 mark)

Question 5 Evidence for straight lines (3 marks)

Describe one experiment that shows that light travels in straight lines, and state what you would observe.

Question 6 Dark room (2 marks)

Explain why you cannot see a chair in a room with no light at all.

Question 7 Lampshade (2 marks)

A lampshade is made of translucent paper. Explain why this is better than opaque card or transparent glass.

Question 8 Speed units (2 marks)

- Convert 3.0×10^8 m/s to km/s. (1 mark)
- Convert it to km/h. (1 mark)