

Nova's Brilliant Light Quiz

Learning objective: To understand how light travels, how we see, and the formation of shadows.

Join Nova the owl on a night-time flight! Read each question carefully and select the best answer to help Nova navigate the dark.

Answer Key: 1. A (Straight lines); 2. True; 3. Opaque; 4. B (Reflection); 5. False (Light travels from the source to the object, then to our eyes); 6. Refraction; 7. D (A prism); 8. True; 9. Transparent; 10. B (A dark area where light is blocked).

Word bank: Reflection · Transparent · Opaque · Straight · Spectrum · Refraction

1. 1. How does light travel from a source? A) In straight lines* B) In zig-zag lines C) In circles D) In random waves (1 mark)

2. 2. True or False: We see objects because light reflects off them and enters our eyes. (1 mark)

3. 3. Which type of material blocks light completely to create a shadow: Transparent, Translucent, or Opaque? (1 mark)

4. 4. What do we call it when light bounces off a shiny surface like a mirror? A) Absorption B) Reflection* C) Refraction D) Dispersion (1 mark)

5. 5. True or False: Light travels from our eyes to the object we are looking at. (1 mark)

6. 6. What is the name of the process where light changes direction as it passes from one material into another (like from air into water)? (1 mark)

7. 7. Which of these can split white light into a rainbow spectrum? A) A mirror B) A piece of card C) A flat sheet of glass D) A prism* (1 mark)

8. 8. True or False: A shadow changes size depending on the distance between the light source and the object. (1 mark)

9. 9. What do we call a material that allows almost all light to pass through it, like a clean window pane? (1 mark)

10. 10. What is a shadow? A) A reflection of light B) A dark area where light is blocked* C) A type of light D) A refraction of colour (1 mark)

Draw: Draw a diagram showing a light source (like a torch), an opaque object, and the shadow it casts on a wall. Use arrows to show the light travelling in straight lines.



Extension challenge: Nova wants to buy a new telescope lens. If a lens costs £24.50 and she has £50.00, how much change will she get? Explain how a lens uses refraction to help Nova see stars more clearly.