Nova’s Material Marvels Quiz

Learning objective: To identify, describe, and compare the properties of everyday materials and understand how materials are chosen for specific purposes.

Join Nova the barn owl in the starlit observatory! Read each question carefully and select the best answer. Good luck, young scientists!

Answer Key: 1. C (Conductivity); 2. True; 3. Opaque; 4. B (Thermal insulator); 5. False (It is a reversible change); 6. Soluble; 7. Magnetism; 8. C (A transparent material); 9. Irreversible; 10. False (Metals are generally good conductors).

Word bank: conductor · insulator · reversible · irreversible · soluble · transparent · opaque · thermal · magnetic · flexible

1. 1. Max the monkey is testing materials for a circuit. Which property is most important for the wire to carry electricity? A) Hardness B) Transparency C) Conductivity* D) Flexibility (1 mark)

2. 2. True or False: A material that allows light to pass through it completely is called transparent. (1 mark)

3. 3. If a material does not let any light pass through it, we describe it as _____. (1 mark)

4. 4. Why do we use plastic handles on metal saucepans? A) It is cheap B) It is a thermal insulator* C) It is magnetic D) It is flexible (1 mark)

5. 5. True or False: Melting an ice cube into water is an irreversible change. (1 mark)

6. 6. When salt is stirred into water and disappears, we say that the salt is _____ in water. (1 mark)

7. 7. What property would you use to separate iron filings from a pile of sand? (1 mark)

8. 8. Which of these would be best for a window? A) A piece of wood B) A sheet of card C) A sheet of glass* D) A metal tray (1 mark)

9. 9. Is baking a cake a reversible or an irreversible change? (1 mark)

10. 10. True or False: All metals are electrical insulators. (1 mark)

Draw: Draw a backpack designed by Kit the fox. Label at least three parts of the bag and explain which material you used for each part and why (e.g., 'Waterproof fabric for the outside to keep books dry').

Extension challenge: Nova asks: If you were building a bridge across a stream, which properties would the materials need to have? Write a paragraph explaining your choices using at least four words from the word bank.