Year 3 Science Assessment: Properties of Materials

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

Read each question carefully. Use your scientific knowledge about materials to answer the questions in the spaces provided. Good luck!

Nova the owl is helping her friends organise their workshop. She has gathered various objects: a metal spoon, a woolly jumper, a clear plastic ruler, a wooden block, and a rubber band. Nova wants to make sure everyone knows why these materials behave the way they do.

Word bank: transparent · opaque · flexible · rigid · waterproof · absorbent · magnetic · durable

1. 1. Look at the plastic ruler. Nova says it is 'transparent'. Explain what this word means in your own words. (2 marks)

2. 2. Max the monkey needs to pick up some metal paperclips using a magnet. Which property must the paperclips have for this to work? (1 mark)

3. 3. If you were building a garden shed, why would you choose wood or metal instead of paper? Use the word 'durable' in your answer. (3 marks)

4. 4. Bea the bee is looking for a material to make a raincoat. Should she choose a material that is 'absorbent' or 'waterproof'? Explain why. (4 marks)

5. 5. Sort these materials into two groups: 'Flexible' and 'Rigid'. Materials: Rubber band, Metal spoon, Woolly jumper, Wooden block. (4 marks)

6. 6. Why are some objects made from a mixture of materials? For example, think about a frying pan made of metal with a plastic handle. Explain how having two different materials makes it safer to use. (6 marks)

7. 7. Extended Writing: Imagine you are an inventor like Kit the fox. You need to design a new school bag. Describe which materials you would use for the different parts of the bag (e.g., the base, the straps, the pockets) and explain why you chose those specific materials based on their properties. (5 marks)

Draw: Draw a picture of an object you use at home. Label two of its parts and explain the property of the material used to make each part.

Extension challenge: Total: /25. Challenge: Can you find one object in your classroom that has changed its shape? Describe what happened to it (e.g., was it squashed, twisted, stretched, or bent?).