















Properties and Changes of Materials: Properties of Materials

<p>Aim: To compare and group together everyday materials on the basis of their properties, including their hardness, transparency and response to magnets by sorting and classifying materials according to their properties. I can compare materials according to their properties.</p>	<p>Success Criteria: I can describe a material's properties. I can explain the uses of different materials based on their properties. I can sort and compare materials according to their properties.</p>	<p>Resources: Lesson Pack 5 or 6 feely bags filled with different materials, placed around the room. Suitable materials could include a copper coin, a steel paper clip, a rock, a slate, a wooden spoon, a piece of tracing paper, a safety mirror, a plastic ruler. Different materials for children to test (Ideas as above) Magnets Small metal nails Goggles Jars or beakers Elastic bands Empty trays Measuring jugs Water</p>
<p>Key/New Words: material, property, magnetic, hard, transparent, flexible, permeable.</p>	<p>Preparation: Differentiated Material Properties Activity Sheet per child. Differentiated Testing Properties Activity Sheet per child.</p>	

Prior Learning: It will be helpful if children have studied materials and their properties in earlier year groups, including transparency, magnetism and states of matter in Y3 and Y4.

Learning Sequence

	<p>Describing Materials: Use the Lesson Presentation to explain what materials are, and discuss the difference between natural and synthetic materials. Point out the feely bags filled with different materials. Ask the children to feel the materials and try to identify them. While doing this, they should think of words to describe the materials. When all the children have felt all the materials, reveal the materials. Ask children to share the words they thought of to describe them.</p>	
	<p>Properties: Explain that the words used to describe a material are its properties. Ask the children to complete their differentiated Material Properties Activity Sheet by matching the properties with their definitions. Look for children who can describe properties of materials.  Write their own definitions for some of the properties.</p>	
	<p>Using Materials: Use the Lesson Presentation to discuss the importance of knowing a material's properties. Ask the children to look again at the items from the feely bags, and discuss in pairs why these materials were chosen for these items based on their properties.</p>	
	<p>Testing Properties: Tell the children that they will be testing the properties of several different materials. Explain that they will test each material for magnetism, hardness transparency, flexibility and permeability. They should follow the instructions for each test on their differentiated Testing Properties Activity Sheet and test each different material. The children should record their results on their differentiated Testing Properties Activity Sheet. Look for children who can find a material's properties and can sort and compare materials according to their properties.</p> <p>  Follow the full instructions for each test.  Devise their own instructions for testing magnetism and transparency.  Devise their own instructions for testing magnetism and transparency and think of a use for each material based on its properties. </p>	
	<p>Properties and Purposes: Ask the HA children to share their ideas on the possible uses for the materials they tested, based on their properties. Ask for feedback on their ideas from the rest of the class.</p>	

Taskit

Answerit: Try [this quiz](#) to explain why materials have been chosen based on their properties.

Describeit: Complete [this worksheet](#) to describe the characteristics of materials and suggest uses for materials.

Makeit: Make a set of property and material pairs cards. List different materials on half the cards, and then list a property of each material on the other half of the cards. Place them face down on the table and choose two cards. If the material and property match, you have won the pair of cards! The player with the most pairs wins.