Testing Properties

Follow these instructions to test the properties of different materials.

Magnetism test.

Touch a magnet to each material. If it is attracted to the magnet, it is a magnetic material. If it is not attracted to the magnet, it is not magnetic. Cross or tick to show whether each material is magnetic.

Hardness test.

Using the pointed end of a nail, carefully try to scratch the surface of each material. Number the materials from 1 to 5, with 1 being the softest material and easiest to to scratch with the nail, and 5 being the hardest material and hardest to scratch with the nail. Wear goggles for this test.

Transparency test.

Hold each material in front of your eyes. If you can completely see through it, it is transparent. If you can see through it a bit, it is translucent. If you can't see through it at all, it is opaque. Cross or tick to show whether each material is transparent.

Flexibility test.

Flexibility means how much a material will bend without breaking.

Try to gently bend each material over the edge of the table. Number the materials from 1 to 5, with 1 being the least flexible material and hardest to bend, and 5 being the most flexible material and easiest to bend.

Permeability test.

If a material is permeable, it allows liquids to go through it. Impermeable materials do not allow liquids through, so they are waterproof.

Place each material over a jar that is in an empty tray, using an elastic band to hold it in place if necessary. Pour 20ml of water onto the material. If the material is permeable, some or all of the water will go through it into the jar. If it is impermeable, the water will stay on the material or run off it into the tray. Cross or tick to show whether each material is permeable.

Record your results below.

Material	Properties				
	Magnetic Y or N	Hardness 1 - 5	Transparent Y or N	Flexibility 1 - 5	Permeable Y or N

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Can you devise your own magnetism test?	**Hardness test.** Using the pointed end of a nail, carefully try to scratch the surface of each material. Number the materials from 1 to 5, with 1 being the softest material and easiest to to scratch with the nail, and 5 being the hardest material and hardest to scratch with the nail. Wear goggles for this test.
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Record your results below. Look at the properties of each material. Can you think of a use for each material based on its properties?

Material	Properties					Use of material
	Magnetic Y or N	Hardness 1 - 5	Transparent Y or N	Flexibility 1 - 5	Permeable Y or N	