1. Sorting plastic items: How many things?

1 hour activity

A collection of everyday items made from plastics will provide the focus for this activity. Children sort the items using given criteria or properties they have chosen themselves, giving reasons for their choices.

OBJECTIVES

- Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnet
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graph

RESOURCES

(per group)

- Collection of plastic items
- Activity Sheets A1a and/or A1b
- P.E. hoops

A collection of everyday items made from plastics will provide the focus for this activity. Discuss classroom items and the materials from which they are made. Together the children and teacher could build up the collection by bringing plastic items from home. As wide a range of plastics as possible would help the children to realise the importance of the production and variety of uses of plastics in today's society. Appendix 1 lists items made from the four plastics used in activities 2 and 3. These are PVC (polyvinyl chloride), polythene and polystyrene (both ordinary and expanded). The teacher should ensure that the display includes several items from these categories.

CARRYING OUT THE ACTIVITY

Children sort the display items using criteria such as those below or criteria they have chosen themselves, giving reasons for their choices.

- Colour
- Use
- Flexibility
- Hardness (Scratch With Scissor Point, Nail Etc.)

The children could place the objects into P.E. hoops or marked areas on the floor before completing Sheets A1a or A1b. These sheets can be a pictorial or written representation of the exercise.

QUESTIONS FOR THINKING

- How can you tell plastics from other materials?
- Are all plastics the same?
- What similarities and differences have you noticed?
- Do you know the names of any plastics?
- If so, can you see anything made from these particular plastics?

Children may be familiar with names of plastics in specific contexts such as shopping with polythene bags or sitting on bean-bags filled with polystyrene beads. Using examples such as these might help them to identify items on the display that they think are made from the same plastics because of the colour or texture, etc. Some children may realise the difficulty in identifying plastics simply by appearance, and the idea of investigating different properties can be introduced.

Appendix One

SOURCES OF PLASTICS

The following objects may be made of the plastics indicated.

Polythene - high density	Expanded polystyrene
bowls, buckets, beakers	ceiling tiles
piping e.g. water pipes	non-fibrous loft insulation
large cases	fast food packaging
milk crates	meat and food trays
dustbins	packaging (especially delicate instruments)
bleach bottles	head protection (e.g. cycling helmet)
doll's bodies	disposable cups for hot liquids
large toys	foamed material (sponges)
pressure pipes	egg boxes
kitchenware	

PVC	Polythene - low density
drainpipes	squeezy bottles/tubes
gramophone records	cable insulation
wellington boots	film for bags and packaging
wallpaper (washable vinyl)	back of carpets(e.g. car carpets)
table cloths	ink tubes in ball-point pens
shower curtains	food storage containers
baby pants	**Polystyrene**
macs	clear storage containers/jugs in kitchens
artificial leather	food containers, e.g. yoghurt cartons, clear
flooring e.g. kitchen	egg boxes
DIY blister packs	model kits e.g. Airfix
hosepipes	ball-point pen and fountain pen cases
plastic cutlery	plastic coat hangers
watch straps	