

2. Paper clips and stamps



1 hour

Collecting paper-clips with a magnet from a tub which also contains stamps.

OBJECTIVES

- To distinguish between an object and the material from which it is made
- To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.
- To describe the simple physical properties of a variety of everyday materials.
- To compare and group together a variety of everyday materials on the basis of their simple physical properties.
- To use their observations and ideas to suggest answers to questions.

RESOURCES

(Per group of 4 children unless otherwise stated)

- 20-30 paper-clips
- 20-30 old stamps (or small squares of paper, cut with pinking shears)
- Tub
- Magnet¹
- [Activity sheet 5](#), made into story cards and/or
- [Activity sheet 6](#), made into prompt cards¹ and/or
- [Activity sheet 7](#) (per child)

INTRODUCING THE ACTIVITY

The children think of ideas for separating the mixture, e.g. making chains of paper clips or clipping sets of stamps together (slow but effective sorting), blowing the stamps gently away, picking up stamps with a damp sponge, etc. If moving on to the structured activity the children should be encouraged to look for differences between the items, and to think about what the stamps and paper-clips are made from. Using the story picture showing a magnet, children can be asked what Brenya is using to sort the mixture.

- How are the paper-clips different from the stamps?
- What are paper-clips made from?
- What do magnets do? Would a magnet help you?

¹ Denotes items required for a structured rather than an open-ended approach.

Choosing the magnet as a means to separate the paper-clips will depend on the previous experience the children have had with magnets. If they have had little or no experience, the teacher may want to precede this task with an exploration activity using magnets. Otherwise, the teacher suggests the children rest the magnet on the stamps and paper-clips to find out what happens. In this way the children will be able to lift out the paper-clips from the tub. They could have a competition to see who can lift the most paper-clips with one touch of the magnet.

N.B. Stamps are sometimes lifted with the paper-clips. To avoid this, the tub can be shaken to reveal paper-clips. The children place the magnet near the exposed metal.

[Activity sheet 7](#) can be used by children of varying abilities, either as a record of what they did, or to record predictions and explanations also. Magnets only attract materials containing iron. The children should realise that the mixture must contain metal and non-metal objects for the magnet to be a useful 'sorter'. Some may be able to understand that not all metal objects can be sorted in this way, but only a 'special' metal - namely iron. N.B. Nickel is magnetic and some stainless steel is not magnetic, although it contains iron. These cases should not be covered at this stage.

EXTENSION ACTIVITY

The children investigate other mixtures, such as pennies and crayons, rubber bands and badges, etc. to see if they can sort these out in a similar way. They could also suggest other mixtures that can be separated using a magnet. For example, aluminium cans can be separated from steel ones for recycling purposes.