



KALEIDOSCOPIES

LEVEL OF DIFFICULTY



OUTLINE OF ACTIVITY

Kaleidoscopes are simple devices that reflect a pattern to form a complex image (the name derives from the Greek words *kalos* meaning beautiful, *eidos* meaning form or pattern and *skopion* meaning to observe; hence kal-eido-scope, a device to look at beautiful patterns). Most people will have encountered them as toys, but they are even more satisfying to construct for yourself.

The design given here uses plastic mirrors, which are cheap and can be cut with scissors and scored with craft knives. The same mirrors are used for periscopes, and this could form a satisfactory follow-on to the periscope activity.

EQUIPMENT

Quantities are based on a **make and take** approach to produce 20 kaleidoscopes.

- A4 card x 20
- plastic mirrors x 20
- craft knives x 5
- coloured paper
- sellotape
- elastic bands
- cutting mats x 5
- safety rulers x 5
- scissors x 15
- black card
- white plastic (e.g. a carrier bag)
- clear plastic (from mirrors)

SCIENCE CONTEXT

Light, that light travels from a source and is reflected from surfaces (for example, mirrors or polished metal).

SCIENTIFIC EXPLANATION

If two plane mirrors are set at an angle they will produce multiple images. If the angle between the mirrors is reduced, the number of images increases until there is an infinite number of images when the two mirrors are parallel.