Curved Mirrors

Apparatus

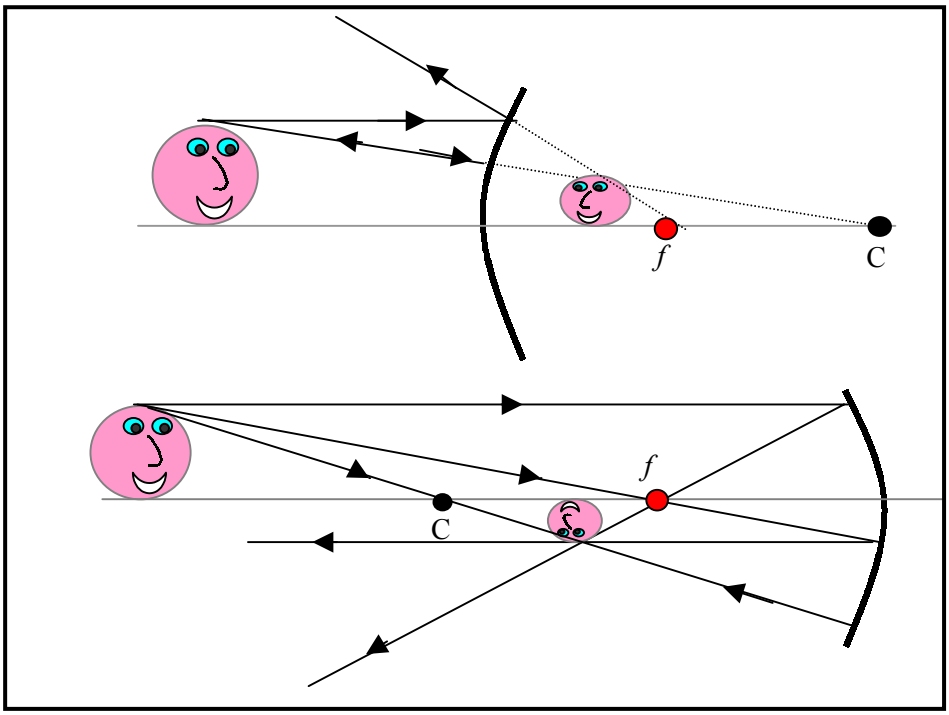
Curved mirrors, some concave and some convex

Action

The students observe the reflections in the mirrors. They should note whether the reflections are distorted, or magnified or reduced. They should deduce what sort of mirror they are looking into from this, and whether the image they see is real or virtual.

The Physics

The angle of reflection is always equal to the angle of incidence, so a concave mirror is converging, while a convex mirror is diverging. A convex mirror produces a virtual, upright, reduced image. A concave mirror will give you a real, inverted and reduced image unless the object is within the focal length. In which case the image is virtual, upright and enlarged, as is the case with the shaving mirror. See diagrams below. C is the center of curvature of the mirror, *f* is the focal point.



Accompanying sheet

Curved Mirrors

Look at your reflection in the mirrors.

What do you see?
What sort of image does each mirror produce?
Can you tell whether the mirrors are concave or convex?
What might these mirrors be used for?