

# Periscopes



Science Gateways

Periscopes are simple devices that let someone watch something while staying hidden. They are most famously used in submarines, letting the submarine stay underwater while the user can see what is on the surface. At home they can be useful watching birds or other wild-life.

They are fairly simple to make, but you will need a mirror that can be cut – either a plastic mirror, or some mirror board. You might find these in pound shops; you can also buy them on line (but you will probably have to buy them in a pack, so you may have lots left over). Or you can try kitchen foil – the results aren't quite so good (because it is difficult to keep the foil absolutely smooth) but you can try this very cost solution first and then see if you want to make the slightly more expensive version with plastic mirrors.

## How to make a periscope

There are two periscopes to make:

- A forward-view periscope (see Sheet 1).
- A rear-view periscope (see Sheet 2).

1. Cut out the shape, following the solid black lines.

2. When you have cut out the shape, fold it along the dotted lines. Sellotape the sides together to form a square tube, so that the printing is on the outside.

3. Now fix a square of plastic mirror (or mirror board, or kitchen foil) onto the INSIDE of flaps A and B.

If you have a kit from Science Gateways, there should be four squares of plastic mirror in your kit. You need two for each periscope. The mirrors are protected by a plastic film, so you don't get finger-marks on the mirrors. Raise the edge of the film before you put it on the flaps.

Remove the film from the mirror and your periscopes are ready to use.

4. Use the tabs on flaps A and B to Sellotape the flaps to the diagonals of the tube.

5. Your periscope is now finished and ready for use.

## Activity

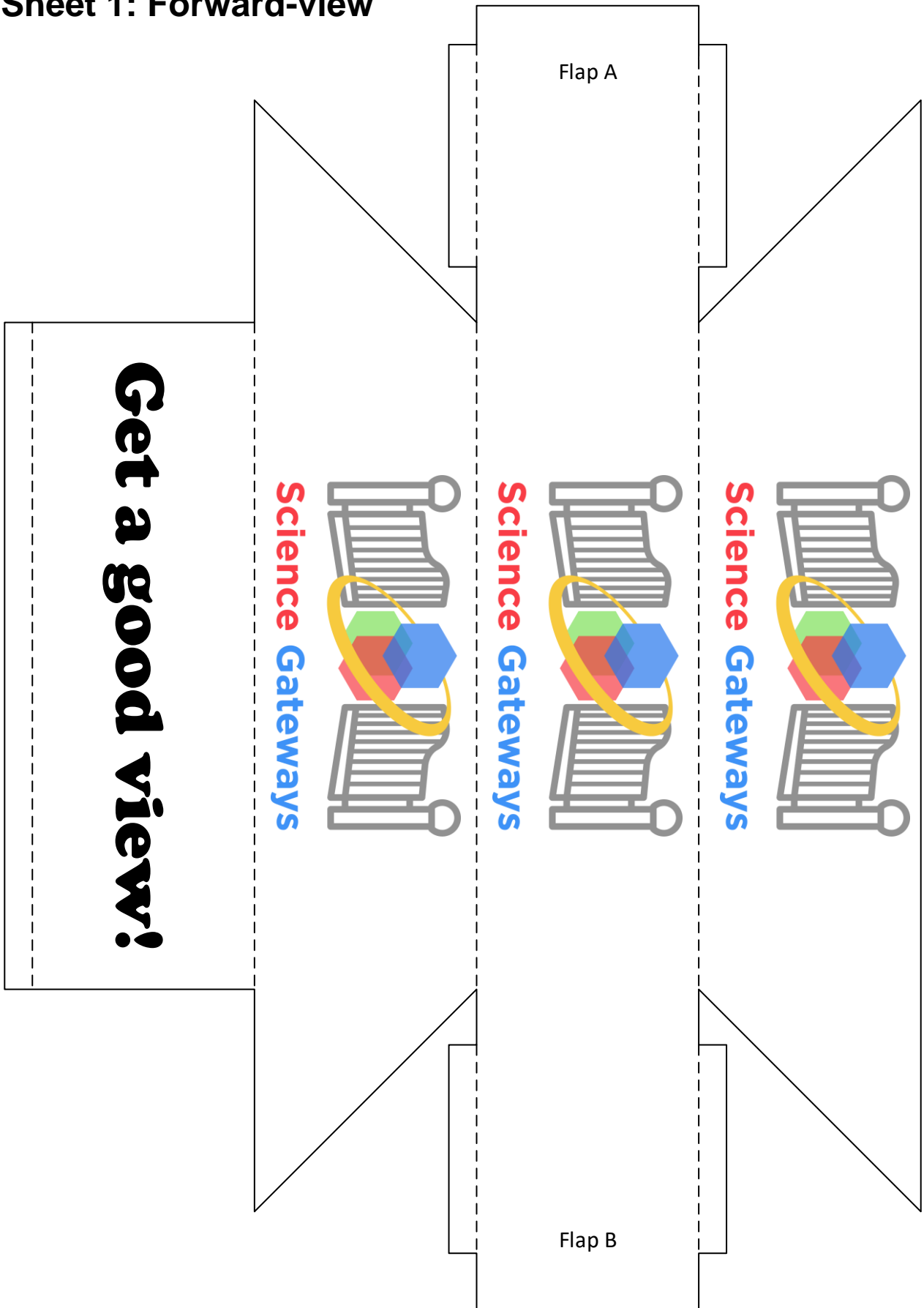
- Make a list of situations where people might use a forward-view periscope.
- Make a list of situations where people might use a rear-view periscope.

## Careers

For careers linked to this type of activity see [Transport and Aerospace](#)

# Periscopes

## Sheet 1: Forward-view



# Periscopes

## Sheet 2: Rear-view

