

# The Awesomely Amazing Science club

## WHIZZ POP BANG!

### Teacher-led activity

## DISAPPEARING DISH



#### What you do:

1. Pour the vegetable oil into the bowl.
2. Take your Pyrex item and gently lower it into the oil, making sure you don't trap any air bubbles.



#### You will need:

- Large bowl
- Vegetable oil
- Pyrex item, such as a small dish or jug

#### You should find:

The Pyrex seems to vanish before your eyes (if you have used a measuring jug, you will still be able to see the lines and numbers on the jug)! This happens because different materials bend (refract) light in different ways. You may have noticed that when you put a straw into a glass of water, it seems to bend at the water's surface. This is because air and water refract light differently. Pyrex and vegetable oil both refract light in exactly the same way, so when Pyrex is put into oil, it seems to vanish.

### Pupil activity

## RUDOLPH'S WATCHING YOU!

#### What you do:

1. Cut out Rudolph and cut along the line under his chin (marked with a solid red line on the reverse).
2. Carefully follow the folding instructions on the back. You will seem to be folding Rudolph's face inside out, but don't worry, this is correct!
3. Using craft glue or sticky tape, stick tabs A, B and C to the places marked A, B and C at the back.
4. Stick tabs D, E, F and G to the places marked D, E, F and G at the back so that Rudolph stands up.
5. Gently bend Rudolph's head backwards a little so that he's looking slightly upwards.
6. With Rudolph at eye level, cover one of your eyes and look at his face. Move from side to side or try tilting or nodding your head.



#### You will need:

- Scissors
- Craft glue
- Rudolph template

#### You should find:

As you move around, it looks like Rudolph's head turns to follow you! This is called a hollow face illusion. This illusion happens because when you look at a face, your brain expects it to be convex (bulging outwards) and so it is fooled into thinking Rudolph's nose is pointing towards you, when in fact his head is concave (curving inwards). When you move, your view of the face doesn't change in the way it would if the face was convex, so your brain comes up with a different explanation – the face must be moving!

