

PLASTIC WATER BOTTLE GREENHOUSE

Encourage a little seedling to grow, with the help of your own mini greenhouse.

**QUICK
HACK**

You'll need:

- ★ 2-litre plastic bottle



1

All you need to do is cut the bottom off your plastic bottle! See Tool Tip 3.

TOOL TIPS

SAFETY FIRST

- ★ You may need help from a grown up.
- ★ Do not leave tools unattended or loose on the floor.
- ★ Always mark where you need to make a hole or cut out first and work on a hard, flat surface that cannot move.
- ★ If you're pushing into a material to make a hole, use a block of wood to work on to prevent damage to surfaces or yourself.
- ★ Wear protective safety glasses when cutting metal wire and never cut wire with scissors as this will damage the scissors.

1



Making a hole in plastic

To make a hole in plastic, cardboard or wood, use a bradawl, or if you don't have one, a point of a geometry compass. Slowly rotate the bradawl / compass, not pushing too hard – you don't want it to burst through dangerously!



Then to enlarge the hole, use a sharp, pointed pair of scissors. Place one end of the scissors into the small hole you have made and, being careful, use a twisting action to open up the hole to the right size.

2

Cutting or removing a section of plastic

If you need to make a cut into (or remove) a section of plastic – for example, cutting a square hole – first use Tool Tip 1 on the left to make a hole, and then insert your scissors and cut out the shape you want.

3

Cutting in a straight line

Use a ruler and mark the material with a line that you will cut along. If the material is curved, like a tube or bottle, you can cut some waste paper into a strip, or place eco tape as a guide. Then use the pre-cut edge as a working edge to help you cut in a straight line.

4



Cutting wire

Most pliers also have a wire cutting part that can be used in the same way as wire cutters. Pliers also have a flat section that can be used to grip the wire making it easier to twist.

Thicker wire will be harder to bend and cut, so choose the wire you need for the job and test it by trying to bend and cut it before you start a build. To cut wire, place where you want the cut to be into the jaws of the wire cutter, making sure none of your fingers are between the handles or the jaws, and then squeeze them together. Make sure you cut the wire at a right angle so it isn't as sharp, and be careful of the wire ends you've just cut.

5



Cutting into plastic with wire cutters

You can use wire cutters to cut into hard plastics like that used in bottle tops. Use the wire cutters like scissors, squeezing them together – make sure none of your fingers are between the blades.

6



Cutting with a hacksaw

Mark the line you want to cut, and then make sure the material is held firmly. Carefully drag the hacksaw back along the marked line 2 or 3 times to start. Then, using a gentle back-and-forth action, cut along your marked line, trying not to cut too quickly or too hard. Always make sure your fingers are well away from the blade.

7



Making a hole in metal

Make sure the material is held firmly (like between two bricks) and on a flat, hard surface. Place a nail tip where you want the hole, holding it away from the nail head (flat end). Tap the head with a hammer and if it doesn't go through first time, make sure the nail tip is in the correct place before trying again.