

Making a Periscope

A periscope is a device which enables you to view over obstacles. They are also used on submarines to enable the surface of the sea to be viewed while the submarine is still submerged

You will need:-

2 pieces of wood (6mm MDF) 3½cm by 30cm,
2 pieces of wood (6mm MDF) 4½cm by 7cm,
2 plastic or glass mirrors 4½cm by 6½cm.
double sided tape and hot melt glue,
a piece of scrap paper.

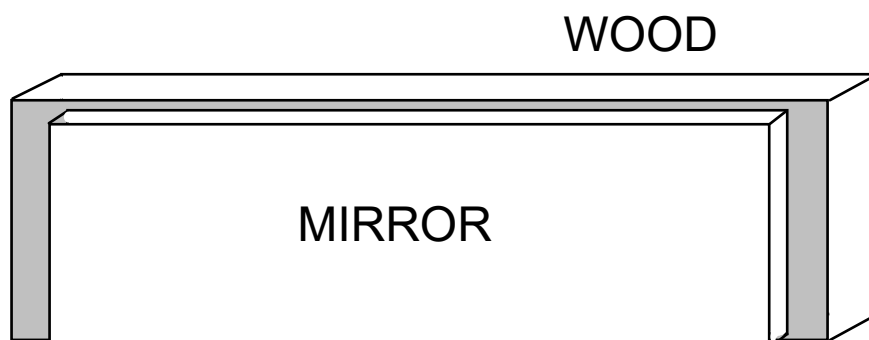
RISK ASSESSMENT.

Glass mirrors have sharp edges – you may cut your fingers **TAKE CARE**
The glue that you will be using will be **VERY HOT**.
Keep your fingers away from the glue until it has cooled.

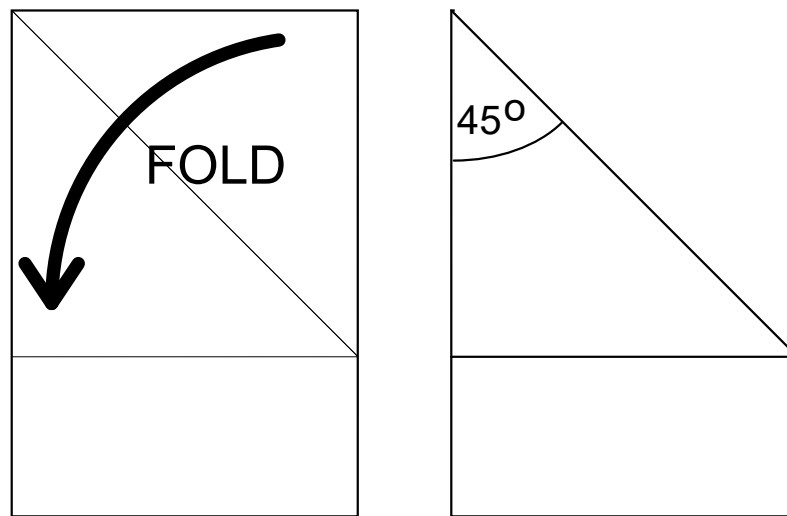
METHOD

- 1). Take one of the mirrors and one of the small pieces of wood.
If using plastic mirrors, carefully peel away the protective film from one side.
- 2). Cut a piece of double sided tape about 2cm long and place it on the back of the mirror.
- 3). Carefully peel away the backing paper from the tape and carefully fix the mirror onto one of the smaller pieces of wood.
- 4). Repeat this for the other mirror.

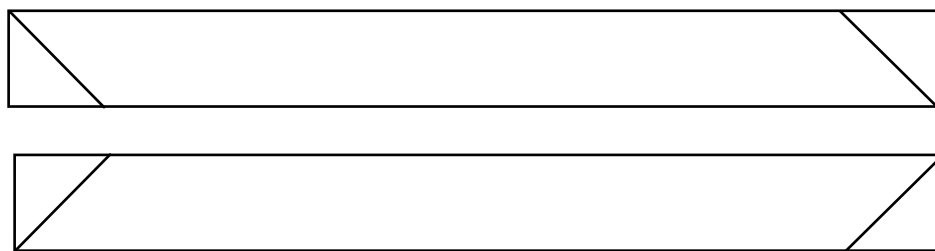
You should now have two mounted mirrors as in the sketch below.



- 5). Take the piece of scrap paper fold it as shown in the diagram below.

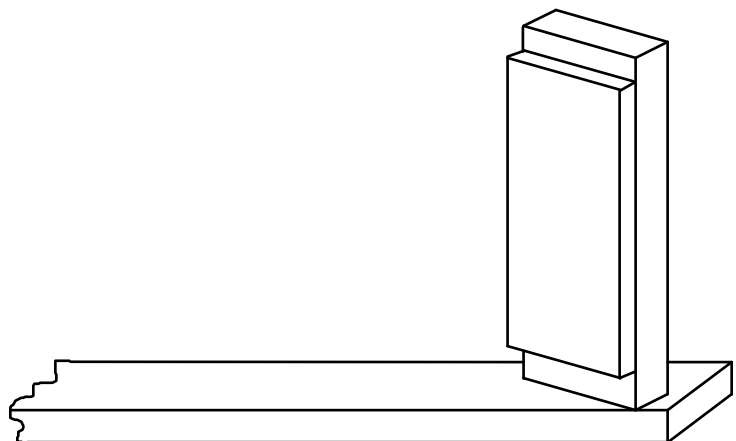


- 6). Use the piece of paper to mark 45° on the long pieces of wood with lines as shown below.

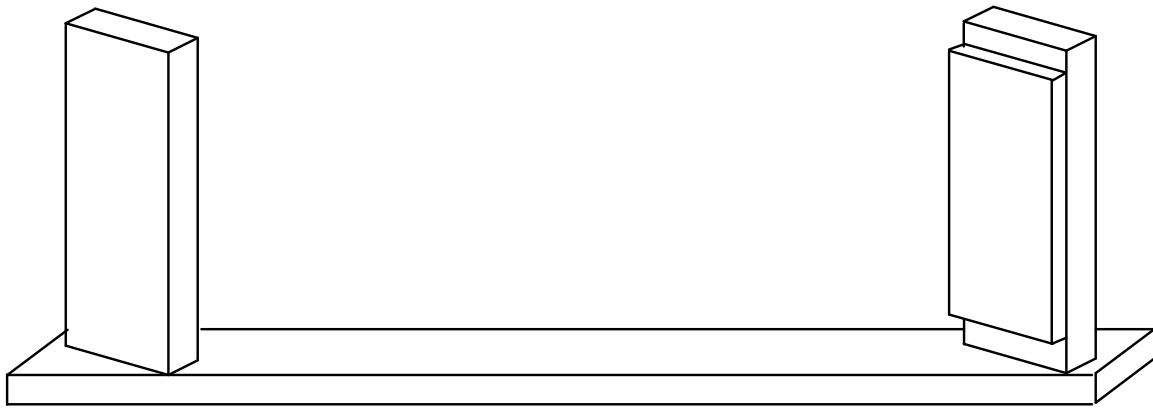


It is along these lines that you are going to glue the mounted mirrors

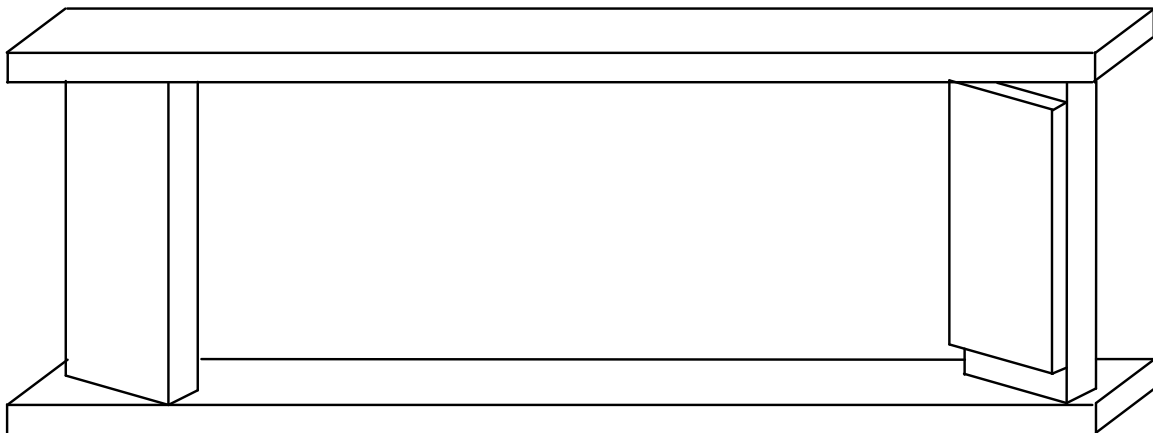
- 7). Take one of the mounted mirrors.
Put some hot glue on one of the short sides of the wooden block holding the mirror.
Glue the mounted mirror along one of the 45° lines so that the mirror is towards the long side of the piece of wood, as in the diagram.



- 8). The same should now be done to the other mirror at the other end of the long piece of wood. The two mirrors should now be facing each other along the length of the long piece of wood.
Your periscope should now look like the next diagram.



- 9). The other long piece of wood now needs to be glued onto the free side of the mirror supports.
Put some glue on one of the mirror supports and carefully glue the other long piece of wood in place taking care that the mirror support is in line with the 45° marks.
Then GENTLY ease apart the other mirror support and squeeze some glue into the gap. Carefully line up with the 45° line and fix.
- 10). Your periscope is now finished and should look like the diagram below.



Hold the periscope vertically and look into the bottom mirror.
You will be able to see objects through the top mirror.
Unfortunately you will also be able to see a lot of other things from around the sides.

To finish your periscope properly you will need to glue card onto the frame, at the front, back, top and bottom. Remember to leave a gap opposite each mirror so that you can still look through the periscope.