

LESSON- LIGHT

INTERESTING STORY TO BEGIN TEACHING OF LIGHT

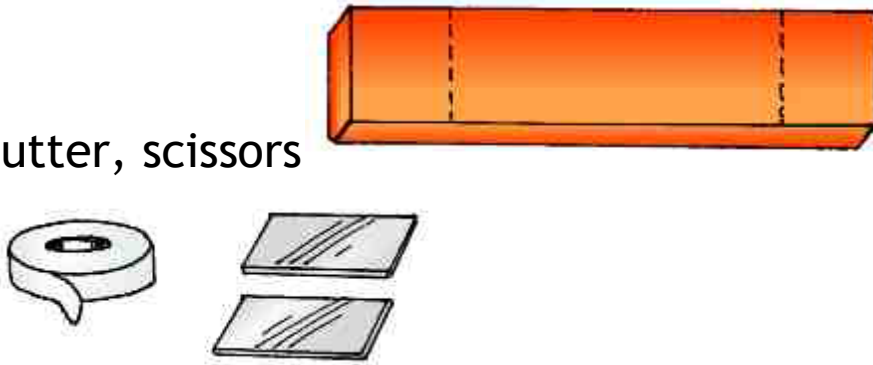
James is very excited today. He is at the dockyard where his father works. His father had promised him to show the ships and submarine, if James stood first in class for his final exam. James did not know of the surprise that was waiting for him. His father had taken special permission to allow both of them to see the interiors of a submarine. James could not help but shriek in excitement when his father took him underwater inside a submarine. 'I don't feel as if I am under the water surface, said James. 'Come, have a look at this, said father pointing to an instrument.

James looked through it and was delighted to see the objects above water. He could not believe his eyes. He could see the land around. He could see people walking around in the dockyard. I know this is a periscope, said James, who had read about it in books. Seeing James so excited, father promised him that he will help make a periscope of his own. When they got back home, both James and his father got down to making a **periscope**
So, roll up your sleeves, and get going!! Make your own periscope.

YOU WILL NEED:

Cardboard pencil box, or any other similar box, two rectangular mirrors, cello tape, paper

cutter, scissors

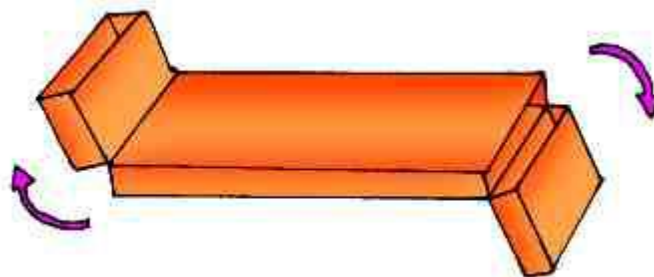


WHAT TO DO

Mark 2.5cm from each end of the box. Cut three sides only (one big and two small) at these ends.

Bend the cuts at right angles as shown.

Attach the mirrors using cello tape where the box has



been bent.

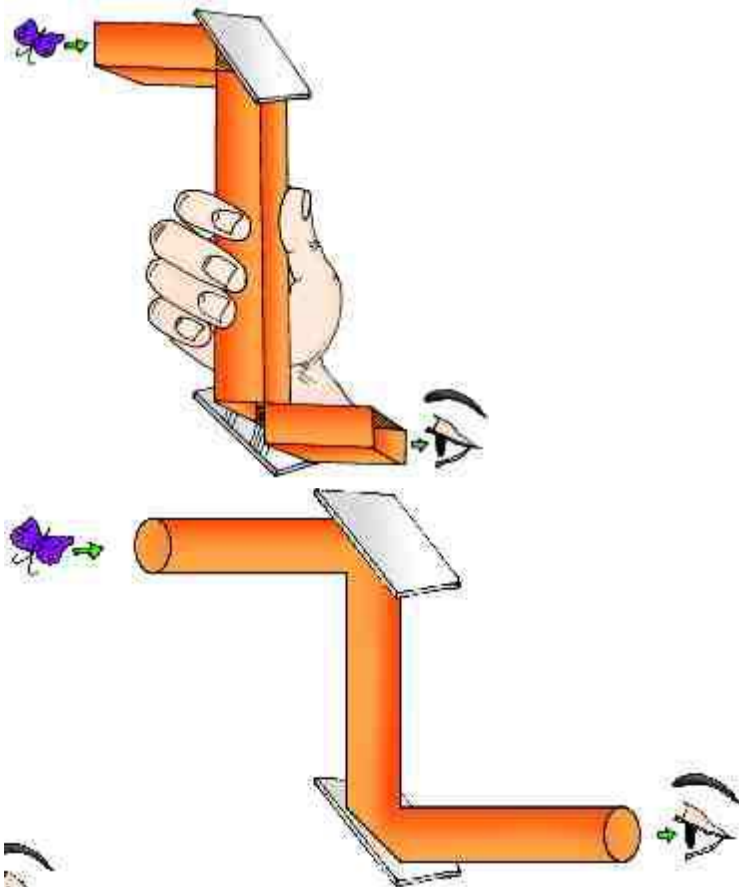


This should be done in such a manner that the mirror surfaces are facing the box at right angles. *



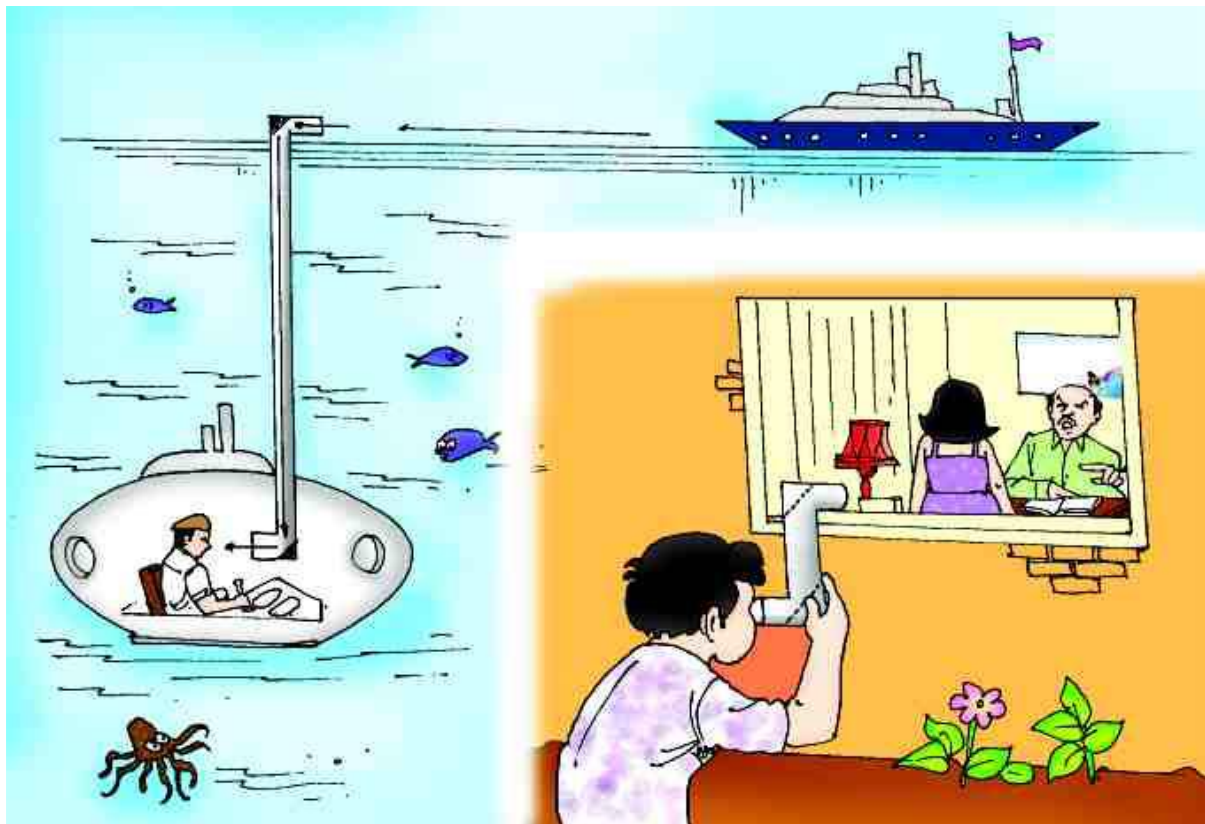
Ensure that both the bent parts of the pencil box are at right angles. You may attach a piece of cello tape for this.

Now hold the periscope vertical and peep through the lower rectangular window. Are you able to see objects located at a higher level? How is that possible?



A periscope like the one you have made uses two mirrors. Look at the diagram of a periscope shown here.

The mirrors are placed so that one mirror reflects the light from the object onto a second mirror. The second mirror then reflects the light beam to your eyes.



Ray diagram of a periscope.

A periscope is commonly used in submarines. The captain of the submarine uses it to see what happens above water and to detect enemies.

So now what are you waiting for? Get ready to peak around corners, over the fence and over table top sand surprise your friends.

HAVE FUN!