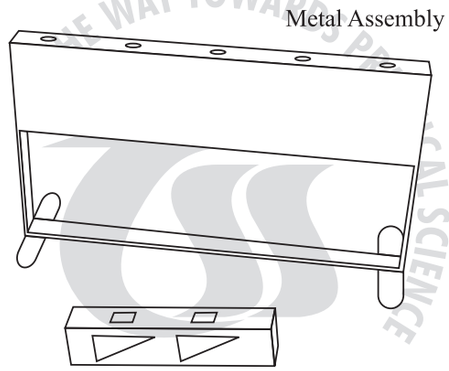
LATERAL SHIFT

Try to touch the one you see

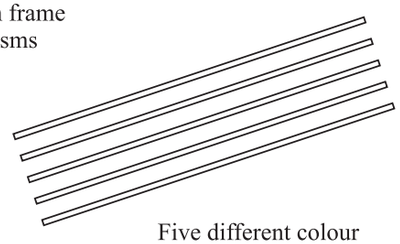
Assembly :

Consists of a frame made of MS patti and MS sheet (see the diagram). Five holes are drilled at the top of the frame at equal distances from each other. These holes are used to insert five different colored rods which are part of the model. There is a wooden frame which houses two right angled acryllic prisms which are used for viewing.

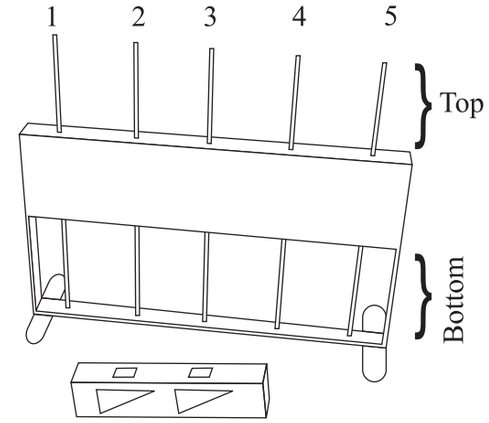


Metal Assembly

Wooden frame with Prisms



Five different colour metal rods



To do and observe :

Step 1) Place the metal frame on a table at a distance of an arm's length and insert the five colored rods in the holes provided (as shown in the fig.)

Step 2) Take a chair and sit in front of the table facing the model.

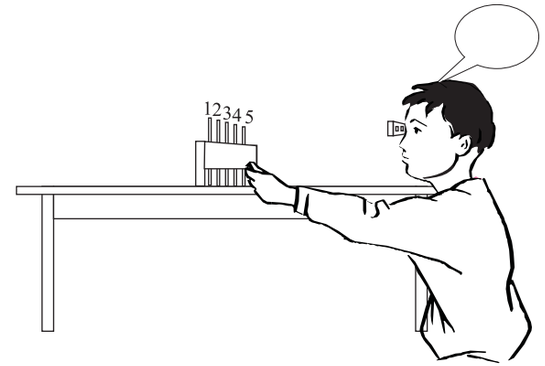
Step 3) Hold the prism assembly close to your eyes with one hand so that you can view through it.

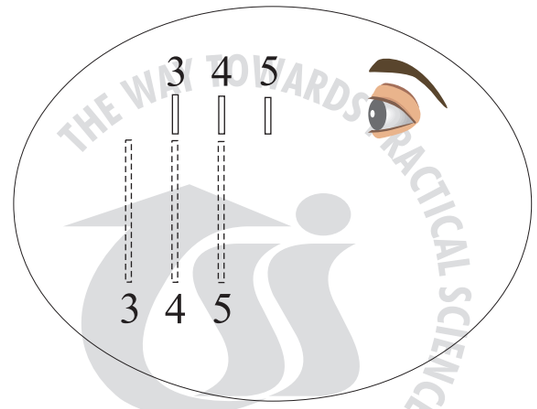
Step 4) Now observe any one of the five rods.

Step 5) Suppose you are viewing a red color rod, simultaneously touch the same rod (red coloured) at its bottom, using another hand.

Step 6) With another hand in touch with the rod, take away the prism assembly off the eyes.

Now verify whether you have really touched the red colored rod or any other rod? Surprised !!





What is going on ?

When you look at the rods through prism assembly, because of the refraction of the light through prisms the rods appear to be shifted. (Light bends when it travels from one medium to another medium due to refraction through prism. Here light is traveling from air medium through prism. As a result the object

in front of your eyes appear to be shifted to one side of your vision.) There fore if you try to touch the rod (at the bottom) which you are observing (at the top), you will not be able to touch it because it will not be there. Instead some other colored rod will be there and you will be touching that rod.

THE WAY TOWARDS PRACTICAL SCIENCE

TARANG SCIENTIFIC INSTRUMENTS

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LATERAL SHIFT

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