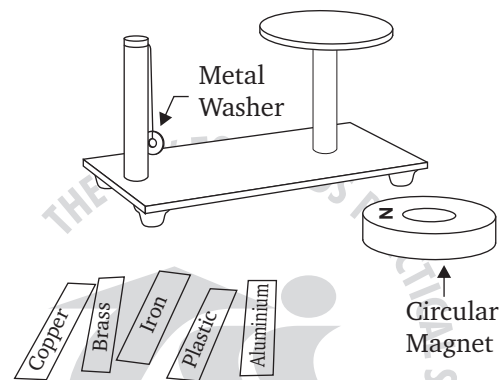


MAGNETIC MATERIAL FINDER

Differentiation between
Magnetic and Non-magnetic material.

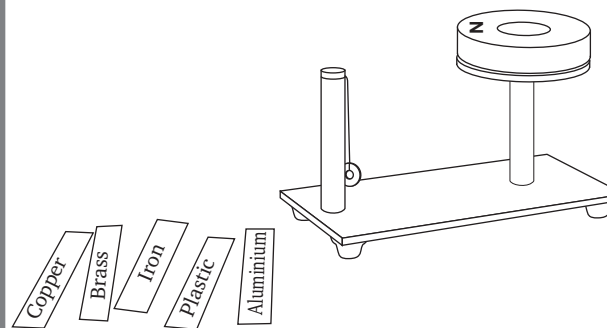
Assembly :



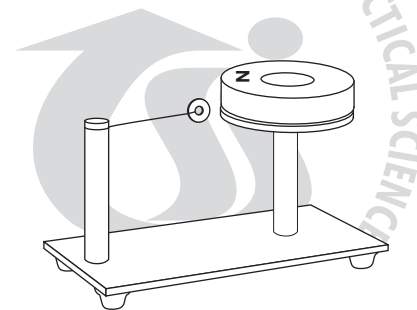
Consists of a circular acrylic platform. It is fixed to a acrylic rod. This circular platform with rod is again fixed at one end as a clear acrylic base. On the other end of the base another acrylic rod is fixed. It has a hole at the top end through which a small metallic washer is suspended using a thread. The assembly comes with one circular magnet and strips of copper, brass, alluminium, plastic and iron. Iron strip is red coloured. the strips re about 100 mm in length and 12 mm in width and 0.5 mm in thickness.



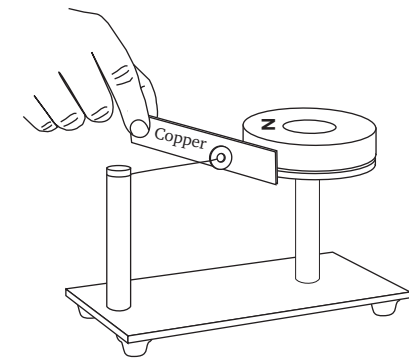
To do and observe :



Step 1 : Place the circular magnet on the circular platform.

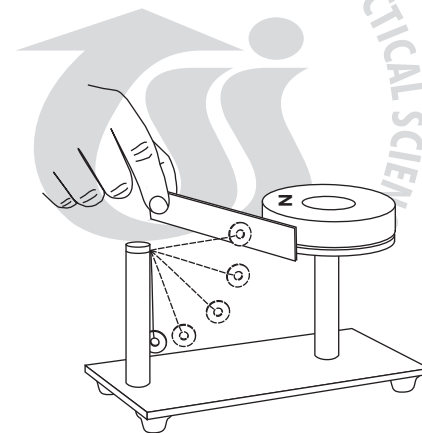


Step 2 : Lift the washer and bring it near to the magnet. It will stand horizontally (as shown in the figure) such that a small gap (about 4mm) is created between magnet and it.



Step 3 : Take a copper strip and hold it in the gap between washer and the ring magnet (as shown in the fig.) . You will notice that the washer doesnt fall down.

Step 4 : Repeat the step (3) with brass, aluminium and plastic strips. You will notice that in all these cases washer doesn't fall down.



Step 5 : Finally try to hold the iron strip in between the gap of washer and magnet. Now you will notice that the washer falls suddenly as soon as you try to put it in the gap. If you are successful in putting iron strip in gap, then washer definitely falls.



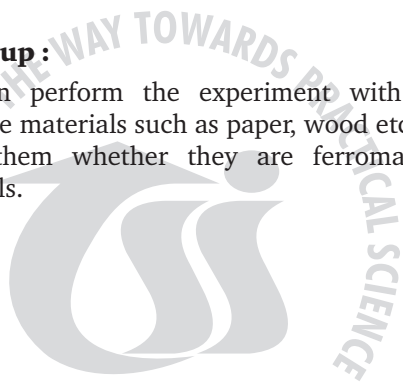
What is going on :

When the copper, brass, aluminium or plastic is placed in the gap between washer and magnet, the washer does not fall down. This is because all these materials allow magnetic lines of forces to pass through them. As a result of this the field created by circular magnet remains intact and washer also stands firmly.

When iron strip is placed, the washer falls. Because iron strip is a ferromagnetic material. It cuts the magnetic lines of forces and holds them inside it. As a result of this the field around the washer is cut off and therefore the washer falls due to gravity.

Followup :

You can perform the experiment with local available materials such as paper, wood etc., and verify them whether they are ferromagnetic materials.



**MAGNETIC
MATERIAL
FINDER**

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