

EXPERIMENT - 3

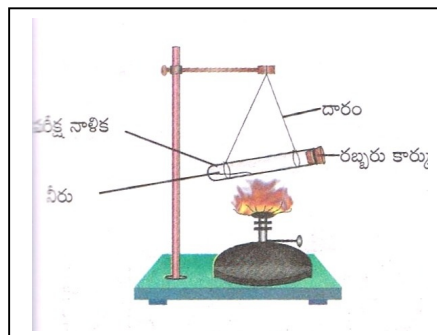
NEWTON'S THIRD LAW

Aim : To show that the action and reaction forces acting on two different objects.

Required : Test tube, Water, Rubber cork, Thread, Stand, Bunsen burner (or) Spirit burner

Formula : For every action , there is equal and opposite reaction. This is Newton's third law of motion.

$$F_{\text{action}} = - F_{\text{reaction}}$$



Procedure:(1) Take a test tube and pour a small amount of water in it.

(2) Place the rubber cork at its mouth to close it.

(3) Now suspend the test tube horizontally to the stand with help of two threads tied at both ends of the test tube.

(4) Heat the test tube with spirit burner until water vaporize and cork blows out.

Observation :

- Water vaporize and blows the cork out.
- The movement of test tube is opposite to the movement of the cork.
- Here Action : Cork blows out from the test tube.

Reaction : Motion of test tube in the opposite direction of motion of cork.

Precautions :

- Suspend the test tube horizontally from the stand carefully.
- Heat the bottom of the test tube where water appears. Otherwise the test tube may break.

Result :

- Verified that the action and reaction forces acting on two different objects.