1. Place a water mug on a pan balance.

2. Dip your fingers in water without touching the mug.

   The increase in the pan balance reading will be equal to the weight of the water displaced by the fingers.

   By dipping the fingers there is a weight gain of 50 g.

   Observe the weight gain.

3. Now clench your fingers in a tight fist and again dip it in water without touching the mug. Because the fist occupies more volume than the fingers, the weight gain will be more.

   By dipping the fist there is a weight gain of 100 g.

4. The mug of water weighs 400 g. The stone hung in air weighs 65 g. Now dip the stone in water without touching the mug. The pan balance will now read 420 g. The spring balance will read 45 g.

   This time, the increase in the weight on the pan balance (20 g) will be equal to decrease in the weight on the spring balance (20 g).

   Reading on pan balance: 420 g
   Reading on spring balance: 45 g

   This is based on Archimedes Principle - the upthrust or buoyant force will be equal to the weight of the displaced water.