

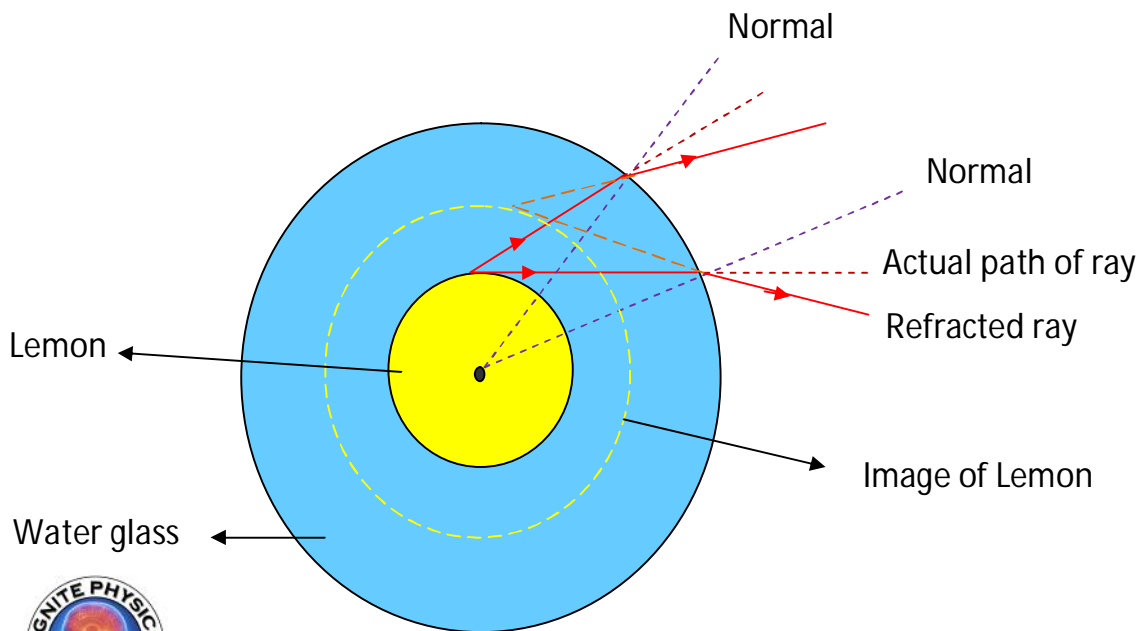
**Question :**

**Is Lemon in water appears big in size?**

**Answer :**

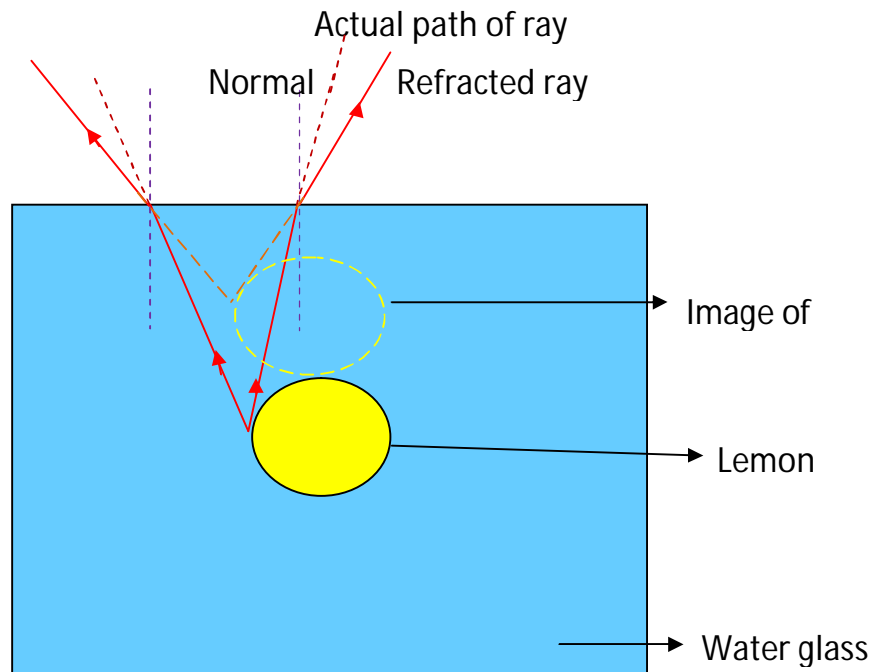
In fact the lemon in water does not appears big in size. It just seemed to be up or close to the observer. As the light ray travels from denser to rarer medium, it travels away from the normal drawn at interface.

In general, we thought that the lemon in water glass appears big in size. But it is due to the curved surface of water glass. Generally the water glasses have convex surface at outside. The lemon is placed inside. The rays from lemon have to travel from water to air by crossing the concave surface which is inward to the water glass. The concave surface acts as divergent lens. So the lemon appears in big size when it is kept in water glass.

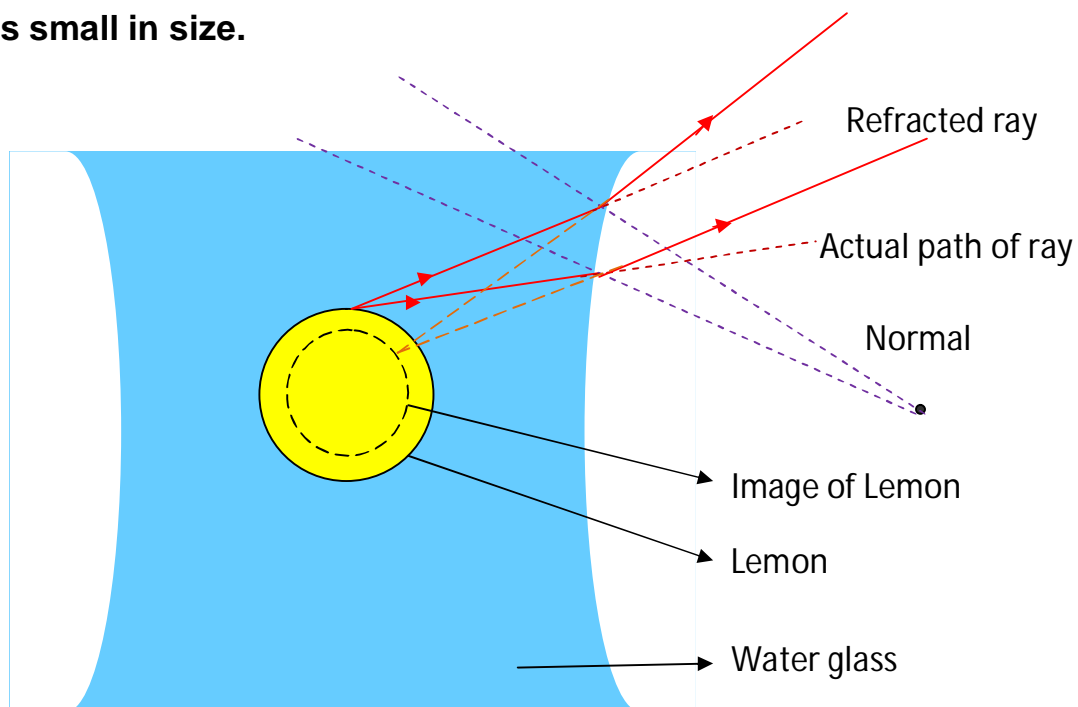


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**We see the lemon in normal size from top view where the water has plane surface.**



**If the water glass has concave surface at out side then it appears small in size. Because the light rays have to travel from water to air by crossing the convex surface. As the convex surface acts as convergent lens, the image appears small in size.**

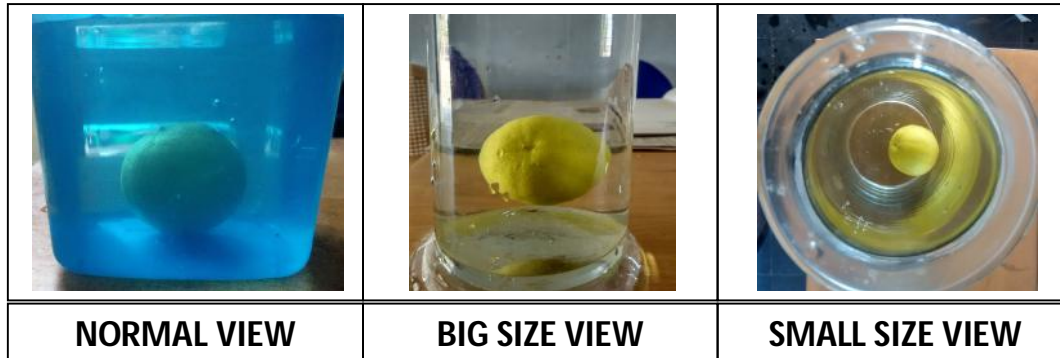


To observe the difference : Do a small activity. Take a beaker. Pour water fully. Keep a lemon in water.

(i) Observe the lemon from top view and Side view.

(ii) Observe the lemon from top view by placing a watch glass as lid.

(Take care such that water must touch the convex part of watch glass.)



To observe the difference : Do a small activity. Take three plastic transparent tins. One has flat surface. One has convex surface. One has concave surface. Fill them with water. Pour water in each. Place small rubber balls of same size in the water. Observe the difference.



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