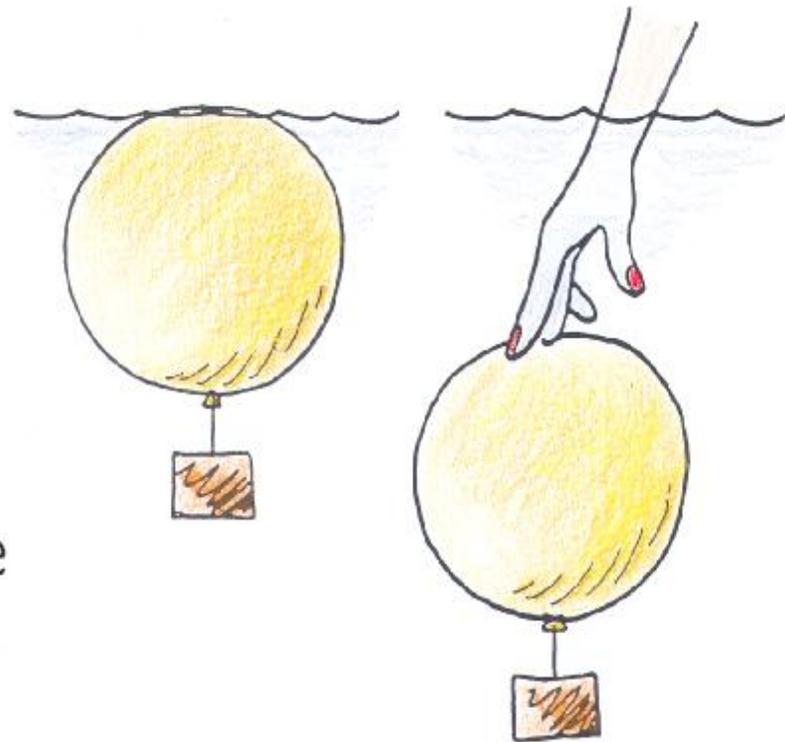


Next-Time Question

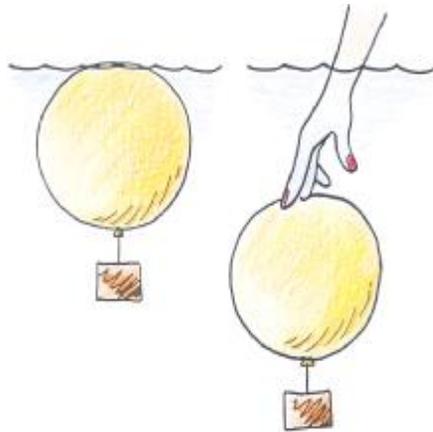
Consider an air-filled balloon weighted so that it is on the verge of sinking—that is, its overall density just equals that of water.

Now if you push it beneath the surface, it will

- a) sink.
- b) return to the surface
- c) stay at the depth to which it is pushed.



Next-Time Question!



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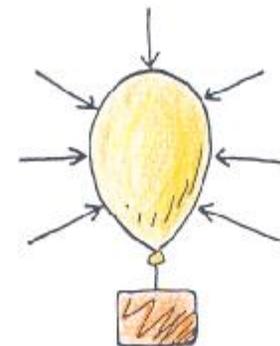
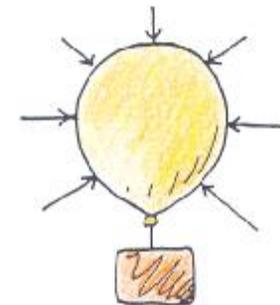
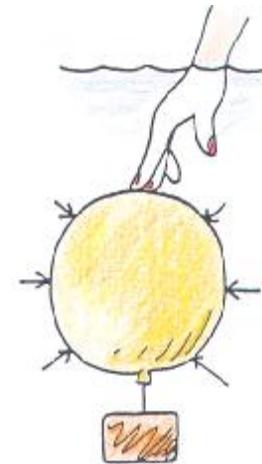
- a) sink.
- b) return to the surface.
- c) stay at the depth to which it is pushed.

Answer: a

The balloon will sink. Why? Because at deeper levels the surrounding water pressure is greater and will squeeze and compress the balloon—its density increases. Greater density results in sinking.

Or look at it this way: At the surface its buoyant force is just adequate for equilibrium. When the balloon is compressed it displaces less water and the buoyant force is reduced—inadequate for equilibrium.

Question: As the weighted balloon sinks, will the buoyant force increase, decrease, or remain the same?



Hewitt
Drew it!