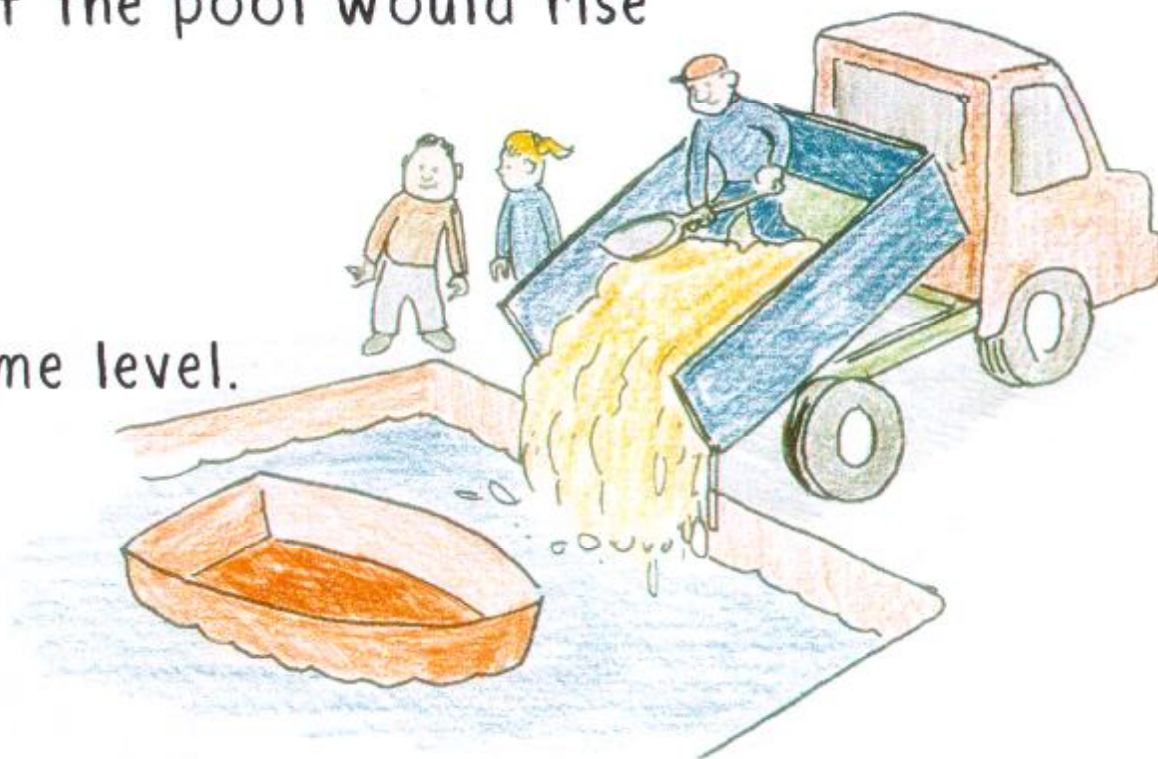


# NEXT-TIME QUESTION

A load of sand is poured into a pool to give it a new sandy bottom. It also raises the water level of the pool. If the sand were instead poured into a boat floating in the pool, the water level of the pool would rise

- a) less.
- b) more.
- c) to the same level.



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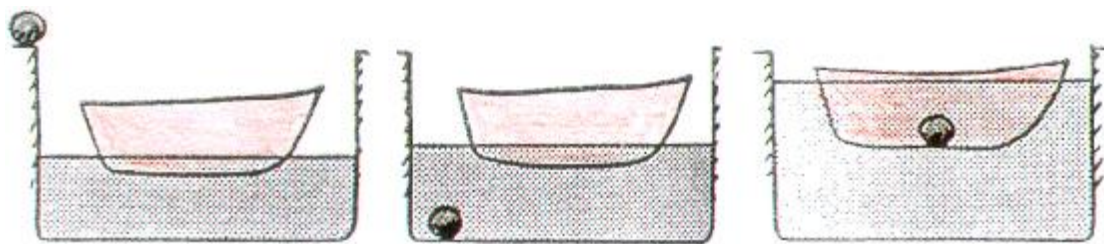
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Answer: b

The sand poured into the pool displaces its *volume* of water, which is why the water level rises. But the sand floating in a boat displaces its own *weight* of water. Anything more dense than water will displace more than its volume when floating in water. Consider the heavy ball in the pool. When submerged it displaces only its volume. When floating in the boat it displaces more water, its weight. Likewise for the sand.

So if scrap iron on a barge is tossed overboard, will the surrounding water level fall?



Hewitt  
Drawit!

