# FLOATING RICE BOTTLE

## MATERIALS

- 2 identical plastic beverage bottles
- Dry, uncooked rice
- 2 chopsticks
- A bowl

## DIRECTIONS

**1.** Fill both plastic bottles completely with the dry, uncooked rice. Label one “lite rice” and the other “regular rice”.

**2.** Put the lid on the regular rice bottle and shake it to “fluff” up the rice.

**3.** Tap the bottom of the lite rice bottle to pack the rice down and continue filling with rice until it visually matches the amount that is in the regular bottle.

**4.** Take a chopstick and push it all the way to the bottom of the regular rice bottle. Do the same to the lite bottle.

**5.** Gently lift the chopsticks to see which rice bottle floats!

# STEM
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KANSAS ENRICHMENT NETWORK
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ACTIVITY FOUND AT:
http://www.stevesplanglerscience.com/lab/experiments/floating-rice-bottles/

## WHY?

If the bottles were filled with water instead of rice, you would see the water level rise in the bottles when the chopsticks were plunged into the water. The water would have no difficulty creeping up the neck of the bottle to make room for the chopstick.

The rice, however, is not a fluid like water and has great difficulty moving up the neck of the bottle. Instead, the packed rice has very little room to move so it tends to press against the sides of the bottle.

The scientific principle that makes this feat work is friction. The chopstick gets wedged between the rice and the sides of the bottle. That's all there is to it. Friction is the magician.

# STEM
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### SCIENCE TERMS FOR FURTHER DISCUSSION:

- Friction
- Weight
- Gravity