



APRIL FOOL'S DAY TRICKS: FLOATING MARBLE TRICK

MATERIALS:

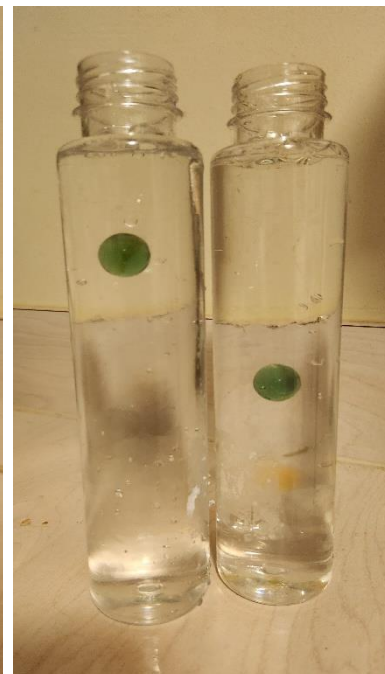
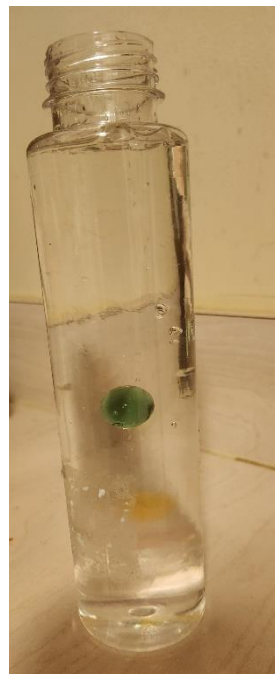
Clear Water Beads
Water
Tall Clear Cups
Marbles

VOCABULARY:

| | | | |
|-----------|--------|------------------|-----------------|
| Polymer | Water | Optical Illusion | Dissolve |
| Absorbent | Fluids | Weight | Mass |
| Solid | Liquid | Gas | Molecule |
| State | Change | Physical Change | Chemical Change |

DIRECTIONS:

1. Add a teaspoon of dehydrated water beads to a tall clear cup.
2. Add 1 cup of water to the cup.
3. Let the cup stand for 6 hours so the water beads can absorb the water.
4. Pour water beads into another clear cup to fill it halfway.
5. Lay a marble on top of the water beads.
6. Fill the cup with water so the water beads "disappear" and the marble is submerged in water.
7. Fill another cup $\frac{1}{4}$ full of water beads.
8. Lay a marble on top of the water beads.
9. Fill the cup with water so the water beads "disappear" and the marble is submerged in water.
10. Look at both cups. It should look like the marbles are "floating" at different heights in water and the water beads should be "invisible."



THE STEAM BEHIND THE EXPERIMENT:

The polymers that are present in water beads are superabsorbent. When exposed to fluids such as water, they can absorb and retain hundreds of times their weight in water within their structure, without dissolving. This allows the beads to increase their size by 150-1500 times after exposure to water.

For this trick, by adding more water to the cup of water marbles, the marbles seem to "disappear," creating an optical illusion that makes it look like the marble is floating in the middle of the water, instead of resting on top of the water marbles.

MAKE IT AWESOME:

Try recreating the optical illusion on a bigger scale by using more water beads and a larger container.

EXTENSIONS:

1. Use more marbles and make it look like marbles are floating at different heights in the same container.
2. Try using different sizes of marbles.
3. Try using objects other than marbles.
4. What other changes can you make to this experiment?

WEBSITES AND VIDEOS:

1. 17 Ideas for Water Beads: <https://www.onecrazyhouse.com/fun-ideas-with-water-beads/>
2. Make a Stress Ball: <https://onelittleproject.com/orbeez-stress-ball/>
3. Glow Water Beads: <https://gosciencekids.com/glow-water-beads/>

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