

Stay at Home Science



Float or Sink

What You Need

Sink, tub, or large bowl

Water

Various materials from around your house

Towel

What You Do

1. Fill the sink, tub or bowl $\frac{3}{4}$ full of water.
2. Gather a variety of items from around your house. Here are some ideas, but you are only limited by your imagination: sponges, plastic toys, shampoo bottles, noodles, balls, an apple, pencils, a glass
SAFETY FIRST: Do not use anything with electronic components or that is extremely fragile.
3. Make a hypothesis about each item. Do you think it will float or sink?
4. Test it out! Gently place each item in the water. Observe what happens.

Questions to ask

- Did the object float or sink?
- Are there any similar characteristics to the objects that floated? Sank?
- Were there any items that changed from floating to sinking or vice versa? Why do you think that happened?

What's The Science?

Whether an item sinks or floats depends on its density. In order to sink, the item must be more dense than the material it is in. If it is less dense than the material, it will float. Density is determined by dividing an objects mass (amount of matter it is made of) by its volume (how much space it takes up). A golf ball's mass is packed into a very small amount of space (volume). A giant container ship has much more mass, but it is spread out into a much larger volume. This is why a golf ball will sink, but a ship will float!

Try This

Use science vocabulary: Use related science words such as sink, float, density, mass and volume as you talk and play together. Children learn new vocabulary words when they hear grown-ups use them in context.

Extend the Activity: Liquids also have different densities. Try slowly pouring some liquids you have around your house into a glass. Let it sit for a little while to let all of the liquids settle and see what happens. Here are some good liquids to try: honey, corn syrup, maple syrup, whole milk, dish soap, water, vegetable oil, and rubbing alcohol. Use as few or as many as you have readily available.

Keep In Mind

- Children are natural scientists; let them lead the way in their experimentation!
Encourage them to ask questions and make suggestions only when they are stuck/discouraged.
- The order suggested is not the only right or perfect way. Make adjustments based on the age, ability, and interests of the children.

Additional Resources

What Floats in a Moat? by Lynne Berry

Who Sank the Boat? by Pamela Allen

Scholastic StudyJams: Properties of Matter:

<http://studyjams.scholastic.com/studyjams/jams/science/matter/properties-of-matter.htm>

