Science Lesson: The Magic Floating Egg!

Materials Needed:

- 1 raw egg
- 2 tall, clear glasses or jars
- Tap water
- Table salt (about 6-8 tablespoons)
- A large spoon for stirring
- A towel or mat for spills (just in case!)
- Optional: "Scientist's Notebook" (a piece of paper or notebook) and crayons/pencils

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Part 1: The Warm-Up - The Sinking Egg

Goal: To observe what an egg normally does in plain water.

1. **Ask the Big Question:** Say to Hardy, "Scientist Hardy, I have a question for you. What do you think will happen if we gently place this egg into a glass of plain water? Will it sink or will it float?"
2. **Make a Prediction:** Encourage him to make a guess (a hypothesis!). If you're using the Scientist's Notebook, have him draw a picture of what he thinks will happen.
3. **Test It Out:** Fill one of the tall glasses about three-quarters full with tap water. Gently, using the spoon or his hands, lower the egg into the water.
4. **Observe and Discuss:** What happened? The egg sank to the bottom! Ask Hardy, "Was your prediction correct? Can you describe what the egg is doing?" Itâ€™s sitting right on the bottom.
5. **Record the Result:** In the Scientist's Notebook, he can now draw what really happened: the egg at the bottom of the glass.

Part 2: The Main Event - The Floating Egg!

Goal: To discover how to make the egg float.

1. **Introduce the "Magic" Ingredient:** Take the second glass and fill it with the same amount of water. Hold up the salt and say, "Now, we are going to add a special ingredient to this water. It's just salt! Do you think adding salt will change anything?"
2. **Make a New Prediction:** Ask, "Scientist Hardy, what is your new prediction? If we put the egg in this salty water, will it sink or float?" Have him draw his prediction in his notebook.
3. **Add the Salt:** Add about 6 tablespoons of salt to the water. Stir, stir, stir until most of the salt dissolves. The water might look a little cloudy, and that's okay. Explain that the salt is still in the water even though we can't see it as well.
4. **Test It Again:** Carefully take the egg out of the fresh water and gently lower it into the new glass of salt water.
5. **Observe the Magic!:** Watch what happens! The egg should now be floating! If it doesn't float, just add another tablespoon or two of salt and stir gently.
6. **Discuss and Record:** Celebrate the discovery! Ask, "Wow! What happened this time? Why do you think it floated?" He can now draw the final result in his notebook: the egg floating at the top!

Part 3: The Science Behind the Magic (The Explanation)

Goal: To understand the concept of density in simple terms.

- **Simple Explanation:** "Hardy, you just did an amazing science experiment about something called **density**."
- **Heavy Water:** "When you added salt to the water, you packed more stuff into it. This made the water heavier, or more 'dense'. The salt water became so heavy that it was able to hold the egg up, making it float!"
- **Light Water:** "The plain tap water was lighter, or less 'dense', so the egg was heavier than the water and sank right through it."
- **Real-World Connection:** "This is just like when people swim in the ocean! It's easier to float in the salty ocean than it is in a freshwater swimming pool. You've discovered the same secret the ocean uses!"

Extension for an Extra Challenge: The Hovering Egg!

Goal: To apply the concept and create a layered effect.

1. Start with the egg floating in the salt water.
2. Ask Hardy, "What do you think would happen if we very, very slowly added some plain, fresh water on top?"
3. Gently and slowly, pour some fresh water on top of the salt water. Try to pour it down the side of the glass to avoid mixing it too much.
4. If done carefully, the fresh water will sit on top of the dense salt water. The egg will sink through the "light" fresh water but stop when it hits the "heavy" salt water, making it look like it's magically hovering in the middle of the glass!

Lesson Wrap-Up & Learning Check

Let's review what Scientist Hardy accomplished today!

- **You practiced being a scientist** by asking questions, making predictions, and doing a test.
- **You observed** that an egg sinks in fresh water but floats in salt water.
- **You learned a new science word, "density,"** and discovered that making water heavier (more dense) with salt can make things float!
- **Most importantly, you had fun with science!** Great work!