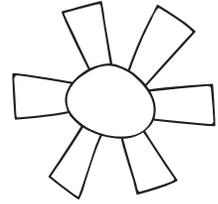


MCNS Kids Club: Silly Science Week 4 Exploring water molecules!



Experiment 1: Move it! Do water molecules move or stay still?

Materials: Plastic soda bottle, water, and food coloring

Fill bottle 3/4 full with water. Add 7 drops of food coloring into the water, notice how the color falls to the bottom, leaving a trail. Next we will leave the bottle on the table until the end of class, and then we will observe what the water looks like.

This experiment shows us that water molecules are always moving! The molecules bounce and bump against each other until the color is evenly dispersed in the bottle – the process called diffusion.

Experiment 2: Lava Lamps – Why doesn't oil mix with water?

Materials: Voss water bottles (or any clear bottle or glass), vegetable oil, food coloring, water, Alka-Seltzer tablets

Fill bottle 1/3 of the way with oil. Fill the rest of the bottle with water. Add ten drops of food coloring. Drop an Alka-Seltzer tablet in half and drop into the bottle. Let the lava lamp effect begin! Keep adding tablets to keep the effect going.

This experiment shows us that water is heavier than oil, and this makes water stay on the bottom while the oil oozes to the top. When we add the tablet, we are creating and adding a gas to the bottle. As the gas bubbles go up, they take water up with them. When the bubble reaches the top, it pops and we observe the water sink back down to the bottom.

We are sending a bottle home with each child if you want to conduct the experiment at home – all you need to do is add an Alka-Seltzer tablet to see it occur again!

Experiment 3: Tornado in a bottle! See how tornados work.

Materials: Two 2-Liter plastic bottles, water, tornado maker plastic piece (you can also use a nail to make a hole in each bottle cap, then glue and duct tape together)

Fill one bottle three-quarters full with water. We like to add food coloring and glitter for extra fun! Screw the tornado top on, then the other plastic bottle into the other end. Flip the Tornado maker over so that the water-filled bottle is on the top. Grasp the middle and swirl in a circle. Watch for the vortex and tornado to appear. Repeat!

Real tornados are created by the swirling energy of rapidly rising hot air and rapidly falling cold air which creates the spiraling funnel. This experiment shows us a similar reaction using water and air- the vortex has a hole in the middle and air rushes upward rapidly, while water rushes down rapidly, creating the tornado funnel effect.

Skills we are learning:

Critical thinking, Observation, Sensory exploration, Sharing ideas

Observing how water molecules react in different experiments, learning about tornados

