SIMPLE SCIENCE AT HOME



Engaging and educational science experiments you can do with everyday materials you have at home!

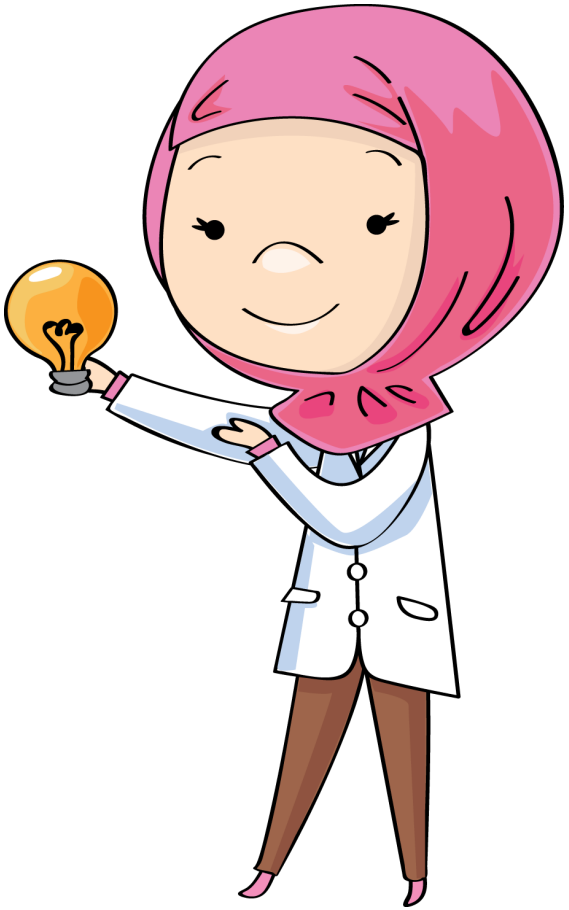


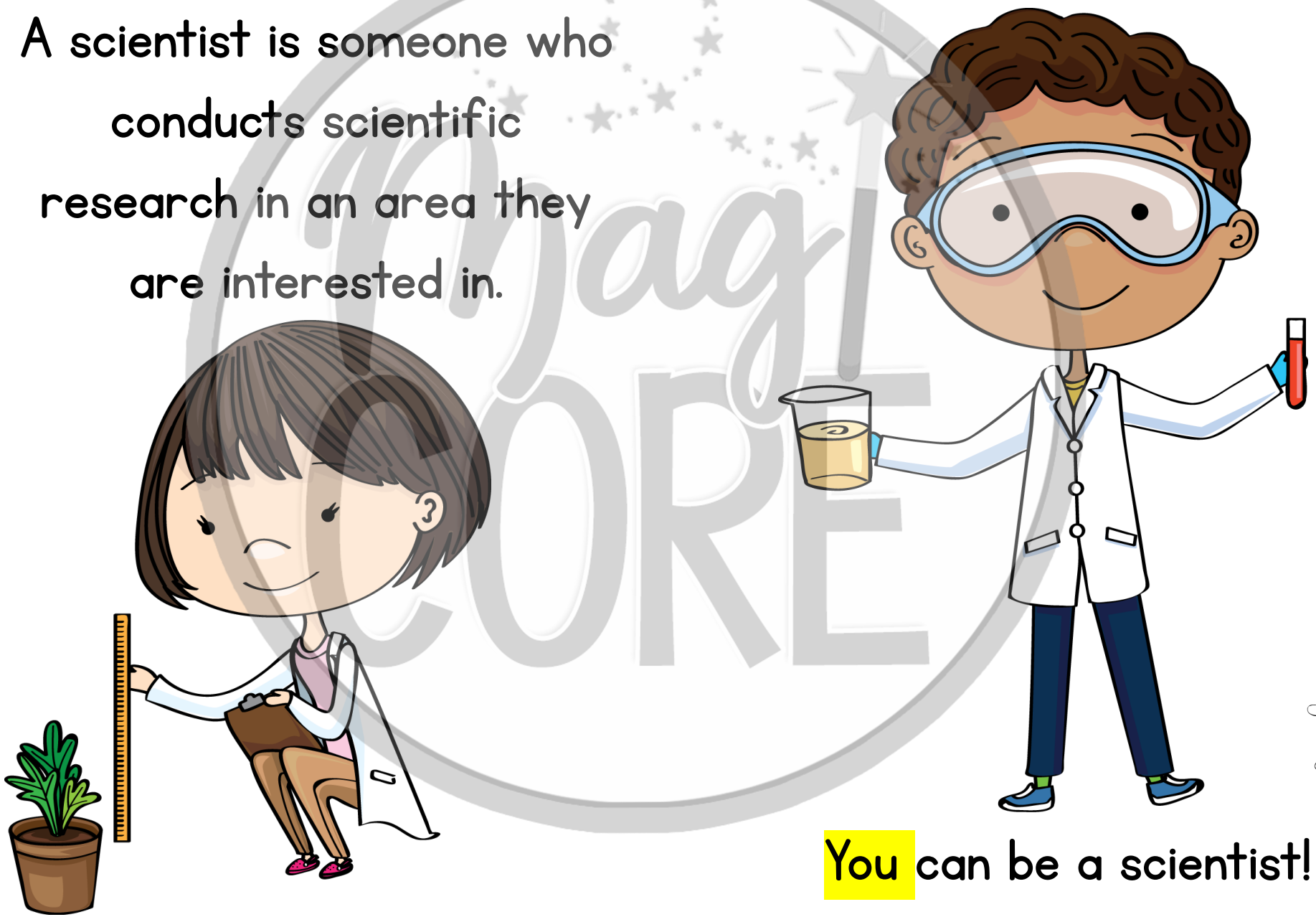
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WHO ARE SCIENTISTS?

A scientist is someone who conducts scientific research in an area they are interested in.

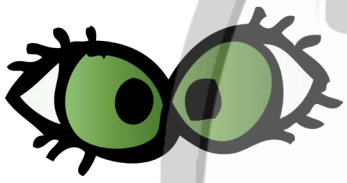
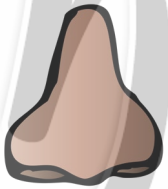
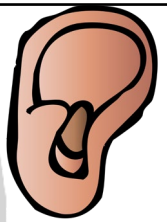


You can be a scientist!

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SCIENTISTS OBSERVE

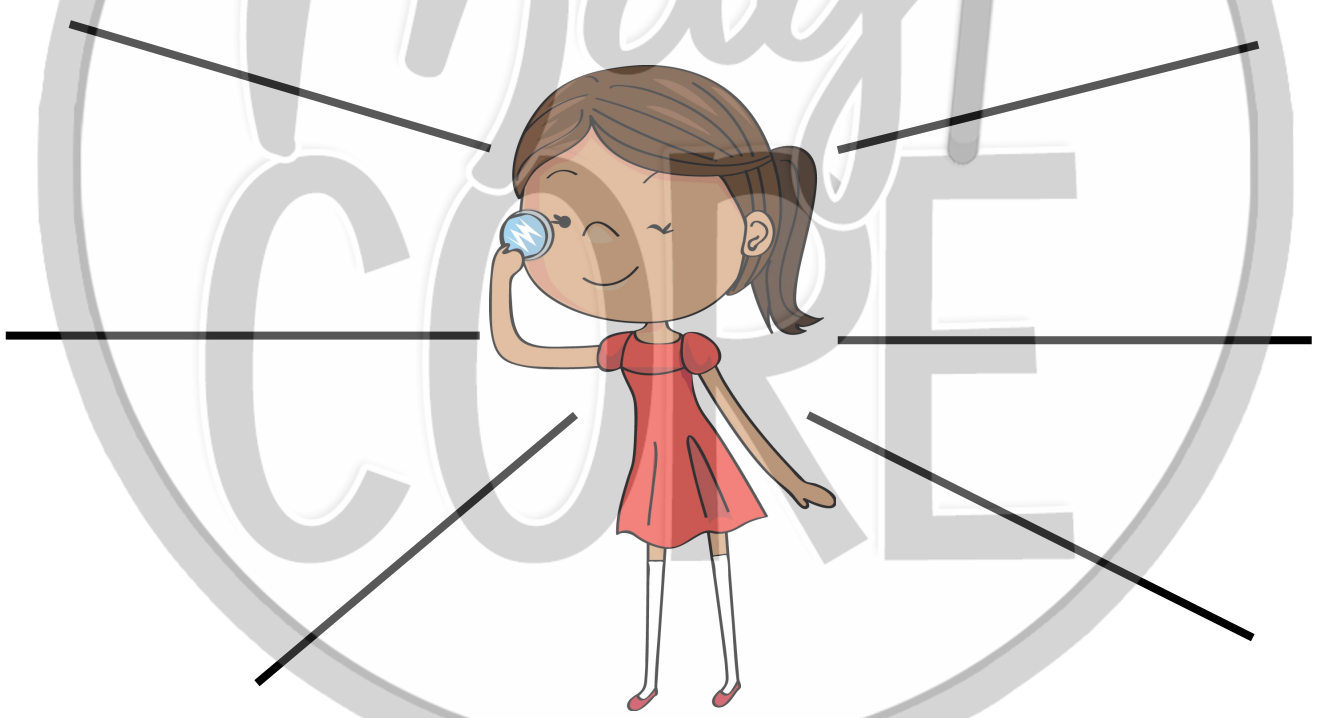
An important part of learning is observing the world around you. Find a quiet spot outside. Sit down and take some time using your four senses to observe. Record what you see, smell, feel, and hear.

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WHAT ARE YOU INTERESTED IN?

Write about scientific topics you like studying. What are some specific examples of topics you want to learn more about?



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EXPERIMENTS A note to parents

Color Swirl

When the dish soap interacts with the milk, it begins to break down the fat in the milk. This is how dish soap cleans dishes. As the dish soap breaks down the fat, the food die spreads.

Chemistry in a Bag

In this experiment, shortly after the bag is sealed with the baking soda tissue enclosed, the bag should expand and pop. This is because when the baking soda and vinegar mix, they create carbon dioxide (the gas we breathe out). Gas takes up more space than liquid, so the bag expands until it pops. In addition to doing the experiment as an introduction to the Scientific Method, it goes will with States of Mater.

Molding Milk

In this experiment the protein in the milk meets an acid (vinegar). The vinegar causes the casein to separate from the milk and form blobs. After the casein is strained from the liquid and dried, it creates a moldable clay. The clay will harden into a rock-like substance in a few days.

Delicious Crystals

When you mixed the water and sugar you made a saturated solution. The water could only hold the sugar if both were very hot. As the water cools the sugar "comes out" of the solution back into sugar crystals on your string. The string act as a "seed" that the sugar crystals start to grow on.

Glitter Explosion

This activity demonstrates how mixing a base (baking soda) with an acid (vinegar) causes a reaction.

Invisible Ink

This experiment shows the chemical reaction that occurs when lemon juice oxidizes when heated.

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Color Swirl





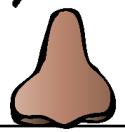
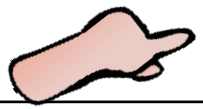
Objective: to understand the effect dish soap has on fat

Materials: plastic or foam plate, food dye, whole milk, dish soap, Q-tip

Procedure:

1. Pour milk into the plate so it completely covers the bottom.
2. Add 6-8 drops of different colored food coloring to the milk in the center of the plate.
3. Dip a Q-tip in dish soap.
4. Touch the Q-tip to the center of the plate where the food dye is. Observe what happens.
5. Repeat experiment with a different plate. Try putting the food dye around the edge of the plate for the second trial.

Observe:

	Milk	Food Dye	Dish Soap
			
			
			
			

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Hypothesis: *What do you think will happen?*

I think that

Collect Data: *Complete the illustrations to show what happened in this experiment.*

food dye in the middle before soap

food dye in the middle after soap

food dye around the edges before soap

food dye around the edges after soap



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Interpret Data: *Write sentences explaining the data you collected.*



Drawing Conclusions:

My hypothesis was _____ (correct/ incorrect). I discovered



Reflections: *What questions do you have? What do you wonder? Is there anything you would want to do differently?*



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Good to Go



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