


Science Inquiry at Home


An Introduction to Science Inquiry at Home – Third Grade

These exploration suggestions are designed to support parents and students explore science content at home. Each suggestion starts with a question to answer. Included here are suggested materials and activities to help answer each question and suggestions on ways to communicate the findings.

Consider creating a science journal to record observations, take notes, and reflect on you learning. The science journal may be on paper or on a computer. You could choose to use a spiral notebook or a composition book. You could have a journal for each topic, each quarter, or one for the whole year.

What is my child learning in science?	Materials to support hands-on science activities at home	Questions to ask my child as we are exploring science at home
<p> plan and conduct an investigation concerning the effect forces have on an object’s motion</p>	<p>Science journal Moving objects such as toy cars</p> <p>A board or surface to serve as a ramp for the moving object. A lid to a container or shoebox may also serve as a ramp.</p> <p>Different materials to place on a ramp to change the surface (sand paper, felt or fabric, aluminum foil, scrap carpet, etc.)</p>	<p>What effect do different forces have on objects?</p> <p>Have you noticed that different surfaces have different effects on objects? You can test this by using a toy car, a ramp, and different materials to put on the ramp. Find a surface that can be used as a ramp for a car or other object. Choose materials to cover the ramp. Predict which surface will allow the car to move the fastest or which one would cause the car to move the slowest. In your science journal, write down the steps (procedures) you will follow to test the prediction and decide what data to collect to determine which surface provided the least (or most) friction. Examples of data that you could collect are the time it takes for the car or object to reach a certain point, or the distance the object travels before stopping.</p> <p>After completing the investigation, write a paragraph about what you have learned and use evidence (data) to support whether or not your initial prediction was accurate.</p>

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<ul style="list-style-type: none"> ● plan and conduct an investigation to identify liquid materials that will mix with water ● classify liquids by their ability to mix with water ● plan and conduct an investigation to determine solids that will dissolve in water ● classify solids based on their ability to dissolve in water ● plan and conduct an investigation to determine the effect of water temperature on the dissolving of a solid 	<p>Science journal Cups or bowls Measuring cup Table spoon Spoon for stirring Stopwatch or timer (could be on cell phone) Water Possible liquids or solids to test: Oil Vinegar Soy sauce Salad dressing Sugar Salt Pepper Raisins Powdered drink mix</p> <p>Note: Since this is being done at home and not in a lab, only edible liquids and solids should be used.</p>	<p>What liquids will mix with water?</p> <p>Have you noticed some things that dissolve in water, and some things that don't? Pick some substances that you would like to test to see if they dissolve. What steps should you take to test this? Make a decisions about how much water you want to use in each test? How much liquid should be added? When testing a solid, how much solid would you like to add?</p> <p>With the permission and supervision of an adult, test to see what dissolves in water and what doesn't dissolve.</p> <p>At the end of the investigation, write what you learned about mixing liquids and solids in your science journal.</p> <p>Another investigation that you can conduct at home is to determine how the temperature of water affects solids dissolving in water. With the permission and supervision of adult, heat some water. You can also test using cold water that has ice cubes in it. At the conclusion of the experiment, in your science journal write about what you learned and provide evidence (data) that supports the explanation.</p> <p>Some recommendations:</p> <ol style="list-style-type: none"> 1. Always do this work with an adult. 2. Use the same amounts of water and liquid or water and solid. Be consistent if stirring to help with mixing or dissolving.

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		3. Use a small amount of solid. If too much is used, it cannot dissolve completely.
<ul style="list-style-type: none"> compare the physical characteristics of animals and explain how they are adapted to their environment 	Science journal Pictures or videos of animals	<p>How are animals suited to their environment?</p> <p>This is a perfect time to make observations of animals in the community. Look at animals in your community, or look at pictures and videos. Describe the animal. Does your animal have different structures such as fins, long tails, claws, fur? How do these features help the animal in its habitat? Look at other pictures of animals. Based on the characteristics, can you tell what type of habitat this animal would live in? Write down what you discovered in your science journal.</p>
 plan and conduct an investigation that determines how different types of soil affect plant growth	Science journal Seeds (seeds can be purchased or can be obtained from uncooked fruit or vegetables) Several cups or flower pots Potting soil Clay Sand Water	<p>How does the type of soil affect a plants growth?</p> <p>Different plants grow best in different types of soils. Farmers need to take into consideration the type of soil when planting crops. If not, the plants will not grow well, they may need to add different components to the existing soil to meet the needs of the plant.</p> <p>What are some of the different types of soil you have noticed? Is it like sand, or clay? Is it potting soil? Do you notice in your neighborhood different plants growing in different types of soil? Do a test about the best type of soil by planting the same seeds in different types of soil. What soils would you like to test? How much soil should we use? What needs to be kept constant or the same with each plant and cup?</p>

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		<p>After you has set up the experiment, take daily observations and keep the observations in a science journal. Some seeds, such as radish seeds, take about a week to sprout, other seeds may take longer. In your science journal, record plant growth over a month and use the growth to determine which soil was best.</p> <p>Recommendations:</p> <ol style="list-style-type: none"> 1. Plant 2-3 seeds per cup 2. Water when soil gets dry to the touch. Do not overwater. 3. Be consistent in setting up the investigation. Don't change more than one thing. If you are testing different types of soils, then the type of seeds, number of seeds, amount of soil, amount of light, need to be the same.
<ul style="list-style-type: none"> • identify and locate major water sources in the local community 	Science journal	<p>Where are the water sources in your neighborhood? How do people use these water sources and keep them clean?</p> <p>With an adult, travel around your community or use a map of your community and identify ponds, streams, rivers, and other water sources in the community. How do people use that water source? What is on the border of the source? Can you see ways that people are working to keep the water clean?</p> <p>In your science journal, write about what you noticed and the practices you could put in place to reduce any impacts on the local water sources.</p>