

DOMAIN 4: GENERAL KNOWLEDGE			
SUB-DOMAIN: SCIENCE			
SCIENTIFIC INQUIRY			
GOAL 42: CHILDREN OBSERVE, DESCRIBE, AND COLLECT INFORMATION BY EXPLORING THE WORLD AROUND THEM.			
Age Range	Developmental Growth	Child Indicators	Caregiver Strategies
60 Months through Kindergarten	Collects, categorizes, and describe objects and observations to organize knowledge and experiences about the natural world.	<ul style="list-style-type: none"> <li>▪ Uses observations, descriptions, and predictions to explain the natural world.</li> <li>▪ Has a repertoire of words and tools to collect information and organize findings.</li> <li>▪ Has a repertoire of words and tools to document results of observations and experimentations.</li> <li>▪ Makes comparisons and contrasts based on observations and vocabulary that includes descriptive and comparative words.</li> <li>▪ Collects and categorizes everyday objects, events, and experiences from the natural world to independently function (e.g. helps with food preparation, seeing how ingredients can be combined successfully, or gathers flowers for a bouquet and observes what happens if they have no water).</li> <li>▪ Makes drawings of observed objects or events (e.g. spider webs).</li> <li>▪ Uses non-fiction picture books and electronic resources to gather information about objects or topic.</li> <li>▪ Makes inferences, drawing more meaning from what is visible than what is said, and predicts future events.</li> <li>▪ Describes event/objects using comparison of prediction and observed outcome (e.g. "If we put the hard potato in the oven, it will become soft. If</li> </ul>	<ul style="list-style-type: none"> <li>▪ Continue to invite curiosity and interest through experiences that encourage the child to explore, describe, and classify living and nonliving items through increasingly descriptive categories (e.g. sand and water as it runs through fingers; sounds of different animals; making different size bubbles with household items).</li> <li>▪ Provide opportunities to organize, discuss, and draw conclusions based on observations about living and nonliving things using investigative tools (looking at a caterpillar's sections through magnifier; weighing ingredients that one might use for cooking, counting the number of people who use a piece of outside play equipment during outside time).</li> <li>▪ Provide child with bubble solution and challenge them to find items in the classroom that will make bubbles.</li> <li>▪ Encourage child to make own photos, drawings, stories, or books about living and nonliving things.</li> <li>▪ Help children use digital technology to gather pictures or information about natural phenomenon.</li> <li>▪ Provide cooking experiences and talk about measurement, changes when ingredients are mixed, and sources of heat making change (baking, boiling, and frying).</li> <li>▪ Introduce unfamiliar foods at snack and mealtime, offering small group activities where children study that food prior to eating.</li> </ul>

		<p>we put the hard bread in the oven, it will become soft. But, no, the potato became soft, but the bread became harder.”).</p> <ul style="list-style-type: none"> <li>▪ Uses scientific tools, such as locomotion devices (gears and pulleys), technological tools, and measurement devices.</li> <li>▪ Classify objects into given categories; count the numbers of objects in each category and sorts the categories by number.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide opportunities for child to describe living and nonliving items in a museum type center, or make a digital video interview of the child telling what they know.</li> <li>▪ Carry out projects where children tell what they know about an item or event in the natural world, and what they would like to find out. Ask them to brainstorm how they might find out what they want to know, and then plan lessons that help them explore the topic.</li> <li>▪ Provide child with an assortment of investigative tools and devices to explore and describe, draw, and write about (e.g. magnifiers, binoculars, telescopes, and microscopes; weights and balancing scales; tubes and funnels; bicycle chain and gear sprockets; animal guide books, or internet resources).</li> <li>▪ Encourage child to discuss how we get food from plants, animals, farms, and fields.</li> <li>▪ Brainstorm with the children about what they will need to plant a flowerbed or vegetable garden. Help them get those items and build the garden.</li> <li>▪ Offer tools for measuring moisture content of soil. Let children use, read, and document their findings. Note that they may want to do this repeatedly, so offer lots of different pots of soil, with varying amounts of moisture.</li> <li>▪ Encourage child to observe patterns and make predictions (e.g. “What happens to the lima bean planted in soil if it does not get any water?”).</li> <li>▪ Help child organize needed materials (paper, markers, crayons, and scissors to draw or create collage life cycles of insects, animals, and plants).</li> <li>▪ Read and reread life cycle books such as, The Hungry Caterpillar.</li> <li>▪ Provide child with the needed writing materials to document, visually organize (create charts, graphs, tables), and display observation results (measuring the height of a sprouted lima bean; daily temperature pattern for one week).</li> </ul>
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