Science in early childhood is all about prediction, exploring, and discovering answers to questions. Children learn scientific investigation skills through hands-on exploration and play. An effective science center should be a place where children can use their curiosity to manipulate and investigate objects from the world around them. They should have opportunities to explore "what if?" questions, to make guesses about what is going to happen, and to test out those guesses.

Setting Up a Science and Nature Center in Your Classroom

- **Location**: The science center needs to have table space where children can explore and experiment with the materials available. Set up an area with low shelves where tools can be stored and some display areas at children's eye level to set up interesting materials. If possible, place the science area near a window to receive natural light so that experiments with plants are more successful. Because scientific discovery requires quiet thought and reflection, it should be self-contained in a relatively quiet area. Separate the science center from noisy centers such as dramatic play or block building.

- **Display**: Use a table or wide shelf with a low top surface to display science materials and tools. Be sure to rotate the materials and tools regularly so children have the chance to experience new items and test out new areas of science.

What a Science and Nature Center Should Look Like
• **Well stocked with a variety of materials:** Offer a variety of materials for children to explore. Children can easily become bored with the same materials, so you will want to change the materials regularly. Try to incorporate many different areas of science in the science center throughout the year. Magnets, water and ice, colors, plants, leaves, rocks, crystals, air pressure, tornadoes, weather, and many other topics may interest the children in your classroom or home.

• **Neat and organized:** Children should be able to find the materials they want to help them explore and investigate without having to search through a lot of clutter. Store items on low shelves that are labeled with pictures and words. Placing similar items in bins or baskets may help children know what materials go together. If the center is well-organized, the children will be more motivated to help keep it that way by putting things away when they are finished with them.

• **Limitless:** An inviting and well-stocked science and nature play center encourages children to be curious and inquisitive. Within reason, children should be allowed to follow their curiosity in their science exploration. Whenever possible, include materials that match children's interests and that children can explore with little or no help from teachers.

**Choosing Science and Nature Supplies**

A science center should include items that invite exploration and encourage children to use all five senses to learn about the world around them. The following are some materials you might place in a science center. Keep in mind that this is only a beginning list. Use your imagination and let children's interests guide you as you choose other science and nature materials.

• Magnifying glasses and objects to examine closely
• Different types of magnets and objects to sort
• Prisms, color wheels, and colors for mixing
• Scales, balances, rulers, yardsticks, tape measures, and objects to weigh and measure
• Ramps, pulleys, wedges, and gears to create simple machines
• Thermometers and warm/cold substances to compare temperatures and measure temperature changes
• Assortment of "feely boxes" with items of different textures such as rough, smooth, furry
• Assortment of enclosed "smell boxes" with familiar and unfamiliar odors such as cinnamon or peppermint extract
• Small trays or baskets with nature items, including those collected outside and brought from home
• Plastic bottles connected with a tornado tube, to examine tornadoes
• Plastic bottles filled with glitter or small objects suspended in different liquids (e.g., water, baby oil, corn syrup), sealed shut
• Pictures of seasonal and weather changes to examine and compare
• Books about science topics such as nature, astronomy, and space plus books that offer opportunities to ask "what is it made of?" and "how does it work?"

**For More Information**

To learn more about science and other learning centers, take a look at the following eXtension Alliance for Better Child Care articles:

You might also be interested in watching the archived webinar, "Inquiring Minds Want to Know: Science for Young Children."

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