

Discovery through science

As you work with young children, you see how science is very much a part of who they are. Young children are natural scientists. Just observe a child for awhile and you will see science in action. For example, a young toddler giggles as the wind blows cool air on his face and makes his hair fling about (weather, air, wind). A preschooler is crouched low to the ground pointing and gasping at a spider crawling across the floor (insects and entomology). A kindergartner stirs her ice cream until it becomes liquid (solids to liquids).

Where to start?

Find topics that interest children and are a part of their real life experiences. A good place to start is to observe children. What fascinates them? Are they wondering how something works? Are there elements in the environment that interest them?

An example of a real life science experience may be the children who saw the grayish-black spider crawling across the floor. It's been there several days and curiosity is piqued!

Support curiosity

When you support natural science curiosity, you support an array of development such as language, literacy, investigation, as well as social, emotional, physical, and cognitive development. Experiencing science through everyday opportunities (such as those listed to the right) make the exploration real and easy for the caregiver to support.

Discovery

Discovery through science is ongoing, not a one-time activity. Children should be offered the freedom to explore their ideas through many means, with ample time, resources, and materials with which to experiment.

Discovering science with children is a fascinating part of their everyday lives.

Children are natural investigators of what is around them. How exciting for early educators to tap into this discovery and support the process! Does this mean we need to learn a whole new science curriculum? Indeed not! Most science concepts can be added to existing everyday experiences and activities.



Science discovery may include:

Observations (watch and record ideas, photograph, question, discuss)

Resources (books, stories, videos, museums, specialists)

Art (create, make, paint related ideas using different materials)

Movement (move like spiders, spin webs)

Write/Create (spider stories/songs, questions, thoughts/ideas)

Habitats (making homes for spiders; what do they need? Place plastic spiders in sand/water tables)

Dramatic Play (Dress up like spiders, play spider family)

Supportive environments

The environment itself is an important component in enriching science experiences.

Consider offering water/sand tables, safe plants, items from nature (leaves, fossils, roots, rocks), materials of interests (socks, kites, pinwheels, mobiles, chimes, machines, musical instruments), art materials (paint for mixing colors, clay), building materials (blocks, wood, tubes) books, puzzles, and pictures representing interesting concepts to freely explore.

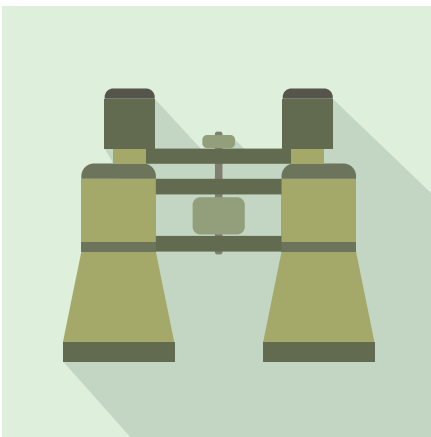
Create cozy areas for materials to be explored, such as a low table or open shelves where children can freely gather materials (consider exploring outside, also). Be open to messes and think ahead in providing what children need to explore, gather, and be safe as well as comfortable.

Children's experiences, environments, and natural curiosity will help in connecting ideas and developing critical thinking skills, as well as offer support in making sense of the world around them.

What a great adventure!

Tools to help guide explorations

- Magnifying glasses
- Measuring devices (rain gauge, rulers, tape measure, scales, timers)
- Cups, funnels, containers
- Straws, tubes, hoses
- Water droppers, basters
- Pumps, pulleys
- Mirrors
- Tongs, tweezers
- Machines and gears (pulleys, watches, old machines)
- Cameras, binoculars, telescopes, view scopes
- Pencils, pads, paper, clipboards, notebooks, envelopes



Tools for exploring

Children will also be very creative in finding materials and tools to explore; your watch, the clock on the wall, door knobs, anything from outside. Support their ideas by listening to what they are interested in and supplying your attention, time, and tools. Adults can model the use of tools and also see how the child might use tools.