

Building on Children's Curiosity: Talking with Children to Support Science Thinking

Even from birth we can develop children's abstract thinking, the basis for science concepts by:

- Following your child's lead, their interests
- Giving children time to figure things out
- Putting words to what they are looking at or playing with, adding descriptions
- Encouraging persistence and problem solving
- Using words for science concepts



Science Concepts

General Science Content

Life science—living things and their characteristics

Physical science—knowledge of physical properties of objects and materials (heavy, light, float, sink)

Earth and space science—knowledge of earth's environment, solar system, seasons, weather

Tools—Knowing names of tools and what they do, using tools and technology to perform tasks and investigate. A tool is a device or utensil that helps in accomplishing a task.

Science Process Skills

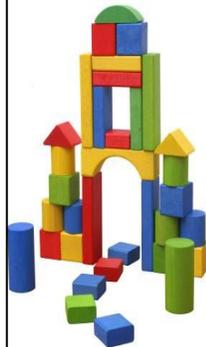
When we give children the chance to practice the skills listed below, we are helping to develop basic scientific thinking.

- **Observing**—using senses to observe and explore materials and world around him/her
- **Asking** questions—wondering
- **Describing** objects, what is happening, what they are doing
- **Predicting** what might happen
- **Experimenting**—planning and engaging in “what if” investigations
- **Gathering** information from investigations
- **Recording** what happens during these investigations
- **Concluding**—connecting and interpreting the information collected
- **Communicating** and sharing ideas using science language and ideas

Building on Children's Curiosity: Talking with Children to Support Math Thinking

Even from birth we can develop children's abstract thinking, the basis for math concepts by:

- Following your child's lead, their interests
- Giving children time to figure things out
- Putting words to what they are looking at or playing with, adding descriptions
- Encouraging persistence and problem solving
- Using words for math concepts



Math Concepts

Math Content

Numbers and Operations—counting, connects numerals with number, cardinal (1,2,3) and ordinal (1st, 2nd, 3rd)

Patterns, Relationships, Functions—notices and makes repeating patterns, sorts by characteristics (size, color, shape), matching items

Geometry and Spatial Relationships—recognizes and names shapes, two and three-dimensional (circle, sphere), spatial relationships (above, below, between, behind, etc.)

Comparison and Measurement—compares such as more, less, measures both standard and non-standard— inches, pounds, and handful

Time and Sequence—developing concept of time especially daily routines, putting events in order

Math Process

Problem Solving—estimating, guessing, tries different possibilities, is persistent, flexible thinking

Representation—uses pictures and graphs to show math concepts

Communication—uses math words

Making connections—applies math to different situations, such as when figuring out when something is fair or not