

## Science in the Early Childhood Classroom

Quality science programs for children ages three through five are based upon an understanding of how children learn, what they are capable of learning, and appropriate science content. In such programs, science is an integral part of the classroom, supporting the overall learning goals for children. Science is not confined to a science table or focused on learning facts. Science learning reflects the following characteristics:

✓ **It builds on children's prior experiences, backgrounds and early theories.** Children use their experiences to create logical explanations for how the world works. As such, learning experiences provide children with many opportunities to share their ideas in multiple ways through both actions and words.

✓ **It draws on children's curiosity and encourages children to pursue their own questions and develop their own ideas.** In a quality science program questioning, trying things out, and taking risks are expected and valued.

✓ **It engages children in in-depth exploration of a topic over time in a carefully prepared environment.** Time is a critical component. When children explore a few concepts repeatedly in many different ways, they have the opportunity to think, analyze and reflect on their work. In addition, carefully selected materials and tools are fundamental to creating many possibilities for children's explorations of science concepts.

✓ **It encourages children to reflect on, represent and document their experiences and share and discuss their ideas with others.** Children document their learning through their work in multiple ways - through drawings, dramatic play, models and story telling. Again, materials and tools which enable creation are important.

✓ **It is embedded in children's daily work and play and is integrated with other domains.** A quality science program is skillfully integrated into the total life of the classroom. Dramatic play can lead children to pursue science ideas. Early mathematics of counting, measuring, sorting, and classifying are easily integrated within scientific experiences. As work is often collaborative, language and social development naturally follow scientific investigations.



By its very nature, science requires language, communication and the use of books. The use of language deepens children's understanding of the science with which they are engaged. And as children collect data and represent their work, they may begin to write words, learn new vocabulary and express themselves using many different media.

*Worms, Shadows, and Whirlpools*  
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