
READY for SCHOOL Parent News:
STEM Education in the Early Childhood Classroom

STEM education has been receiving recent attention among early childhood teachers. The acronym STEM was developed by the National Science Foundation (NSF), and refers to curriculum related to the study of science, technology, engineering, and math. Educators and policy makers have made STEM education a priority for several reasons.

Fewer students are pursuing advanced degrees or careers in related fields, which might threaten America's ability to remain competitive in a technology-driven global market. Many of the jobs of the future will require STEM skills. Finally, the world is becoming increasingly complex, and individuals must have basic competencies in science, math, and technology in order to make sense of and process information.

Initially, STEM education was found mostly in elementary and secondary classrooms, but in recent years, it has become an essential part of early childhood curriculums, as well. Typically, activities planned with a STEM focus involve at least two of the four disciplines. Below are more detailed descriptions of each STEM component and how they relate to an early childhood classroom:

Science. The study of science includes physical science, life science, earth and space science, and more. Children gain scientific literacy through hands-on experiments and explorations.

Technology. Technology learning in early childhood classrooms includes new media, such as digital photography, computers, phones, and tablets, but don't forget about older technology, including pulleys, wedges, and other simple machines. Technology is any type of man-made machine or object designed to improve or simplify life.

Engineering. Budding engineers in early childhood classrooms learn the principles of building through play activities, such as experimenting with blocks, clay, or collage materials.

Math. A STEM math curriculum includes the study of numbers and operations, algebra, geometry, measurement, and data analysis and probability. These terms sound complicated, but in the early childhood classroom, they're as simple as comparing sets of objects, counting, making patterns, manipulating shapes, or measuring classroom equipment.

Read on for simple STEM education ideas to try at home:

- Combine STEM activities with play time or story time. For example, while reading the folk tale, *The Three Billy Goats Gruff*, you might make bridges out of blocks or other materials. Perhaps you'll study goats and chart the differences between real goats and "story" goats.
- Use hands-on, developmentally appropriate materials and activities.
- Capitalize on small, daily moments to introduce STEM topics. Mealtimes, for example, are an ideal time to teach math concepts, such as half, more, and equal. Observe the natural world while you're outdoors.

- Use questions to guide inquiry and exploration. “What” questions, such as, “What do you think will happen --?” or “What could we use to make --?” work well because they have no right answer. Such questions foster an atmosphere of acceptance, curiosity, and trust. Listen carefully to children’s questions. Use their interests as a springboard for future inquiries or projects.

References

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