



STEM - Science, Technology, Engineering & Math

STEM is more than simply teaching the subjects of Science, Technology, Engineering and Math. It is a strategic method in which teachers use trust-based relationships with children to nudge them into perceiving openly, acting with materials creatively and interacting with others cooperatively in their efforts and discoveries. In other words, STEM creates a self-affirming, brain building exploratory process within the classroom environment.

Science is a way of thinking

observing • experimenting • predicting • discovering • asking • wondering

Technology and engineering are ways of doing

using • inventing • identifying/solving problems • designing • creating • building

Math is a way of measuring

sequencing • patterning • exploring shapes, volume & size

STEM at Rock Spring Preschool

Our goal at Rock Spring Preschool is to develop partnerships with parents, businesses, universities and community-based organizations that extend learning opportunities in unique and creative ways to promote intellectual learning in early childhood.

In the preschool setting, STEM:

- Supports overall academic growth and creates a foundation for current and later learning
- Makes school interesting and relevant to young learners through intellectual engagement and challenging learning experiences
- Takes advantage of the natural curiosity of early learners
- Develops early reasoning, predicting, critical thinking and problem-solving skills
- Encourages social atmosphere of cooperation and collaboration
- Presents students with real world challenges and gives them a chance to present ideas
- Gives opportunities for student to apply their literacy/numeracy skills in purposeful ways

Examples of STEM activities for preschool-age children

Science: exploring water & sand, comparing & contrasting natural materials like rocks and soil, rolling balls across the room, looking through a magnifying glass to count the legs on a bug

Technology: gears, wheels, pulleys, tongs, eyedroppers, sifters

Engineering: blocks, Legos, “MagnaTiles”, recyclable building materials

Math: counting, matching shapes, making patterns, measuring

To encourage STEM learning, ask open-ended questions and focus on “what” instead of “why”

When you ask “why,” it implies there is a correct answer and the child is being tested. When you ask “what,” you are starting a conversation and exploring right along with your child.

“What” questions focus on what is happening, what you are seeing, and what you are doing:

“What are you working on?”

“What happened there?”

“What do you notice about...?”

“What have you changed about what you are making?”

“What did you try?”

“What else have you seen other kids try?”

“What are some ideas you haven’t tried yet?”

“What do you think will happen if we...?”

These questions lead kids to solve their own problems instead of relying on you to tell them the answer.