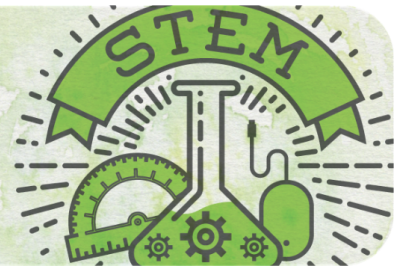


# Louisiana STEM INITIATIVE



## What is STEM?

Young people must build knowledge and engage in the practices of science, technology, engineering, and mathematics (STEM) in order to make sense of their world and participate successfully as citizens of our society. STEM encompasses the knowledge, skills, and ways of investigating and making sense of our world that are essential to each of the STEM disciplines:

- **Science** refers to both the body of knowledge that explains our natural world as well as the practices we engage in to build this knowledge.
- **Technology** is any human-designed tool or process that solves a problem
- **Engineering** is a body of knowledge about the design and creation of technology as well as the process and practices we engage in to solve problems.
- **Mathematics** is the study of patterns and relationships among quantities, numbers, and space, including logical arguments and claims.

## Features of Quality STEM

Quality STEM experiences are an essential part of a well-rounded education and should leverage integrated learning across disciplines through student-centered investigation and design experiences that connect to the real world, hold relevance to students' daily lives, inspire engagement and joy, build confidence and belonging, and cultivate key competencies necessary to persist and succeed, not only in STEM disciplines, but in life.

Overarching features of quality STEM education within a school or system:

1. All students have **access** to quality STEM learning experiences.
2. STEM instruction is a **continuous spectrum** of experiences across multiple disciplines from K-12.

Features of quality STEM education materials and resources:

3. **Student-centered** investigation and design drive learning outcomes for students.
4. **Career-connected** STEM experiences expose students to future opportunities, partnerships with industry, and possibilities in STEM extending beyond the classroom.
5. **Disciplinary practices** in science, technology, engineering, and mathematics are leveraged appropriately, driving engineering design and innovative technology integration.

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