

# HOW STUDENTS ENGAGE WITH SCIENCE INVESTIGATION AND ENGINEERING DESIGN

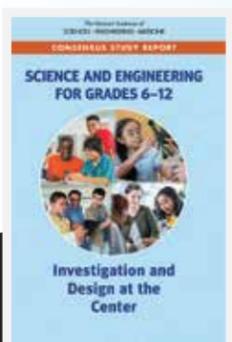
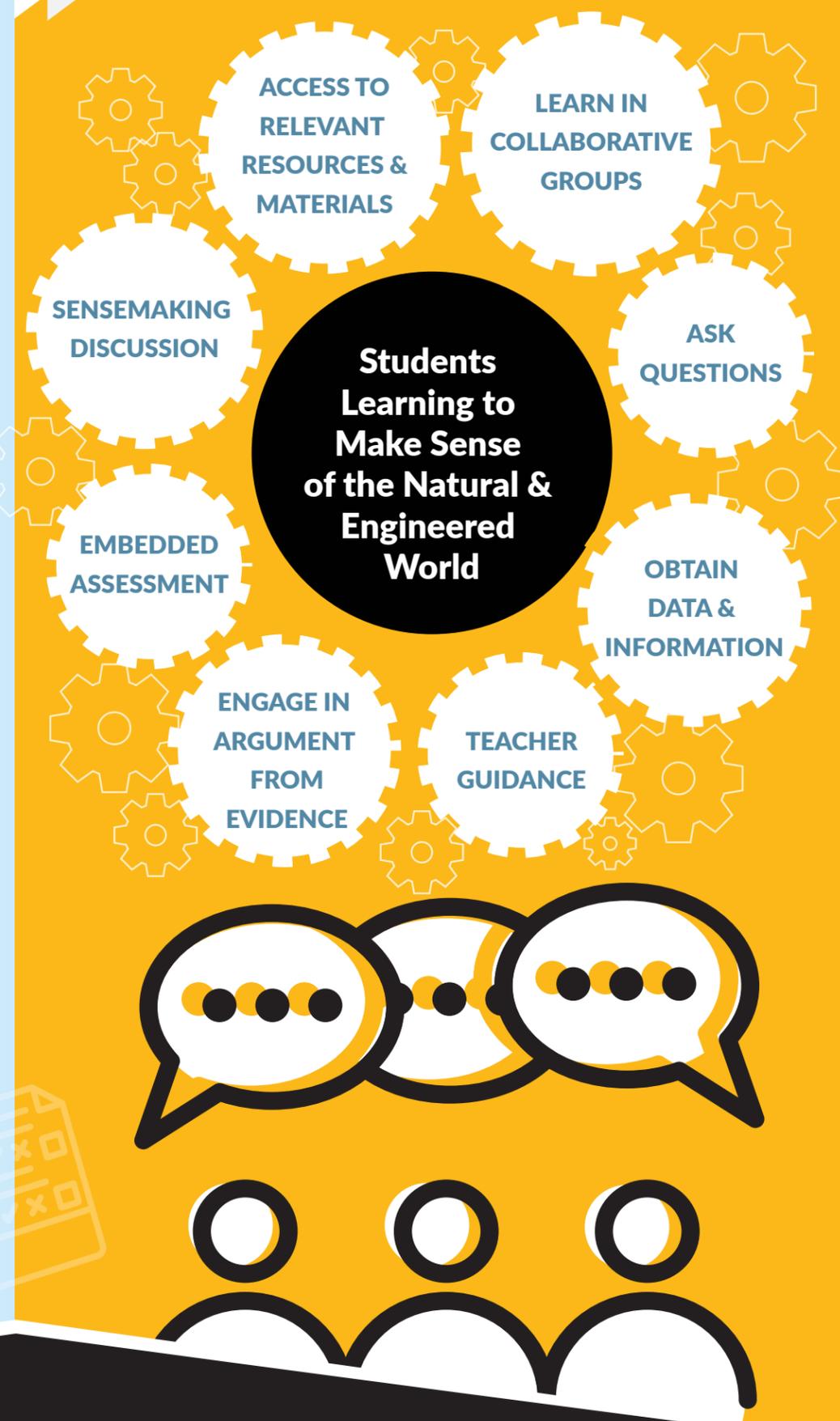
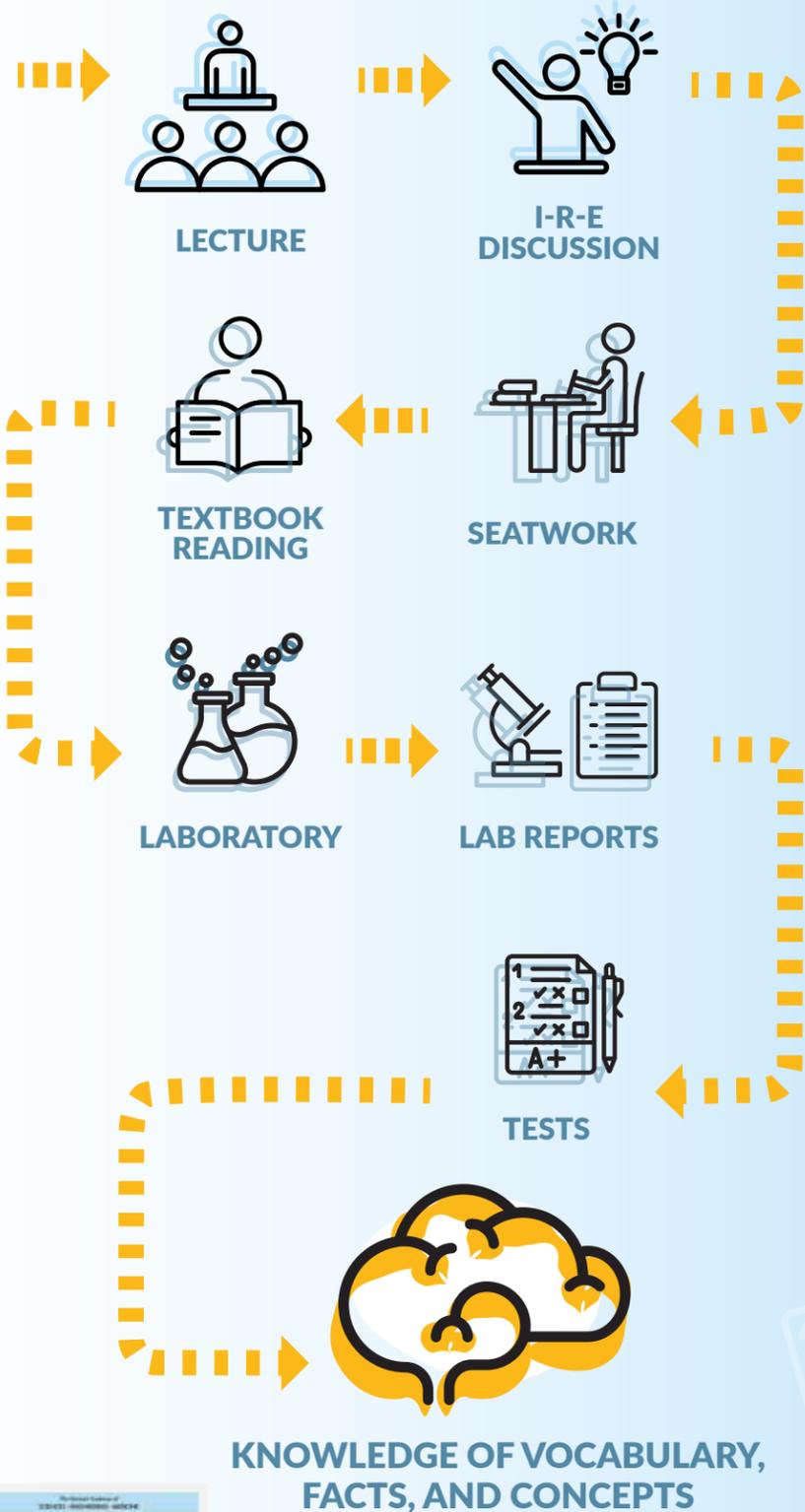
Putting investigation and design at the center of how middle and high school students learn science and engineering requires a shift from traditional classroom and laboratory activities. Student-centered approaches help learners make sense of the world by investigating phenomena and looking for solutions to human needs.

This infographic explores some of the approaches that can help teachers put investigation and design at the center of classroom activity. These approaches build on the three-dimensional learning described in Framework for K-12 Science Education and the standards based upon it. They focus on helping students learn science and engineering practices, disciplinary core ideas, and crosscutting concepts that can lead to an enduring understanding of science and engineering and of the natural and designed world.

## TRADITIONAL SCIENCE CLASSROOM ACTIVITIES

SHIFT

## SELECT FEATURES OF INVESTIGATION AND DESIGN



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