

STEMulating

Design Challenges in Science

STEM design challenges are not recipes to follow, step-by-step instructions that guide students in creating identical projects, or processes that lead them to the same outcome. STEM is about allowing students to apply their content knowledge, creativity, critical thinking, and other skills as they work to solve a problem and create a solution.

Design challenges will take time, so plan accordingly. Squeezing it in or treating STEM practices as “extra” may communicate that the skills and practices are not valuable. Our attitudes and beliefs are important as teachers; who we are informs who our students become. According to Hoffer, “If we model optimism, confidence, and courage about STEM in our classroom each day, students will absorb those” (2016, p. 3).

It is our hope that the design challenges included in this book will help you teach STEM fluency skills and STEM thinking, that these practices become a natural part of your classroom, and that STEM becomes a way of thinking and planning for you.