

# From Challenges to Controversies

## What is it?

A collection of eight easy-to-use task frameworks that require students to extend and apply critical content knowledge as they generate and test ideas; the frameworks are adapted from Boutz et al. (2012) and Dean et al. (2012)

## What are the benefits of using this tool?

We tend to think of generating and testing hypotheses as something that only happens in science class, but the basic process of generating and testing ideas is one that can and should be encouraged across content areas. This tool makes that easy to do by presenting eight types of tasks that involve generating and testing ideas—not just formal hypotheses, but predictions, solutions, designs, and more. Collectively, these task types help students develop a variety of valuable thinking skills, including hypothesizing, analyzing, evaluating, and justifying. When tasks are framed around critical content, they deepen and reinforce students' understanding of that content as well.

## What are the basic steps?

1. Familiarize yourself with the eight different task frameworks described on pages 208–209.
2. Select a framework. Use it to develop a question/task that will engage students in extending and/or applying what they've learned about a specific topic, issue, or skill. Use the classroom examples on pages 208–209 as models; see page 211 for additional guidance and question stems.
3. Introduce the question and the framework you selected to students. Explain how students will work through the various steps in the framework (alone, in groups, or as a class) and how they will communicate their ideas (orally, graphically, in writing, or using some other format).
4. Instruct students to apply their existing knowledge and skills—or acquire and apply new knowledge/skills—to the question at hand. (“Use what you know about what the sun does to predict what would happen if it stopped shining” or “Research this issue and then generate ...”)
5. Guide and give students feedback about their work. Pose questions that will help them expand and evaluate their thinking (e.g., “Are there other possibilities?” or “Why do you think that?”).
6. Use students' performance to assess students' understanding of and ability to apply the relevant content knowledge and thinking skills/capacities (e.g., Were students able to apply what they had learned about crafting an argument to present and defend their choice for best class pet?).

## How is this tool used in the classroom?

- ✓ To have students generate and test ideas in response to authentic types of questions
- ✓ To engage students in extending and applying critical content knowledge and thinking skills