

## Design Elements in *CME Project*

Each *chapter* includes an introduction, several investigations, a mid-chapter, and an end-of chapter review.

An *investigation* is a collection of lessons developing a particular topic.

- Each investigation is introduced with a series of framing questions that students will answer at the end of the investigation.
- The first lesson of an investigation is a Getting Started lesson, which is designed to gauge previous knowledge of a topic, allow opportunities for independent discovery, or give students experience which will serve to motivate the rest of the investigation.
- Investigations often include an optional Project to provide additional insight, practice, or exploration into topics covered by the investigation.

Within each standard *lesson*, any of these design elements can appear.

- **In-Class Experiment:** A series of questions, actions, or calculations for students to work through, often in groups, in order to gain the experience needed to understand the basis of a key concept or formula
- **Dialogue:** An conversation between fictional students that relates their attempts (successful or not) to solve a problem
- **Example:** A problem statement followed by a detailed solution
- **What's Wrong Here?** A special type of example that challenges students to evaluate an incorrect argument to diagnose and fix the problem, used to highlight common errors
- **For You to Try:** A short, often skills-based, problem that allows students to practice a newly-introduced method or concept
- **For Discussion:** A problem or question designed to elicit conversation and discussion about a method, concept, or error just highlighted in the lesson
- **Ways to Think About It:** Another way to describe, use, or understand a concept from the lesson or an alternative method to solve a problem

Each lesson also includes a set of *exercises*, which are classified in this way:

- **Try These:** Intended to be completed in class, often in small groups
- **On Your Own:** General homework problems, that can include Reflect and Write problems where students are asked to explain their reasoning or Take It Further problems requiring advanced work
- **Patterns in Practice:** A multi-part homework problem, designed as a series of similar calculations in a pattern that can lead to understanding of a key relationship or result