Use science practices.	Give students opportunities to discover new content knowledge through investigation and to use their new knowledge both in problem-solving exercises and as evidence to support reasoning. Students learn what science and engineering practices are by engaging in those same practices as they learn.
Make frequent connections.	Use a combination of demonstrations and reading materials, rich with examples, to help students recognize how the science concepts they are learning apply in their everyday lives. Prompt students to relate lesson content to their own experiences, to relate the new and unfamiliar to the familiar, and to connect ideas and examples across disciplines.
Monitor student progress.	Use verbal questioning, student work, and the Check for Understanding assessments at the end of each lesson to monitor progress during each lesson and to measure understanding at the conclusion of the unit. Many lessons provide tips to help you support students who need further explanations or clarifications.

Effective and Safe Classroom Activities

Online Resources

Conducting safe classroom demonstrations and activities is essential to successful elementary science education. The following resources provide Core Knowledge's recommendations for developing effective science classroom activities.

These resources, included at the back of the Teacher Guide on pages 61–65, consist of the following:

- Classroom Safety for Activities and Demonstrations
- Strategies for Acquiring Materials
- Advance Preparation for Activities and Demonstrations
- What to Do When Activities Don't Give Expected Results

These resources may also be accessed within the CKSci Online Resources Guide for this unit, available at

www.coreknowledge.org/cksci-online-resources

Materials and Equipment

The unit requires a large variety of materials to support various ways of learning (including doing, discussing, listening, watching, reading, and writing). Prepare in advance by collecting the materials and equipment needed for all the demonstrations and hands-on investigations.

- Roll paper, poster board, or a bulletin board should be dedicated at the beginning of the unit to serve as a question board to cumulatively document and return to student questions. The question board is referred to in the materials for lessons in which it is used but is not repeated in the materials listed here.
- Internet access and the means to project images/videos for whole-class viewing are also required in many lessons but are not repeated below.

Lesson 1 Graceful Grace

- timer
- 48-inch-wide roll of craft or butcher paper (1 48-inch-long piece per student)
- pencils (1 per student)
- rubber bands (1 per student)

Lesson 2 Bones

- 8.5 x 11-inch pieces of drawing paper (1 per student)
- 9 x 12-inch pinning boards, foam core boards, or pieces of corrugated cardboard (1 per student)
- pushpins (8 per student)
- scissors (1 per student)
- body outlines students made in Lesson 1 (1 per student)
- colored pencils, crayons, or markers (1 set per student)

Lesson 3 Muscles

- spring-hinged clothespins (1 per pair)
- timer
- body outlines students made in Lesson 1 (1 per student)
- colored pencils, crayons, or markers (1 set per student)

Lesson 4 Breathing

- timer
- body outlines students made in Lesson 1 (1 per student)
- colored pencils, crayons, or markers (1 set per student)

For Differentiation:

- paper lunch bag or balloon (1 per class)

Lesson 5 Pumping Blood

- plastic pitcher or bottle for pouring
- squeeze bottle of red food dye
- 8-ounce clear plastic cups (7)
- tray
- body outlines students made in Lesson 1 (1 per student)
- colored pencils, crayons, or markers (1 set per student)

For Differentiation:

- 8-ounce clear plastic cups (23)
- turkey baster
- cup of water

Lesson 6 Body Control

- heavyweight plastic stacking cups (4 sets of 10)
- stopwatch or stopwatch app
- body outlines students made in Lesson 1 (1 per student)
- colored pencils, crayons, or markers (1 set per student)

For Differentiation:

- 12 x 12 inch pieces of craft paper (1 per student)

Lesson 7 Science in Action: Physiologists and Anatomy

- body outlines students made in Lesson 1 (1 per student)
- scissors (1 per student)