



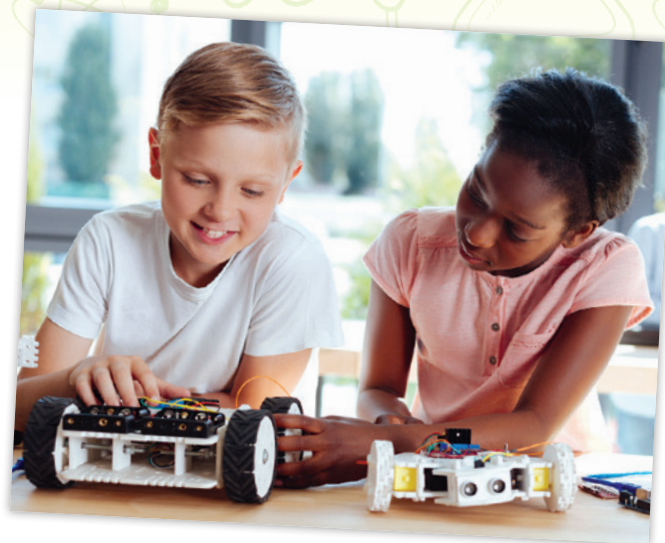
Access and Equity

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Ensuring Access and Equity for All Students

Science teachers strive to provide all students with challenging, rich, and engaging science experiences. With this in mind, it is the goal for science teachers to:

- develop the knowledge, conceptual understandings, and habits of mind that will allow students to engage in the study of science and engineering.
- provide a climate in which students can develop the skills and attitudes to become science-literate members of society.
- encourage students to become life-long learners of science and to consider careers that require these abilities.



Addressing Diverse Students

elevateScience™ provides a wealth of support and experiential learning experiences for various groups of students seen to be at risk for vulnerability to academic inequalities in science and engineering.

English Learners

English Learner support is available for Entering, Beginning, Developing, Expanding, and Bridging levels of proficiency. By using these different levels of proficiency, students learn English very quickly to meet their immediate needs and to build their academic vocabulary. They increase their ability to acquire skills and content in a variety of settings. And, students increase their understanding of vocabulary, grammar, and oral skills at their grade level. Students improve their skills in more complex contexts, and can participate in classroom activities and homework without specialized instruction.

English Learners, as well as almost all students, benefit from targeted strategies to support language acquisition. *elevateScience* provides content-aligned ELD Support strategies that help you tailor your instruction to your students' needs. Entering, Beginning, Developing, Expanding, and Bridging instruction provides specific ways instruction can be modified in every lesson. Additionally, Scaffolded Questions in the Teacher Edition can help you determine the level of understanding of English Learners. The eText includes audio narration functionality, so English Learners can listen to the reading of their text. Below level readers are available for each topic and allow English Learners to focus on the most basic of concepts for the topic.

Engineering design labs provide an exceptional opportunity for English Learners to be intellectually challenged. Giving students materials to build a prototype allows a language learner to build without needing to express all of their design ideas either orally or in writing. Research shows that English Learners who participate in inquiry-based learning learn English more quickly than those who don't.

ELD SUPPORT

ELD.K12.ELL.SI.1, ELD.K12.ELL.SC.1

Reading Design questions for students at different proficiency levels to help them access the main ideas. Use these questions in class or on note-taking worksheets.

Entering What words would you use to describe what is happening to the atmosphere in the image?

Beginning What are some headings on the page? Based on those headings, what do you think you will learn from the text?

Developing Why do you think the picture was used on this page?

Expanding List some details that support the main idea.

Bridging Write a paragraph that describes how temperature and precipitation are related to climate.

Gender Equity

Girls and young women often make the decision not to study science or pursue science or STEM-related careers. Many are greatly influenced by the portrayal of gender stereotypes in the media and popular culture. As a teacher, you can cultivate positive science and engineering identities in girls and young women by encouraging them to participate in and to lead inquiry activities and classroom discussions. Out-of-school activities, especially with female role models, can also strengthen girls' science and STEM identities.



Students with Disabilities

Differentiating for differently-abled students can be challenging. Texts are generally written for on-level students, and providing support and challenges for students with special needs and below-level students takes a special effort. *elevateScience* provides teachers with the support they need through Differentiated Instruction notes, found throughout the lessons in the Teacher Edition. Leveled Readers, available Below, On, and Above grade level, provide another means to teach topic-aligned content. Integrated reader lesson plans provide suggestions for incorporating the readers into your instruction time.

Differentiated Instruction

Special Education

Show students a simulation or video that displays the flow of blood through the heart. Then, discuss student observations and help them draw accurate arrows on the heart diagram.

Below Level

Have students work with their peers to complete the labeling activity. Encourage them to compare their identifications with another group to check their diagram for accuracy.

Advanced

Have students develop a short story about the flow of blood to and from the heart using an analogy of a journey, such as a train or road trip. Encourage them to be as detailed as possible, and then share their story with a partner. This activity uses the ELA Writing skill of writing an informative or explanatory text.

Activity Card Extensions

Use the following to support Open and Do-It-Yourself Inquiry options on the Activity Card.
DOK4

Open Inquiry

The second level of inquiry requires students to go further in writing the procedure. Students will also devise a way to record their results. Students can refer to the uDemonstrate model as they answer the following question: *How can shadows be used to determine what season it is?*

What to Expect Students should use all of the listed materials to conduct the investigation. They will use what they know to develop a procedure that explains how shadows can provide clues as to what season it is in a specific location.

Do-It-Yourself Inquiry

The third level of inquiry asks students to pursue a question of their own choosing and developing their own procedure. A sample question might be: *How does an object's distance from the light source affect its shadow?*

What to Expect Students develop their own procedure and record their results. Their investigations should explain any correlations they

Advanced Learners and Gifted Learners

Learners who are gifted and talented range in level, and both formal and informal identification of students' learning needs is important. For example, a student may not have proficiency in the English language but may be able, in a non-verbal way, to demonstrate an advanced level of science and engineering performance. Refer to the DOK4 leveled activities of the program for suggestions to meet these students' needs. Additionally, online Activity Cards describe how to alter uDemonstrate labs so that students can perform an Open Inquiry Lab or a Do-It-Yourself Inquiry. Use the Do-It-Yourself Inquiry version to challenge advanced and gifted learners.

Economically Disadvantaged Youth

Students living in poverty may lack stable housing and basic necessities. Being aware of these challenges and avoiding misapprehensions that stereotype the students or their families help students feel more comfortable in your classroom. Teachers can meet the challenges of students living in poverty and foster situations in similar ways. You can offer support before or after school or during the lunch hour to give students expanded learning opportunities with books, computers, and lab supplies and materials that may not be available outside of the classroom. If you are doing hands-on labs and ask parents to send supplies from home, it may not be feasible for all students to contribute. Be sensitive to unknown economic disparity.

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elevateScience™ is a K-8 phenomena-based science curriculum that immerses students in the inquiry process. Science and engineering practices, core ideas, and crosscutting concepts combine to help students develop a deeper, more cohesive understanding of science.

For classrooms, hybrid instruction, and distance learning

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