

ACTIVE PHYSICS®

A full-year, NSF-funded physics curriculum developed for ALL students, with built-in flexibility to be used as a physics first or an upper-level physics course.

NEW! Interactive Digital Edition Available Now

Three-Dimensional, Project-Based Learning

- *Active Physics* embraces the three-dimensional learning of the *Next Generation Science Standards* (NGSS) and seamlessly integrates science and engineering practices, crosscutting concepts, and core ideas throughout the curriculum.
- Each *Active Physics* chapter begins with a scenario and challenge that is interesting and meaningful to students and motivates them to learn and remember the physics content.
- Students learn physics and use their knowledge creatively to develop unique solutions to their Chapter Challenges.

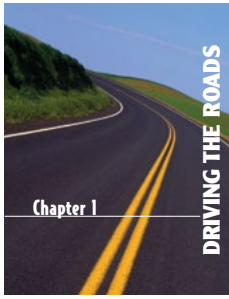
Students Learn Like Scientists and Engineers

- Students develop important 21st century skills as they work collaboratively in groups and engage in science discourse.
- *Active Physics* infuses engineering into the physics curriculum. Students are introduced to the Engineering Design Cycle, which they use as they iteratively work towards completing the Chapter Challenge.
- *Active Physics* is based on research in the cognitive sciences, the research on how students learn, encapsulated in the 7E Instructional Model (Elicit, Engage, Explore, Explain, Elaborate, Evaluate, Extend).

Total Support for Teachers

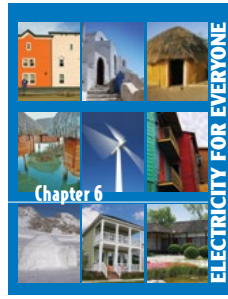
- Student Edition and a comprehensive Teacher's Edition are available in print and digital formats.
- *Active Physics* teachers can customize the program using Active Physics Plus in the student edition for students who need and want more mathematics, depth, concepts, or explorations.
- *Active Physics* Learning Community (Haiku) provides teachers with resources to prepare lessons as well as share and compare with other teachers in an online community.
- Online resources include daily lesson plans, pre-quizzes, student misconceptions, differentiation strategies, as well as videos that highlight the crucial physics for each section and videos that familiarize teachers with lab equipment and setup.





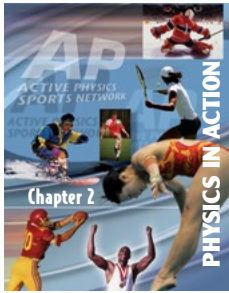
Chapter 1: Driving the Roads

Chapter Challenge: Students demonstrate their knowledge of the physics of driving by making a presentation to a board of driving instructors.



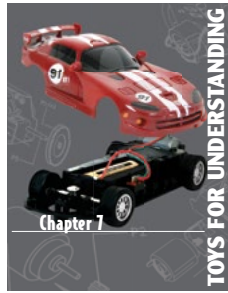
Chapter 6: Electricity for Everyone

Chapter Challenge: Students design an appliance package for a family home that is powered by a wind-driven generator.



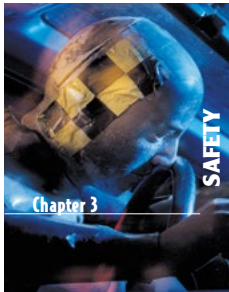
Chapter 2: Physics in Action

Chapter Challenge: Students develop a 2–3 minute voice-over for a sports clip explaining the physics involved in the sport.



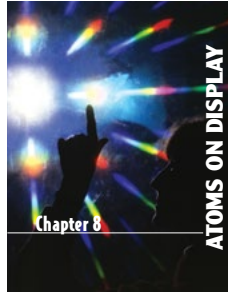
Chapter 7: Toys for Understanding

Chapter Challenge: Students develop a toy that uses a motor or generator, and an instruction manual for assembly.



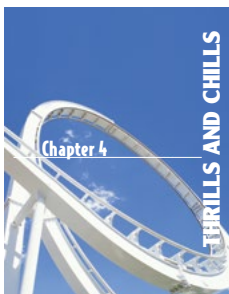
Chapter 3: Safety

Chapter Challenge: Students design a safety system to protect passengers during a collision.



Chapter 8: Atoms on Display

Chapter Challenge: Students develop a museum exhibit to acquaint visitors with aspects of the atom.



Chapter 4: Thrills and Chills

Chapter Challenge: Students modify the design of a roller coaster to meet the needs of a specific group of riders.



Chapter 9: Sports on the Moon

Chapter Challenge: Students develop a proposal for NASA by adapting or inventing a sport that can be played on the Moon.



Chapter 5: Let Us Entertain You

Chapter Challenge: Students design a sound and light show.

Activate Learning®