Ease the Transition to Next Generation Science.

Whether your district has already adopted Next Generation Science Standards (NGSS) or is considering adopting them or any other new standards, *Glencoe Physical Science* ensures a seamless transition.

The increased pace of change in education in the last few years has created seismic shifts in the delivery and consumption of educational materials. Students want to connect what they learn in the classroom to what they see happening in the real world – today!

We deliver to you the most effective, innovative, and inspiring high school physical science curriculum that meets both NGSS and local science standards. Whether you’re looking for a hybrid digital-print or a digital-first program, McGraw-Hill Education is your trusted advisor.

With *Glencoe Physical Science* you are equipped to:

- Meet science standards Performance Expectations (PEs).
- Integrate Science and Engineering Practices into your science classroom.
- Apply the Disciplinary Core Ideas (DCIs).
- Correlate your lessons to NGSS.

*Glencoe Physical Science*: Leveraging technology to drive personalized student success while engaging and motivating students with hands-on, project-based activities and real-world applications.

*McGraw-Hill Education*: Our tools, platforms, and services are focused on serving the needs of educators and learners through our purposeful technology, proven differentiated pedagogy, and unmatched professional development.

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*Next Generation Science Standards is a registered trademark of Achieve. Neither Achieve nor the lead states and partners that developed the Next Generation Science Standards was involved in the production of, and does not endorse, this product.*
When you combine the **science of learning** with the **art of teaching**, there's no limit to what students can achieve.
RAMP UP THE ENGAGEMENT...
To create memorable learning experiences.

To meet you wherever you are on the digital spectrum, *Glencoe Physical Science* interactive learning and teaching resources are easy-to-use, whether you’re a technology novice, digital native, or somewhere in the middle.

*ConnectED* is your digital teaching platform making it easy and convenient to customize lessons, review assignments, and communicate with students.

**Plan, Teach, and Assess with ConnectED.**
Increase Knowledge Retention with LearnSmart.

The LearnSmart® adaptive learning engine with SmartBook® gives every student a unique learning path and every teacher the power to reach all students in class.

SmartBook is an eBook whose text is fully integrated with LearnSmart technology. As a student reads, this technology determines precisely which learning objectives he/she understands and which ones he/she struggles with, highlighting the most critical content for the student to read next.

Learning Resources close knowledge gaps by immediately clarifying the concepts the student finds most challenging.

Pinpoint knowledge gaps for individual students and across classes.
Empower students to personalize their learning experiences with optimal learning paths so they spend more time on what they don’t know with LearnSmart.

- Practice of basic physical science concepts to improve recall and application before moving on
- Additional exposure and increased practice to master new concepts
- Presentation of concepts individual students struggle to master
TIME SAVING TECHNOLOGY...
To optimize your productivity

Give your students the resources they need on the go! The student eBook helps students turn physical science in the real world into learning moments by giving students access to their program materials and resources anytime and anywhere.

Empower students to learn from physical science as-it-happens with the student eBook which learners can access anytime and anywhere using the Open eBook icon.
Plan and Prepare On-The-Go

The ConnectED Mobile App gives access to your Physical Science program including student eBook, planning tools, reference materials, and other program resources. ConnectED Mobile is available on select Chromebook, iOS, and Android™ devices.

Use the ConnectED Mobile App to:

- Access all the courses available to you in ConnectED.
- Download student eBook for use offline, whenever you need it.
- Review lesson plans from the Plan & Present tab from the ConnectED Teacher Center dashboard.
- Manage the content you download to the app.
- Retrieve a comprehensive list of resources from the Resource tab from the ConnectED Teacher Center dashboard.
Real-World Connections

Be confident helping students achieve more! Use the *Science and Engineering Practices Handbook* to introduce the skills to students and support their scientific investigations and engineering projects.

As a reference book, the *Science and Engineering Practices Handbook* provides students with background information, definitions, examples, and Quick Practice activities to stimulate and reinforce learning.

The *Science and Engineering Practices Handbook* is an easy-to-use reference for all eight practices.

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

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**Defining Problems**

Defining problems is an engineering practice that underlies any technological solution. The different components of this practice are briefly summarized below:

1. Engineers design solutions to problems.
2. Problem statements outline the problem and the solution.
3. Asking questions is part of engineering as well as science.
   - Defining problems doesn’t involve a dictionary or a math worksheet.
   - Engineers study how people do things and try to make the experience better. If people don’t have a way to do something yet, engineers invent it.
   - Engineers have to consider many factors when defining a problem.

**Seeking a Solution**

Engineers identify problems for people and society and then design solutions to those problems. The solution could be a process, a system, or an object, such as a tool. Space suits worn by astronauts are technological solutions designed by engineers. When coming up with any solution, engineers must consider many criteria.

**Criteria** are requirements or specifications for a product to be successful.

**Constraints** are limitations on a product's design.

For example, some materials may not be durable enough or may be too expensive to use. Major constraints include time, energy, space, and the availability of tools and materials. Other important constraints are the number of people working on the project, how much money is available for the project, and what information about the project exists.

Space suits have many criteria for safety and functionality.

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Find the *Practices Handbook* in your teacher resources.
Integrated Student Resources

Written to meet each Next Generation Science Standard (NGSS) performance expectation, Applying Practices Worksheets and Project-Based Learning Activities (PBLs) challenge your students to solve real problems in the real world. These sheets are editable, downloadable, accessible online, and designed to meet specific performance expectations.

Student resources, learning activities, and worksheets are embedded for point-of-use access. Students can use these dynamic resources immediately to practice new concepts.

Students practice physical science in action with these learning tools.
- Applying Practices and Project-Based Learning Activities that integrate traditional science content with science and engineering practices
- Design-your-own labs
- Guided laboratory investigations
- Modeling activities
- Research and communicate projects

Find Applying Practice Worksheets in your teacher resources and teacher blades. Also accessible at point-of-use in student resources.
Science in Action

Glencoe Physical Science offers you diverse lab opportunities to deepen your students’ understanding of science by experiencing it and experimenting with physical science first-hand!

Use these lab activities included in every chapter to bring science to life for your students.

• Launch Labs
• MiniLabs
• Physical Science Labs
• Design Your Own Labs
• Lab Manual
• Virtual Labs
• Video Labs
• Probeware Labs

Launch Lab is found on the chapter opener.
Cyber Science 3D®

Expanded features such as Animations, BrainPOP®, and Cyber Science 3D® go beyond the limitations of the printed page.

Apply Interactive Practice

Students have their own digital learning platform called the ConnectED Student Center, complete with student worksheets and digital resources. Assignments you create appear in their to-do lists. Students can message you directly and submit their work.

Use expanded Student Center features such as Animations, BrainPOP®, and Cyber Science 3D® videos to go beyond the limitations of the printed page and bring science into your student’s lives like never before.
EFFECTIVE RESULTS...
To support student success

Easy-to-use eAssessment with reporting tools equip you with the data you need to make informed instructional decisions and keep students engaged.

- eAssessment supports diverse types of evaluations and includes online scoring and report generation for digital and/or print distribution.
- Professional Development resources including pertinent information on new science standards and implementation best practices are available to you at point-of-use.
Turn Students into Star Performers with eAssessment.

Turn your classroom into a physical science success center with eAssessment suite – a robust resource – giving you powerful tools to assess student progress and make data-driven instructional decisions.

The eAssessment reporting feature means you'll always have access to valuable data on individual students and whole classes to help you differentiate and support student mastery of concepts appropriately.

Other features of eAssessment to help increase your efficiency include:

- Question Bank with questions organized by strand, subject, and lesson.
- Report generation on proficiency and accuracy.
- Create and customize premade diagnostic and summative evaluations.

Identify students with knowledge gaps to make data-driven instructional decisions with eAssessment.

eAssessment suite collects valuable data for every student and the class.
Practical Professional Development

The right tools make all the difference in getting your work done efficiently. Seamlessly embedded digital resources and the convenient print materials of *Glencoe Physical Science* gives you everything you need to make science relevant, rigorous, and possible for every student. Designed on the principles of effective professional development (PD), *Glencoe Physical Science* PD includes self-paced courses, Foldables® and NGSS videos, and on-demand webinars.

**Get Started**
Online, self-paced Quick-Start course designed to get teachers and administrators up and running fast.

**Learn More**
Online Implementation course designed to help teachers connect professional learning to the classroom.

**Watch It**
Videos from Dinah Zike and on-demand webinars and videos support great instruction in the classroom.
Where and When You Need It

In just a few clicks, you can quickly access relevant, timely, and ongoing Professional Development videos and webinars available to you, on-demand.

Directly embedded in Glencoe Physical Science is your interactive professional learning program. Learn how other science educators have successfully implemented the program and increase your awareness of new science standards.

Relevant Resources for science educators

Rich, web-based resources include modeled classroom instruction videos, implementation support, technology resource optimization, and professional learning community support.

Use the ConnectED Professional Development tab to access on-demand webinars and these free video libraries:

- Dinah Zike/Foldable Videos
- Science and Engineering Practices Videos
- Pedagogical/Instructional Support Videos
- On-Demand Webinars

Customized, comprehensive, and expertly-crafted solutions translate into meaningful program success.