HMH | into Science® Texas

HMH | ¡Arriba las Ciencias!® Texas

Program Overview

GRADES 6–8

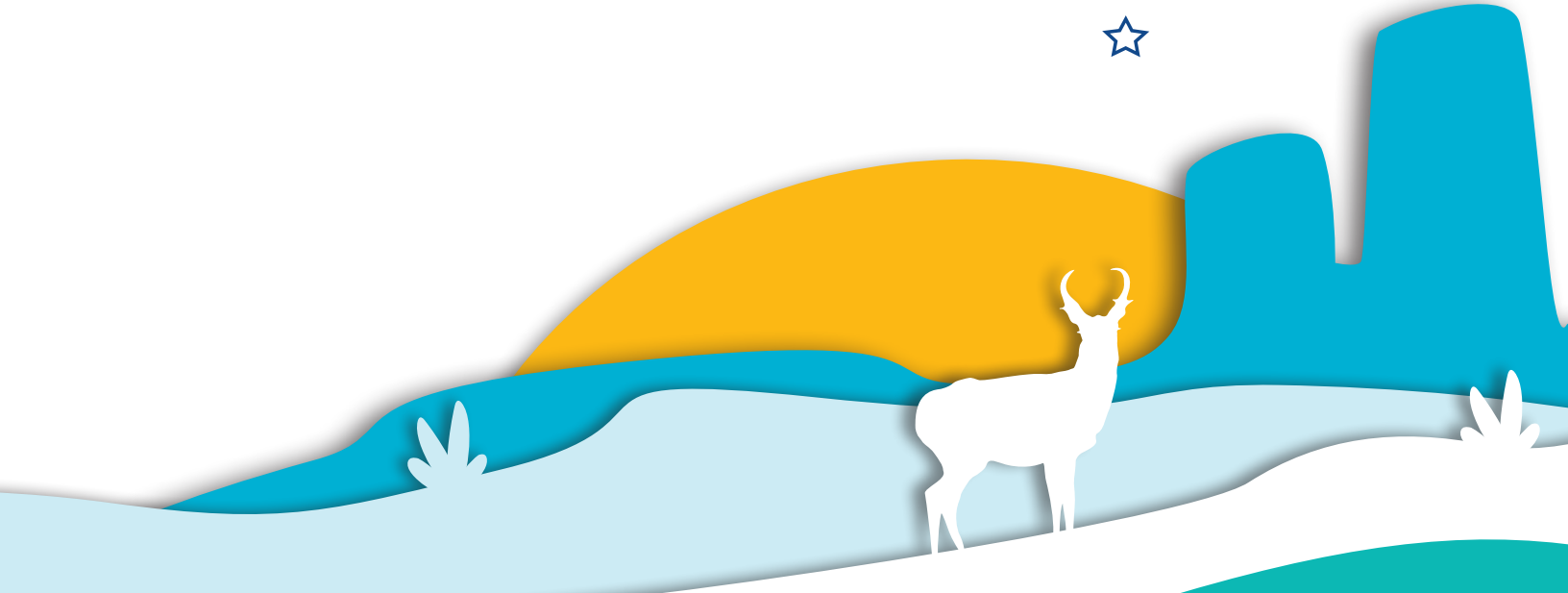
HMH | into Science® Texas

HMH | ¡Arriba las Ciencias!® Texas

Bring Out Every Student's Inner Scientist

HMH Into Science® Texas and *HMH ¡Arriba las Ciencias!® Texas* provide students and educators with a one-of-a-kind learning experience. The TEKS-aligned curricula allow for easy implementation of standards. Educators will save time with planning tools, multilingual learner support, and assessments that inform instruction. Students will conduct deep explorations of science phenomena through engaging hands-on labs.

What's Inside



HMH Into Science Texas

Developed for You

Flexible Science Instruction

The program's TEKS-based organization and pacing options provide flexibility so that educators can make the most out of the time they have.

Students Engaged in Science Learning

Students learn to design experiments, observe results, and support or refute scientific claims like scientists through hands-on labs.

Achieve Proficiency with the TEKS and ELPS

Each lesson focuses primarily on one Content TEKS Student Expectation. ELPS Minilessons support students in meeting English Language and Proficiency Standards.

Easy-to-Implement Comprehensive Solution

Point-of-use lesson-planning support in the streamlined Teacher's Guide makes planning simple. Educators can teach directly from the digital Student Interactive Lessons.

A Fully Equitable Spanish Experience

HMH ¡Arriba las Ciencias! Texas provides all program components in Spanish and was developed using transadaptation to support Emergent Bilinguals.

> **"I need a flexible science program that allows me to make the most out of the time I have."**

Authors and Consultants Who Understand Texas Educators' Needs

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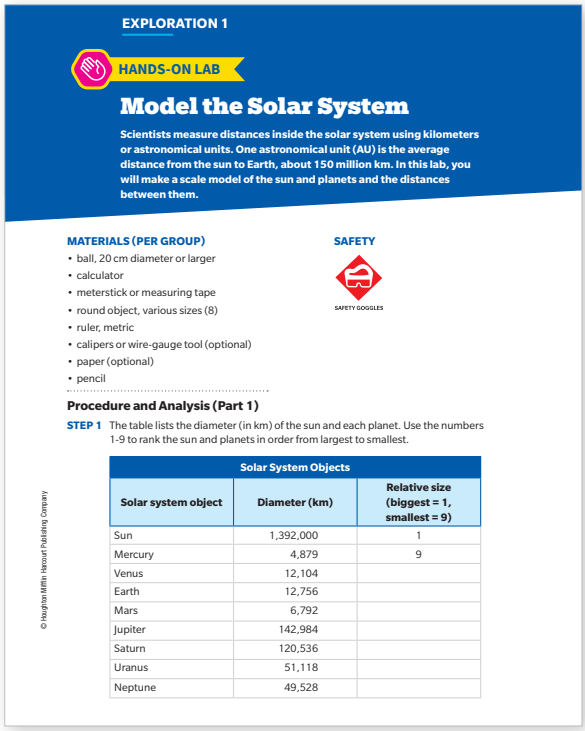
*Texas Science Professor

How can you make learning science **engaging and relevant?**

HMH Into Science Texas and *HMH ¡Arriba las Ciencias! Texas* let **students explore** everyday phenomenon through hands-on labs that **bring science to life**. Lessons follow an **activity-before-content approach** and are driven by a variety of Quick Labs, longer Hands-On Labs, and other collaborative activities, so learning is centered on "Students as Scientists."



EXPLORATION 1

HANDS-ON LAB

Model the Solar System

Scientists measure distances inside the solar system using kilometers or astronomical units. One astronomical unit (AU) is the average distance from the sun to Earth, about 150 million km. In this lab, you will make a scale model of the sun and planets and the distances between them.

MATERIALS (PER GROUP)

- ball, 20 cm diameter or larger
- calculator
- meterstick or measuring tape
- round object, various sizes (8)
- ruler, metric
- calipers or wire-gauge tool (optional)
- paper (optional)
- pencil

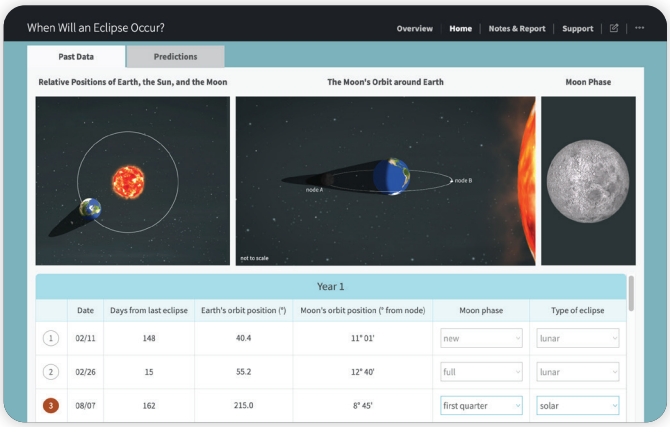
SAFETY

SAFETY GOGGLES

Procedure and Analysis (Part 1)

STEP 1 The table lists the diameter (in km) of the sun and each planet. Use the numbers 1-9 to rank the sun and planets in order from largest to smallest.

Solar System Objects		
Solar system object	**Diameter (km)**	**Relative size (biggest = 1, smallest = 9)**
Sun	1,392,000	1
Mercury	4,879	9
Venus	12,104	
Earth	12,756	
Mars	6,792	
Jupiter	142,984	
Saturn	120,536	
Uranus	51,118	
Neptune	49,528	



Hands-On Labs:

- Drive each exploration as students **make and revise claims** supported by evidence-based reasoning
- Are **easy to conduct** with materials that are readily available
- Assist students in learning to **design experiments** and observe results
- Emphasize **student collaboration** and discourse
- Include **"Engineer It"** versions that engage students in engineering concepts, practices, and vocabulary

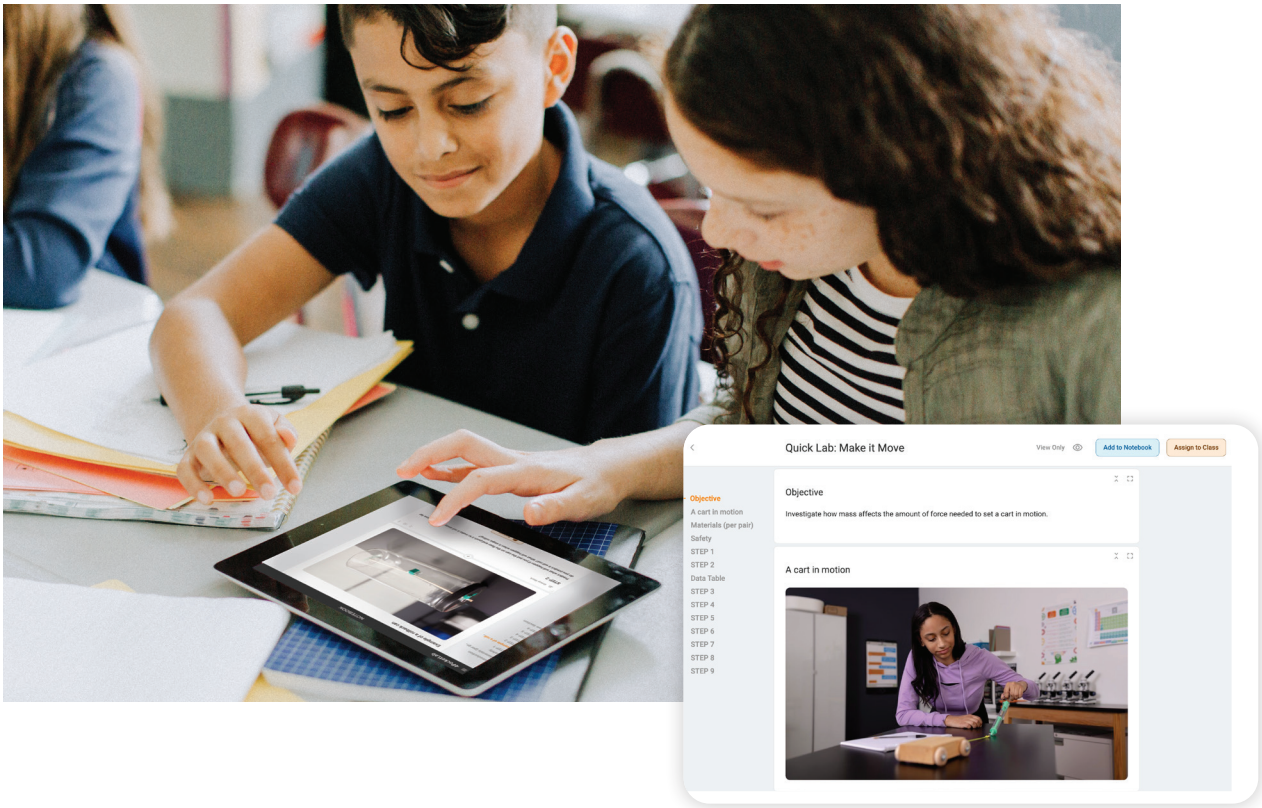
You Solve It! Simulations

You Solve It! Simulations provide virtual lab experiences that allow students to use technology like a scientist, collect and analyze data, and share their evidence in a report.

PocketLab

Access ALL Labs in *PocketLab Notebook*!

Through an exclusive partnership with ***PocketLab***® in the Texas science adoption, every *HMH Into Science Texas* hands-on lab is available in *PocketLab Notebook* and organized by the TEKS.



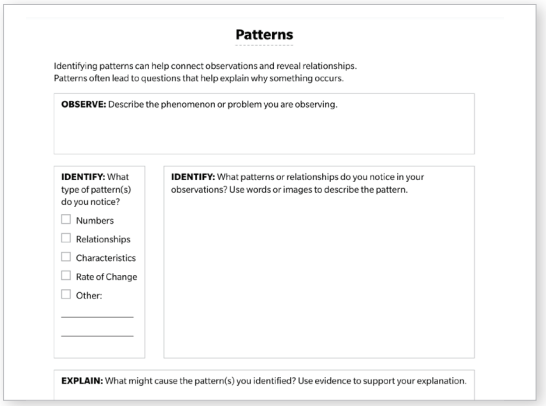
- Each hands-on lab within *PocketLab Notebook* provides opportunities for enhanced student engagement. Working individually or in groups, students can collect and record data and respond to each other in real time.
- Flexible, collaborative, and responsive data-collection features make visualizing and analyzing live data easier for students.
- Educators can effortlessly customize hands-on labs, assign them to individual students or groups, and track student progress in real time.

How can you **ensure complete coverage** of the TEKS and ELPS?

HMH Into Science Texas and *HMH ¡Arriba las Ciencias! Texas* received extensive Texas educator testing. The result? This **comprehensive program** includes the necessary support to meet the needs of a Texas science classroom. The **TEKS-based organization** provides a flexible structure that can be rearranged to meet your needs.

Texas Essential Knowledge and Skills

Earth and Space
7.9.A Describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud



Patterns

Identifying patterns can help connect observations and reveal relationships. Patterns often lead to questions that help explain why something occurs.

OBSERVE: Describe the phenomenon or problem you are observing.

IDENTIFY: What type of pattern(s) do you notice?
- Numbers
- Relationships
- Characteristics
- Rate of Change
- Other:

IDENTIFY: What patterns or relationships do you notice in your observations? Use words or images to describe the pattern.

EXPLAIN: What might cause the pattern(s) you identified? Use evidence to support your explanation.

Scientific and Engineering Practices

Ask Questions and Define Problems (7.1.A)
Ask questions and define problems based on observations or information from text, phenomena, models, or investigations.

Evaluate Models (7.2.A)
Identify advantages and limitations of models . . .

Use Mathematics (7.2
Use mathematical calcu
relationships in data . . .

Develop Explanations (7.3.A)
Develop explanations supported by data . . . and consistent with scientific . . . principles

Relate the Impact of Research (7.4.A)
Relate the impact of past . . . research on scientific thought . . ., including . . . contributions of diverse scientists as related to the content.

Recurring Themes and Concepts

Systems and Systems Models (7.5.D)
Examine and model the parts of a system . . .

TEKS-Based Lessons

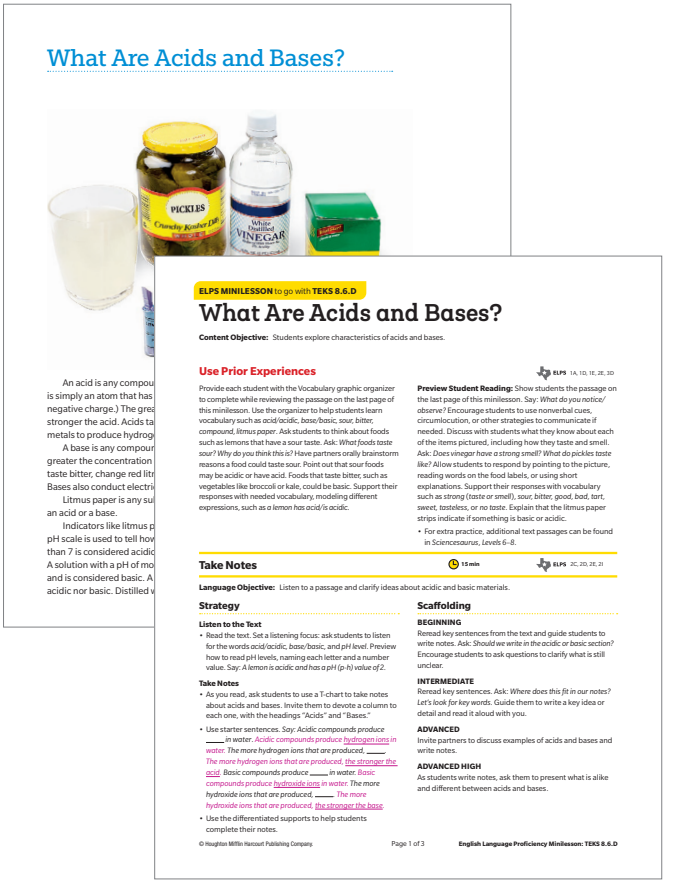
Each lesson begins with a phenomenon that relates to the TEKS Student Expectation being covered. Lesson content:

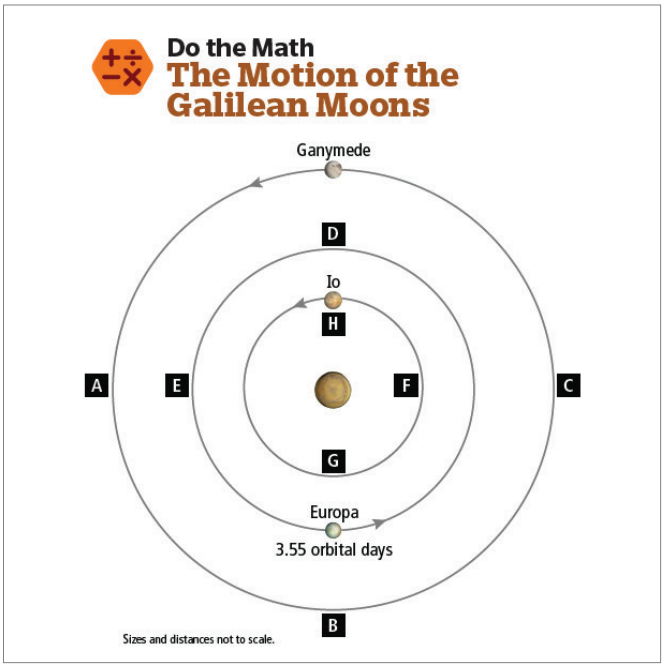
- Addresses the TEKS breakouts
- Reinforces the concepts needed to understand the phenomenon
- Closes by revisiting the phenomenon

Science Themes Organizers scaffold students' use of key Recurring Themes and Concepts to support sensemaking within and across lessons.

New Standards Are Clearly Labeled

Since this is a three-dimensional curriculum, it also covers the Scientific and Engineering Practices (SEPs) and Recurring Themes and Concepts (RTCs). To support educators in implementing these new standards, they are clearly labeled with point-of-use support within the Teacher's Guide. Our program implementation support and year-round professional development for *HMH Into Science Texas* users ensures educators can make the most out of their program with TEKS standards-alignment and teaching best-practices.





Flexible ELPS Minilessons

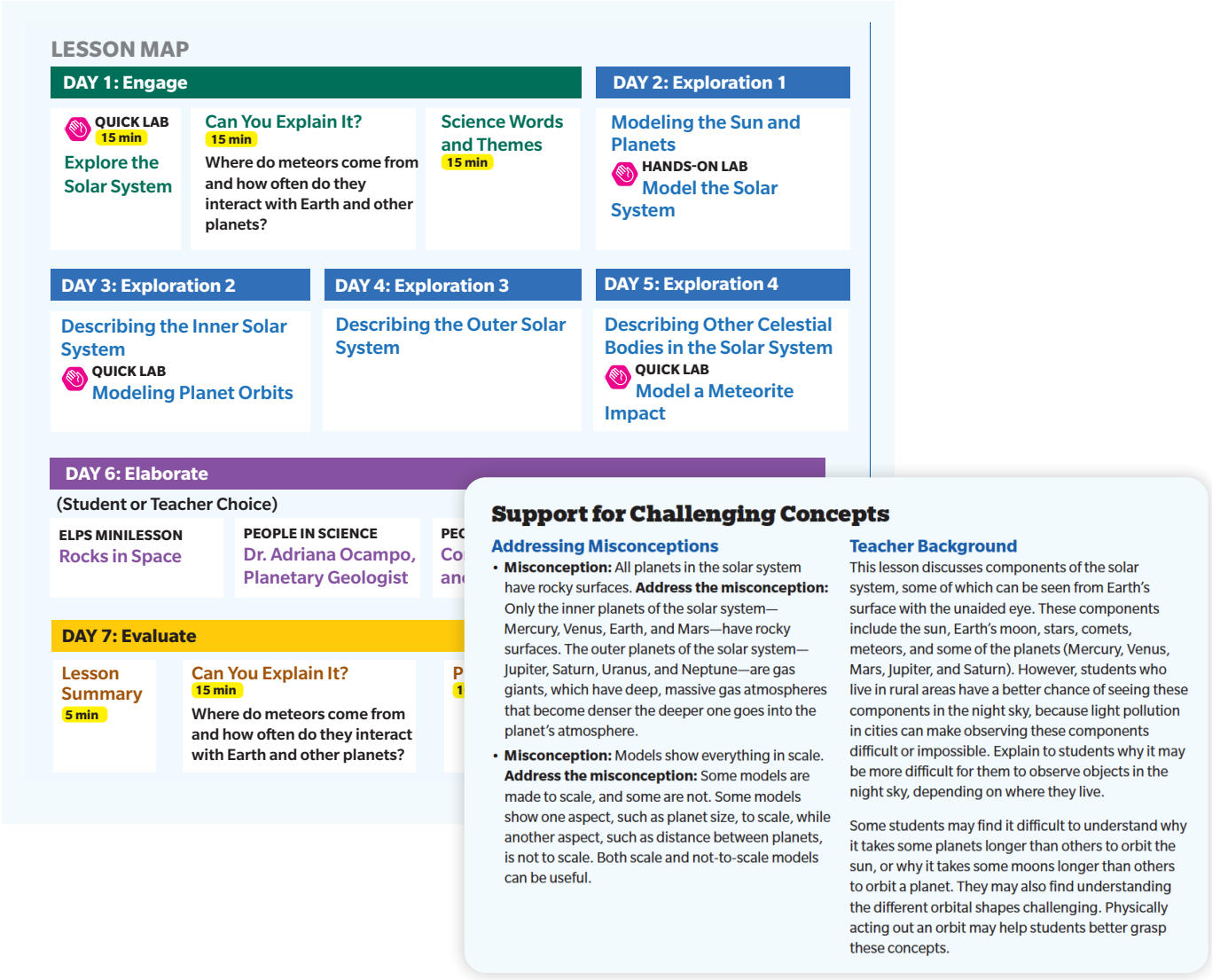
Short, engaging, and effective minilessons support educators in teaching the science ELPS. Minilessons include scaffolding suggestions along with strategies that educators can use to support students in previewing, taking notes, explaining, elaborating, and answering questions.

STEM and Cross-Curricular Connections

Do the Math and Language SmArts features connect directly to the content of the lesson while integrating ELA and math skills into the science learning process.

How can you save time with **easy lesson planning?**

Lessons and corresponding lesson support in *HMH Into Science Texas* and *HMH ¡Arriba las Ciencias! Texas* follow the **consistent and familiar 5E structure** for a predictable classroom routine. This structure allows for a **streamlined Teacher's Guide**, which provides educators with the ability to launch directly into the content with minimal planning.

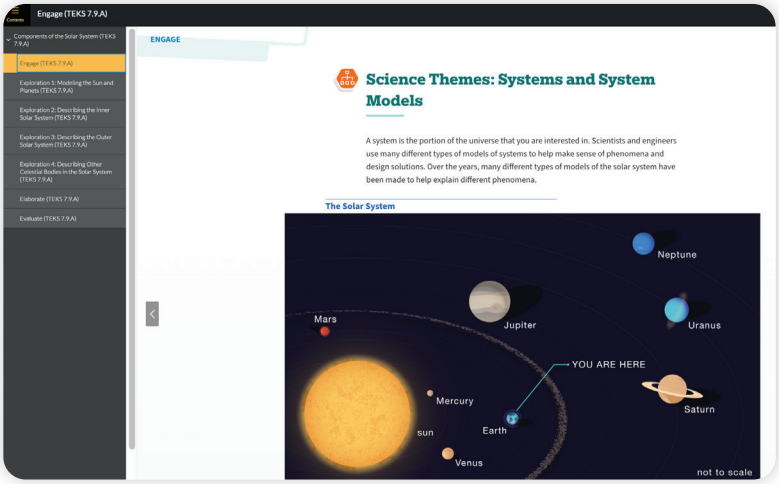


Easily Save Time with Built-In Planning Tools

The "**Lesson at a Glance**" shows you the Lesson Map of learning pieces as well as available extensions and assessments via a simple pacing tool.

Maximize Student Learning Time

All students are supported with hands-on labs and other collaborative activities in **45-minute blocks of time**—so there is always room for flexibility. Educators can teach directly from the **digital Student Interactive Lessons**, with no need to build their own slide presentations. The interactive lessons work well in any class setting.

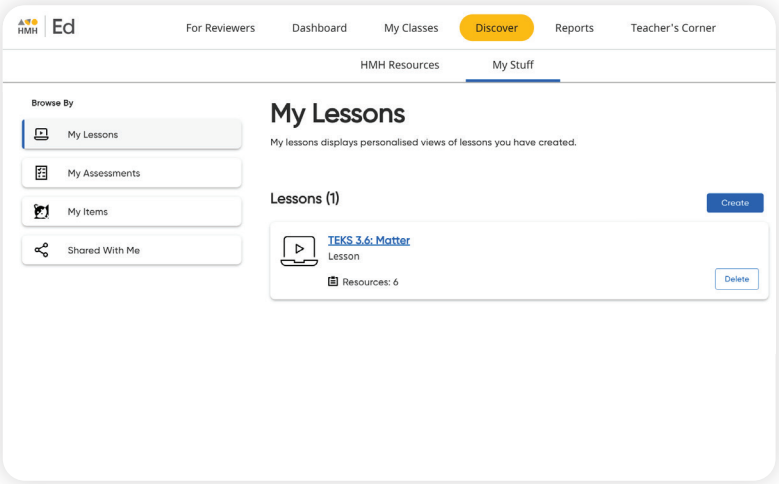


All You Need for Hands-On Labs!

Grade-Level Kits that contain consumable and nonconsumable materials **reduce preparation time** and make hands-on labs easy for educators to conduct with students.

Easy-to-Access Classroom Essentials

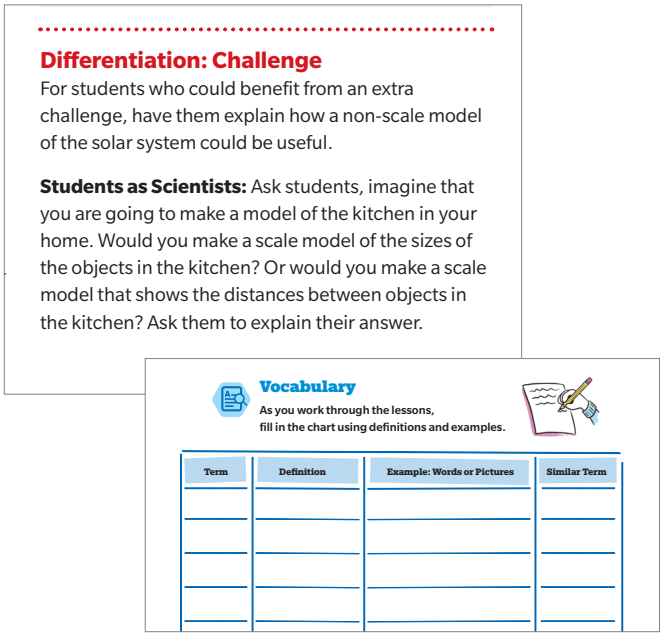
The MyStuff section on *HMH Ed*® allows educators to organize the resources they plan to use so they're always at their fingertips to assign to students and share with colleagues!



How can you ensure **ALL of your students are supported?**

HMH Into Science Texas and *HMH ¡Arriba las Ciencias! Texas* include built-in supports to help educators meet all learners where they are and scaffold them for success. The Teacher's Guide makes supporting students easy by indicating when and where to use these supports. *Ed* further supports educators by grouping students based on scores and recommending targeted differentiation.

- **"Students as Scientists"** features in the Teacher's Guide provide **asset-minded strategies** that focus on each student's strength.
- **Challenge students with assessments** that use a scaffolded approach—with simpler questions and items followed by more difficult ones.
- **Help students internalize new words** and organize academic vocabulary with Language Development Worksheets and Vocabulary Anchor Charts.
- **Motivate students to manage information effectively**, communicate scientific findings, and express understanding using Writing Graphic Organizers.



Differentiation: Challenge

For students who could benefit from an extra challenge, have them explain how a non-scale model of the solar system could be useful.

Students as Scientists: Ask students, imagine that you are going to make a model of the kitchen in your home. Would you make a scale model of the sizes of the objects in the kitchen? Or would you make a scale model that shows the distances between objects in the kitchen? Ask them to explain their answer.

Vocabulary

As you work through the lessons, fill in the chart using definitions and examples.

Term	Definition	Example: Words or Pictures	Similar Term

HMH Ed Online

Reteaching Support

Additional material for reteaching this concept can be found on Ed:

- *ScienceSaurus* Topics 238, 239, 240, 241, 242, 243
- Supplemental Lessons *The Sun, The Terrestrial Planets, The Gas Giant Planets, Small Bodies in the Solar System*

Extensions and Cross-TEKS Resources

This activity connects concepts related to TEKS 7.9.A.

- Performance Task: *How can you model the Earth-sun-moon system?*
- You Solve It: When will an eclipse occur?

> **“I want to encourage authentic sense-making in every science class.”**

Equitable Resources for ALL

English Language Proficiency options and Language X-Ray **support vocabulary and language acquisition** for all students, including Emergent Bilinguals. For a completely equitable Spanish experience for Emergent Bilinguals, EVERY student- and teacher-facing component is available in Spanish in the *HMH ¡Arriba Las Ciencias! Texas* curriculum.

EMERGENT BILINGUALS SUPPORT

Content Objective
Describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud. **TEKS: 7.9.A**

Language Objective
p_body
p_body. **ELPS: 00**

Use these routines to support emergent bilingual students throughout the lesson:

DAY 1 15–20 minutes

Clarify the meanings of terms and model completing sentence frames to help students express understanding. Then have students follow your models to practice using language.

Have students express their knowledge in ways that are accessible to them, such as:

- writing a term in another language they know, then looking it up in a bilingual dictionary to confirm meaning.
- using visuals, gestures, and other non-verbal cues to reinforce or express understanding.

Repeat modeling as needed with appropriate scaffolds for different language proficiency levels.

ALL OTHER DAYS as needed

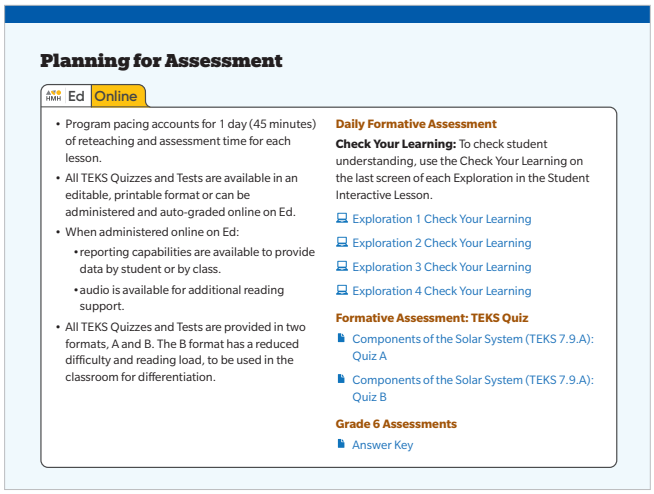
Reinforce lesson vocabulary terms and language structures, including signal words and sentence frames, to:

- give students additional practice using oral, written, or non-verbal language to demonstrate their understanding and interact with peers.
- confirm students' understanding of the target concept(s) and gauge their progress on the language development continuum.

Targeted strategies, routines, and practices to support emergent bilingual learners are supplied through the Language X-Ray and/or the ELPS minilesson associated with this lesson (see the Ed Online box above)

How can you assess **students' understanding?**

Educators need a constant gauge of students' understanding to ensure that they have the knowledge and skills necessary to **achieve proficiency with the TEKS**. *HMH Into Science Texas* and *HMH ¡Arriba las Ciencias! Texas* assessment options give Texas educators **maximum flexibility in assessing** their students.

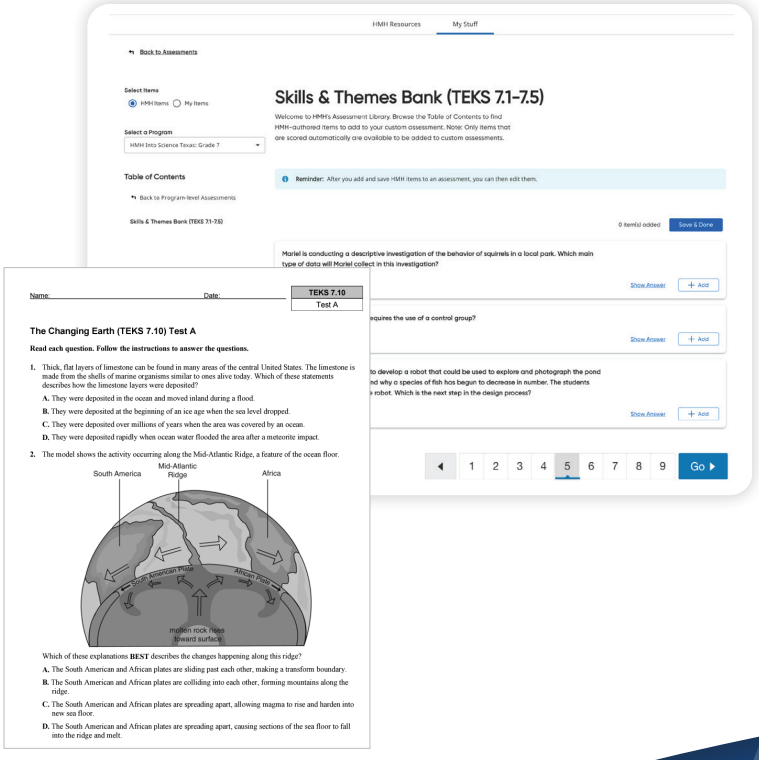


Lesson planning assessment support and point-of-use support for student answers can be found in the Teacher's Guide.

Meet the TEKS and Prep for State Tests

Assessment items often intertwine the TEKS with SEPs and RTCs to ensure that students can **demonstrate proficiency with all of the TEKS** and to prepare them for the types of items they will see on the redesigned State Assessment.

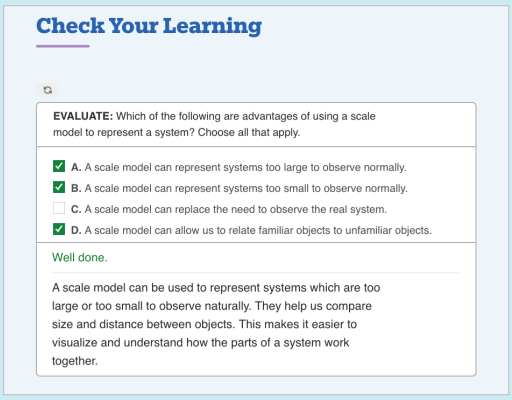
Since the SEPs and RTCs are new to the TEKS, a **Skills Bank** provides additional options for assessing them. Educators can **create their own assessments** using these items or **customize existing assessments** to include them.

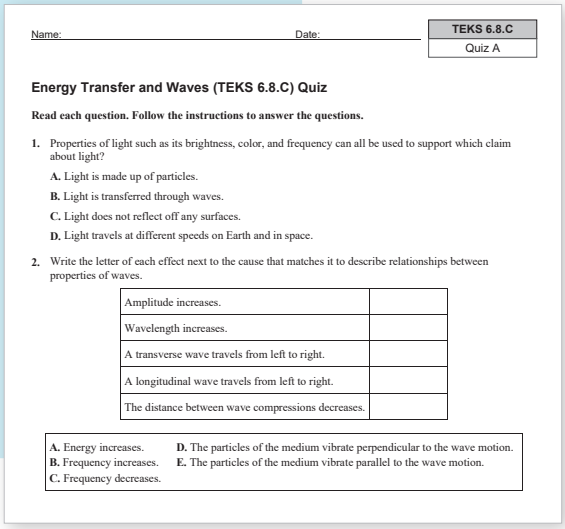


> **"I need plenty of formative assessment options so that I can modify my instruction as needed."**

Assess to Improve Teaching and Learning

Formative and ongoing assessments support educators in assessing student learning and addressing misconceptions. These formative assessment opportunities, including classroom discussions, Check Your Learning Exit Tickets, and TEKS quizzes, **eliminate the guesswork** around if and when to modify instruction.

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TEKS 6.8.C
Quiz A

Energy Transfer and Waves (TEKS 6.8.C) Quiz

Read each question. Follow the instructions to answer the questions.

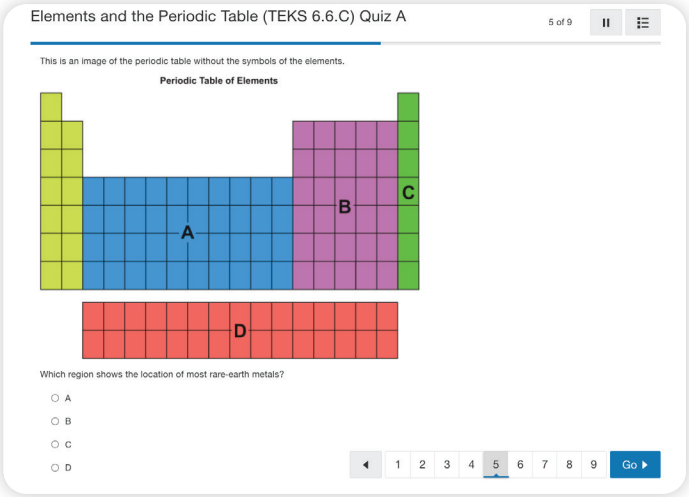
1. Properties of light such as its brightness, color, and frequency can all be used to support which claim about light?
   - **A.** Light is made up of particles.
   - **B.** Light is transferred through waves.
   - **C.** Light does not reflect off any surfaces.
   - **D.** Light travels at different speeds on Earth and in space.
2. Write the letter of each effect next to the cause that matches it to describe relationships between properties of waves.

Amplitude increases.	
Wavelength increases.	
A transverse wave travels from left to right.	
A longitudinal wave travels from left to right.	
The distance between wave compressions decreases.	

A. Energy increases.
B. Frequency increases.
C. Frequency decreases.
D. The particles of the medium vibrate perpendicular to the wave motion.
E. The particles of the medium vibrate parallel to the wave motion.

Choose the Tools that Best Support You

Quizzes and tests are available online with **auto-grading and actionable data** that drive grouping to inform instruction. They are also provided as printable PDFs and editable Word formats—allowing educators the **choice of assessing students** digitally, in print, or with a combination of the two.



Where can you find **guided implementation support?**

Are you looking for a partner to collaborate side by side with your district? *HMH Into Science Texas* and *HMH ¡Arriba las Ciencias! Texas* include unlimited implementation support at no extra cost, in order to create meaningful professional learning experiences that support you in achieving your teaching and learning goals.

Getting Started with *HMH Into Science Texas*

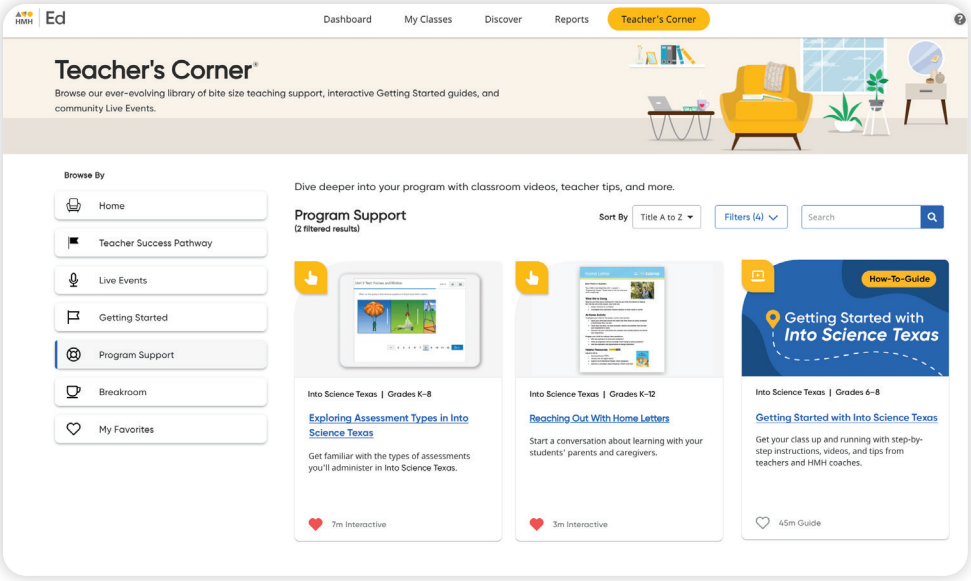
Build community and prepare for your first week of lessons during a Getting Started session. This session kicks off your *HMH Into Science Texas* implementation with a preview of the first week of lessons, guidance in navigating *Ed*, and an introduction to the personalized learning available to you.

Build Confidence in 30 Days

Your recommended Teacher Success Pathway on *Ed* is personalized professional development that supports the way you teach. Choose from live or on-demand sessions designed to fit your busy schedule. Pathway resources help Texas educators plan, teach, and assess learning using their new *HMH Into Science Texas* program.

Explore Teacher's Corner®

Support continues throughout the year with our searchable library of articles and videos, live online events, on-demand recordings, and so much more!



"I need to make sure that all of my students are successful with the TEKS."

Flexible Professional Development

Our **Coaching Membership**, available at an additional cost, allows you to partner with an instructional coach to meet your district's specific needs. Our professional learning provides the perfect opportunity to focus on standards-aligned instruction and practice.

A Year-Long Coaching Membership Includes:

- Personalized instructional support based on unique teacher needs
- Guidance that helps teachers set, track, and accomplish goals
- Flexible scheduling to align with a PLC or PD plan

HMH also offers **Leader Live-Online Sessions**, available at an additional cost, to prepare school and district leaders to implement their new *HMH Into Science Texas* program successfully in the first 30 days. The session includes an overview of the program's instructional model and resources, assessments, and *Ed*, the HMH program platform. Recommendations for instructional time, program essentials, assessment guidelines, and a timeline for professional learning are discussed collaboratively. Leaders receive tools to help understand what to look for during instruction to better support teachers in implementing the program with integrity.

Nationally Recognized
Did you know HMH Professional Learning has been nationally recognized for our ability to support implementation and provide ongoing teacher and leader professional development?

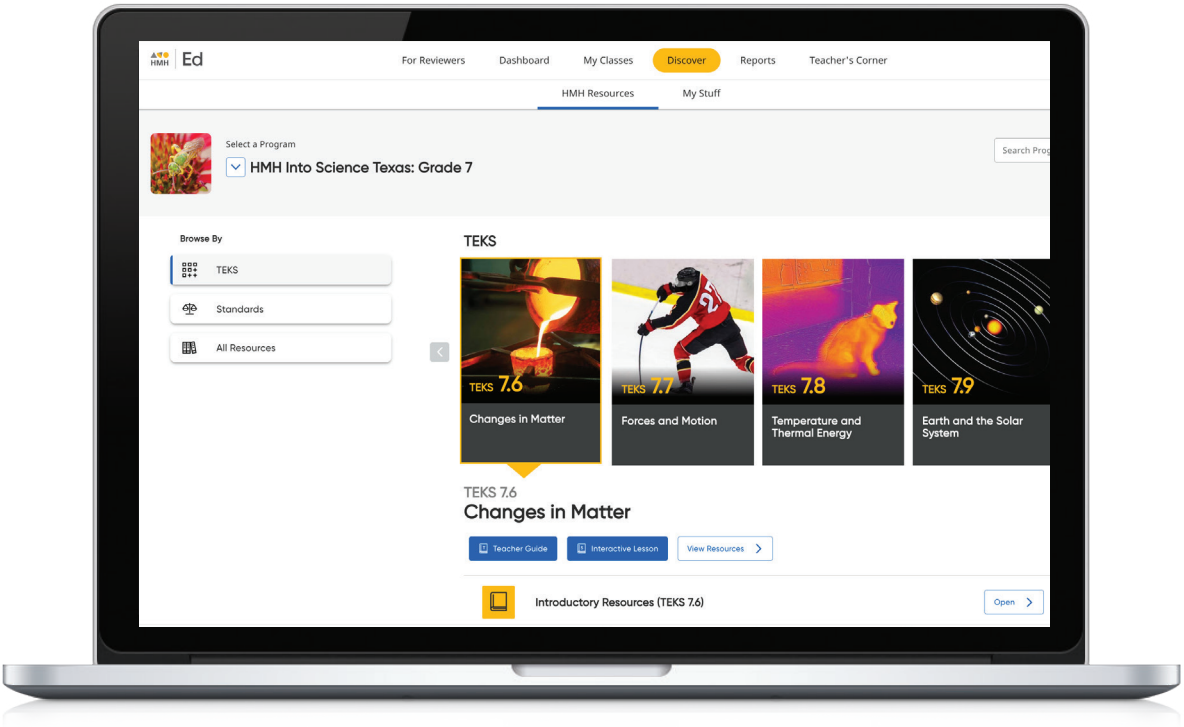
PLPG CERTIFIED PROVIDER

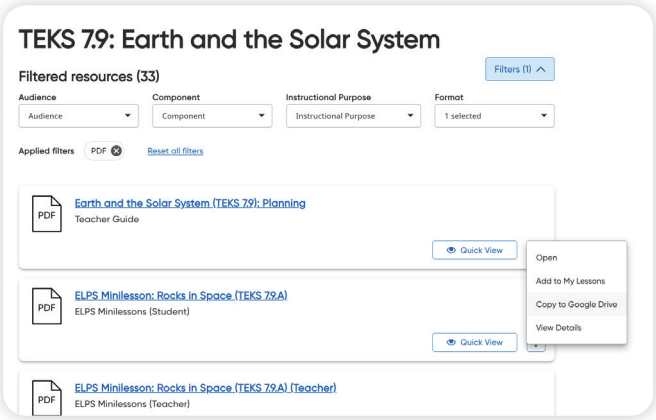
For more information, please visit us at

hmhco.com/professionalservices

How will you **connect it all together?**

HMH Into Science Texas and *HMH ¡Arriba las Ciencias! Texas* reside on *Ed*, the HMH Learning Platform, which **combines the best of technology, content, instruction, and professional learning** to support each moment in a student's and teacher's journey. With *Ed*, Texas educators have access to all of their HMH Connected Solutions from one platform. They can easily create lesson plans, deliver instruction, and customize and assign assessments.



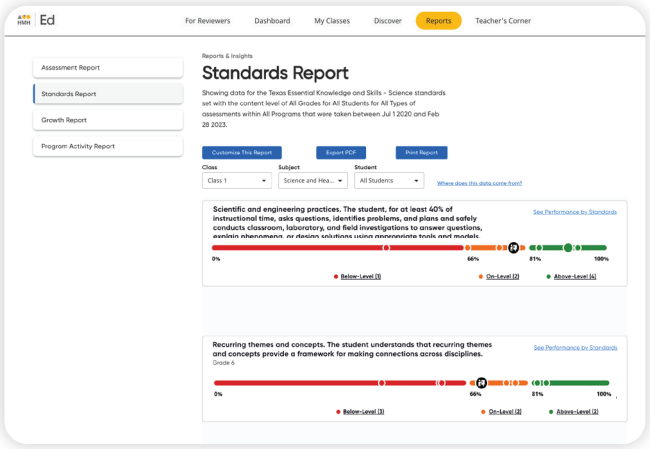


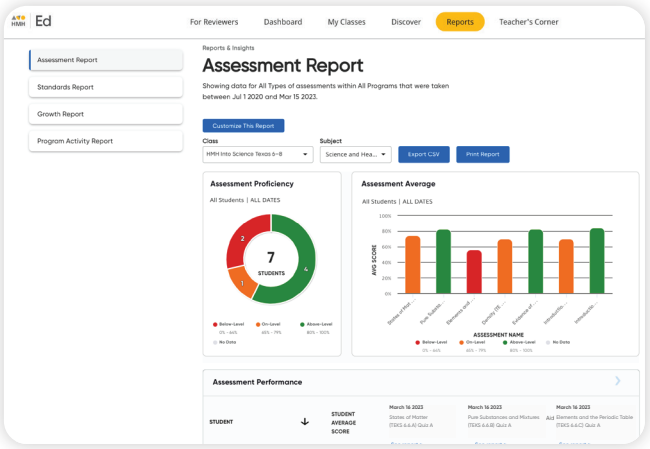
Ed makes it easy to open *HMH Into Science Texas* lesson plans and slides in Google Drive™ and teach through your district's LMS, including:

- **Google Classroom**
- **Canvas®**
- **Schoology®**

It can also provide one-click access through trusted single sign-on partners, including:

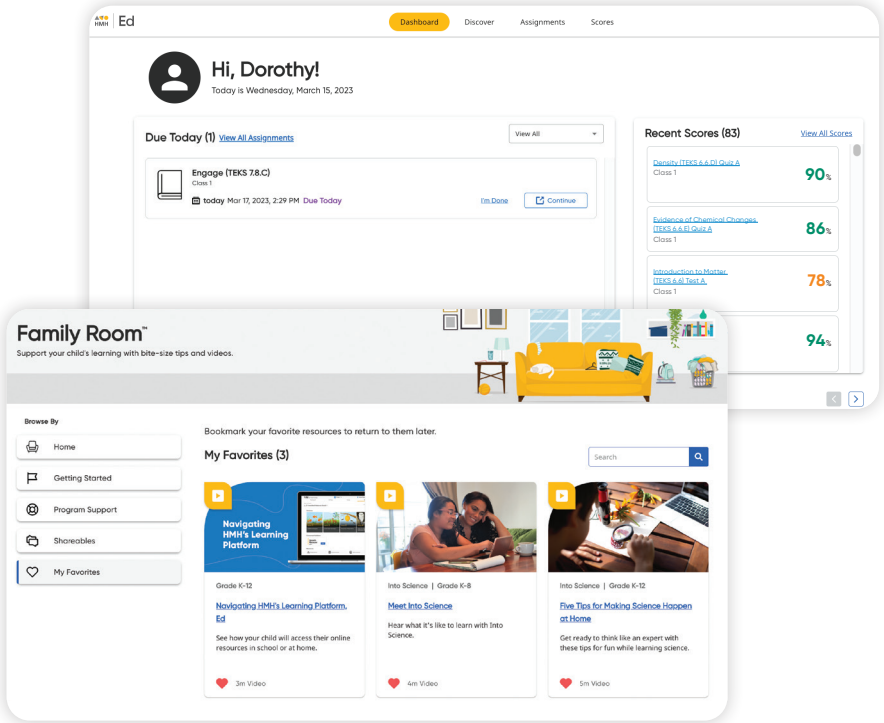
- **Clever®**
- **Skyward®**
- **ClassLink®**





Effortlessly Connect Assessment to Instruction

Once assignments are completed, *Ed* can **auto-grade** them and **deliver actionable data** to inform instruction. *Ed* can also group students and recommend targeted differentiation or allow educators to **customize groups** based on student assessment performance.



Accessible Support for Student Learning

From *Ed*, students can view all their digital student-facing resources and connect to *PocketLab Notebook*. They can also access the **status and due dates** of their assignments and the scores on those they have completed. **Family Room**™ provides caregivers resources to support their student's learning.

HMH | into Science® Texas

HMH | ¡Arriba las Ciencias!® Texas

To learn more or to get a sample, visit:

hmhco.com/TXscience