Mc Graw Hill

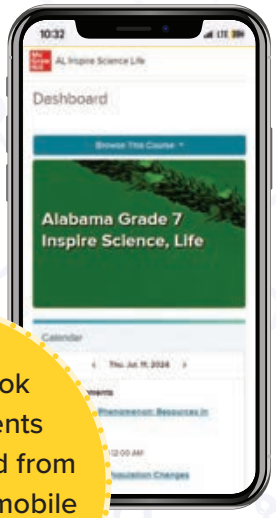
Program Overview
Grades 6–8

Alabama Inspire Science

Welcome to *Alabama Inspire Science*

Engaging, Flexible, Cross-Curricular Learning

Alabama Inspire Science provides an in-depth, collaborative, project-based learning experience designed to engage students, empower them to ask questions, and learn to think critically. Designed with the Alabama Science Course of Study in mind, *Alabama Inspire Science* provides the structure for students to develop a solid background of foundational science knowledge while they learn to practice problem solving and critical thinking skills inherent in science.



Student eBook and assignments can be accessed from anywhere on a mobile device using the K–12 Portal App!

Tap Into and Extend Student Curiosity

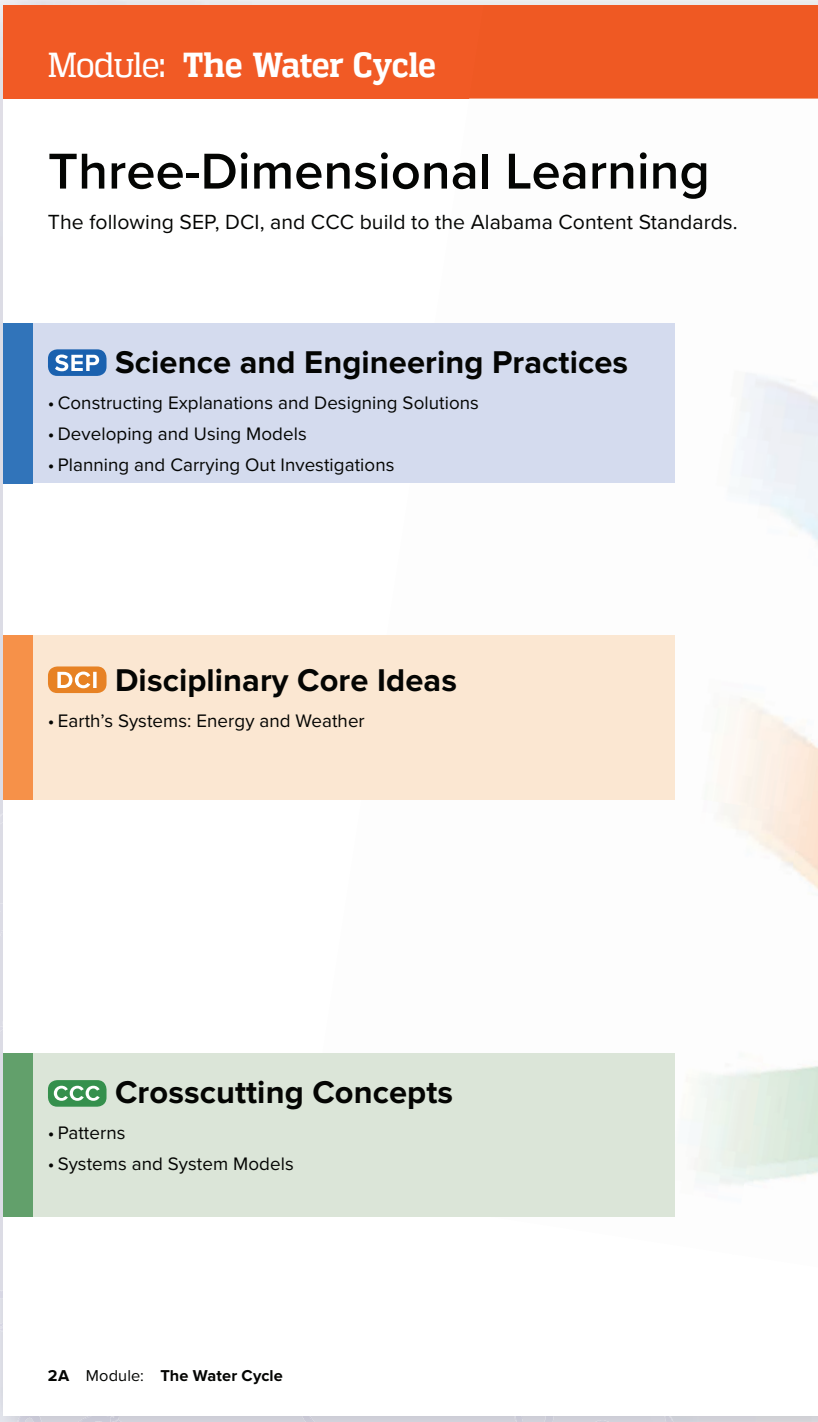
Middle school students have a wealth of new experiences competing for their attention which can lead to challenges with learning engagement. With *Alabama Inspire Science*, each module and lesson are designed with student interest and curiosity in mind. When fueled by curiosity, students look to the world around them through the investigation of real-world phenomena in interesting, innovative, and hands-on ways. A new generation of innovators is ready to take on today's challenges to become tomorrow's scientists.

Designed for the Rigor of the Alabama Science Course of Study

Alabama Inspire Science ensures that Alabama educators have the resources and tools to deliver high-quality instruction to help students meet the rigor and challenge of the Alabama Science Course of Study.

Comprehensive Alabama Science Course of Study Planning

At the beginning of each module, Alabama Science Course of Study codes and descriptions help teachers quickly see performance expectations addressed in the module.



Alabama Content Standards

8 Construct an evidence-based explanation of how the sun's energy drives the motion and cycling of water through the hydrosphere.

8a Plan and carry out an investigation to determine the differences in rates of energy transfer from the sun to air, to land, and to water via conduction, convection, and radiation.

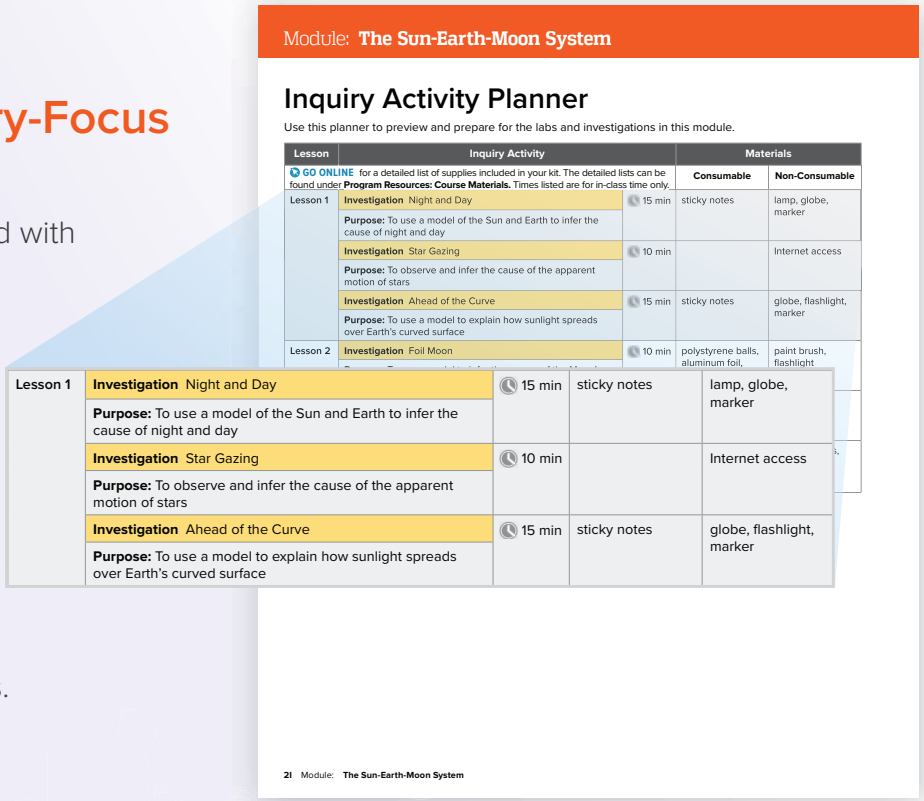
10 Use observations and data from investigations to demonstrate how the sun, air, land, and water affect Earth's climate. *Examples: simulations of convection in the atmosphere and ocean, comparisons of how soil and water absorb heat*

CROSS-CURRICULAR Connections

In addition to in-depth coverage of the three dimensions, this module also covers connections to Life Science, Physical Science, Engineering, Environmental, and Reading topics.

Designed for an Inquiry-Focus for Proficiency

Alabama Inspire Science is infused with inquiry-based learning to capture student interest and empower them to ask questions and think more critically. Within each lesson are multiple inquiry-based learning opportunities designed to give students the practice they need to achieve proficiency and succeed with science and engineering practices.



Module: **The Sun-Earth-Moon System**

Inquiry Activity Planner

Use this planner to preview and prepare for the labs and investigations in this module.

Lesson	Inquiry Activity		Materials	
GO ONLINE for a detailed list of supplies included in your kit. The detailed lists can be found under **Program Resources: Course Materials.** Times listed are for in-class time only.			**Consumable**	**Non-Consumable**
Lesson 1	**Investigation** Night and Day	15 min	sticky notes	lamp, globe, marker
	Purpose: To use a model of the Sun and Earth to infer the cause of night and day			
	Investigation Star Gazing	10 min		Internet access
	Purpose: To observe and infer the cause of the apparent motion of stars			
	Investigation Ahead of the Curve	15 min	sticky notes	globe, flashlight, marker
	Purpose: To use a model to explain how sunlight spreads over Earth's curved surface			
Lesson 2	**Investigation** Foil Moon	10 min	polystyrene balls, aluminum foil,	paint brush, flashlight

Lesson 1	**Investigation** Night and Day	15 min	sticky notes	lamp, globe, marker
	Purpose: To use a model of the Sun and Earth to infer the cause of night and day			
	Investigation Star Gazing	10 min		Internet access
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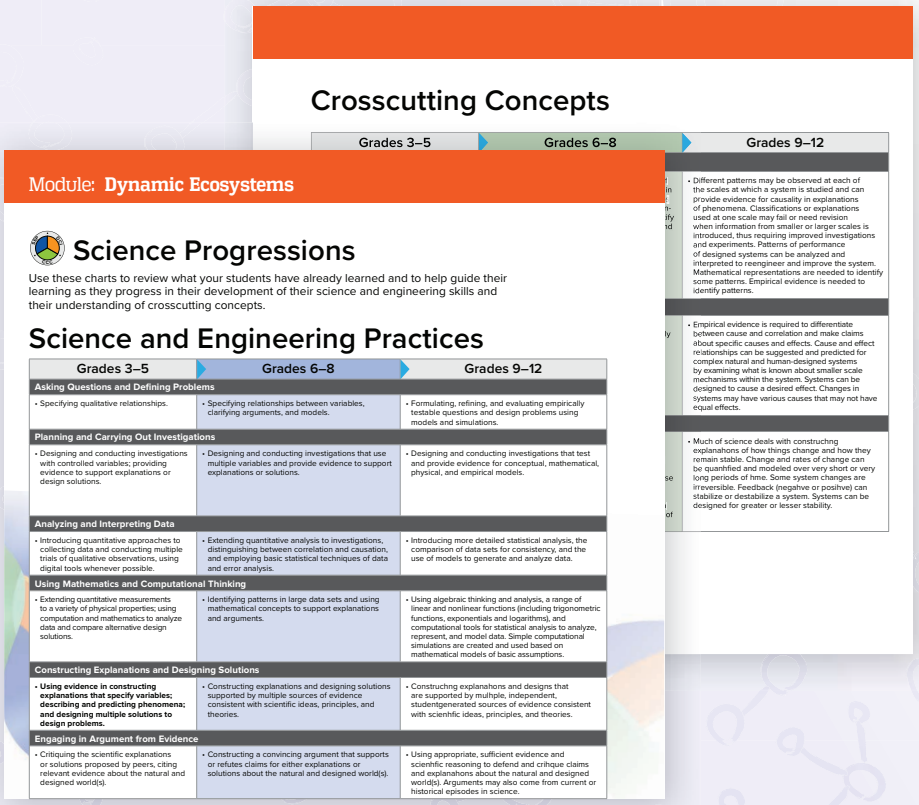
	Investigation Ahead of the Curve	15 min	sticky notes	globe, flashlight, marker
	Purpose: To use a model to explain how sunlight spreads over Earth's curved surface			

Science Progression

Each module includes a table illustrating in detail the Science and Engineering Practices and Crosscutting Concept Progressions across grade bands.



Module: **Dynamic Ecosystems**

Science Progressions

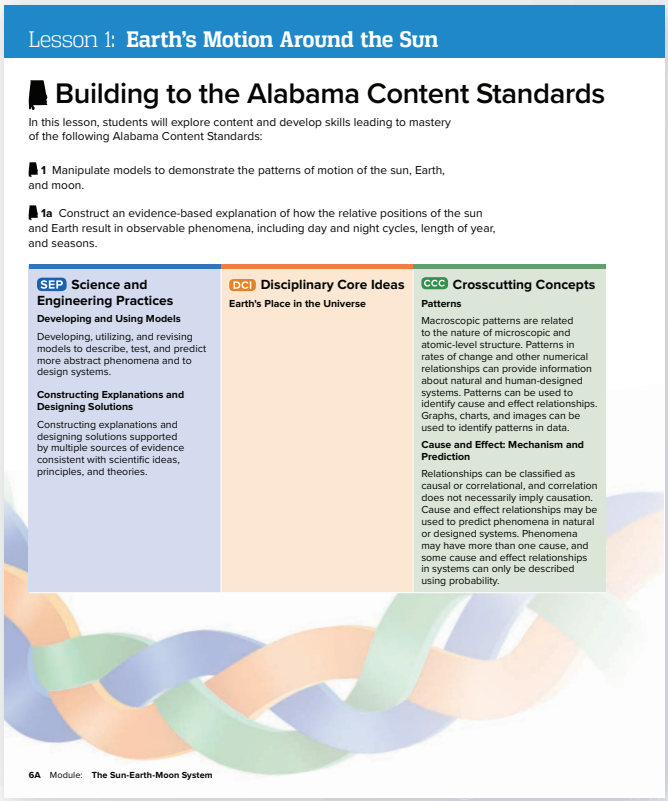
Use these charts to review what your students have already learned and to help guide their learning as they progress in their development of their science and engineering skills and their understanding of crosscutting concepts.

Science and Engineering Practices

Grades 3–5	Grades 6–8	Grades 9–12
Asking Questions and Defining Problems		
• Specifying qualitative relationships.	• Specifying relationships between variables, clarifying arguments, and models.	• Formulating, refining, and evaluating empirically testable questions and design problems using models and simulations.
Planning and Carrying Out Investigations		
• Designing and conducting investigations with controlled variables; providing evidence to support explanations or design solutions.	• Designing and conducting investigations that use multiple variables and provide evidence to support explanations or solutions.	• Designing and conducting investigations that test and provide evidence for conceptual, mathematical, physical, and empirical models.
Analyzing and Interpreting Data		
• Introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations, using digital tools whenever possible.	• Extending quantitative analysis to investigations, distinguishing between correlation and causation, and employing basic statistical techniques of data and error analysis.	• Introducing more detailed statistical analysis, the comparison of data sets for consistency, and the use of models to generate and analyze data.
Using Mathematics and Computational Thinking		
• Extending quantitative measurements to a variety of physical properties; using computation and mathematics to analyze data and compare alternative design solutions.	• Identifying patterns in large data sets and using mathematical concepts to support explanations and arguments.	• Using algebraic thinking and analysis, a range of linear and nonlinear functions (including trigonometric functions, exponentials and logarithms), and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions.
Constructing Explanations and Designing Solutions		
• **Using evidence in constructing explanations that specify variables; describing and predicting phenomena; and designing multiple solutions to design problems.**	• Constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.	• Constructng explanahons and designs that are supported by mulhple, independent, studentgenerated sources of evidence consistent with scienhfic ideas, principles, and theories.
Engaging in Argument from Evidence		
• Critiquing the scientific explanations or solutions proposed by peers, citing relevant evidence about the natural and designed world(s).	• Constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world(s).	• Using appropriate, sufficient evidence and scienhfic reasoning to defend and crihque claims and explanahons about the natural and designed world(s). Arguments may also come from current or historical episodes in science.

Crosscutting Concepts

Grades 3–5	Grades 6–8	Grades 9–12
		• Different patterns may be observed at each of the scales at which a system is studied and can provide evidence for causality in explanations of phenomena. Classifications or explanations used at one scale may fail or need revision when information from smaller or larger scales is introduced, thus requiring improved investigations and experiments. Patterns of performance of designed systems can be analyzed and interpreted to reengineer and improve the system. Mathematical representations are needed to identify some patterns. Empirical evidence is needed to identify patterns.
		• Empirical evidence is required to differentiate between cause and correlation and make claims about specific causes and effects. Cause and effect relationships can be suggested and predicted for complex natural and human-designed systems by examining what is known about smaller scale mechanisms within the system. Systems can be designed to cause a desired effect. Changes in systems may have various causes that may not have equal effects.
		• Much of science deals with constructng explanahons of how things change and how they remain stable. Change and rates of change can be quanhfied and modeled over very short or very long periods of hme. Some system changes are irreversible. Feedback (negahve or posihve) can stabilize or destabilize a system. Systems can be designed for greater or lesser stability.



Lesson 1: **Earth's Motion Around the Sun**

Building to the Alabama Content Standards

In this lesson, students will explore content and develop skills leading to mastery of the following Alabama Content Standards:

1 Manipulate models to demonstrate the patterns of motion of the sun, Earth, and moon.

1a Construct an evidence-based explanation of how the relative positions of the sun and Earth result in observable phenomena, including day and night cycles, length of year, and seasons.

SEP Science and Engineering Practices

Developing and Using Models

Developing, utilizing, and revising models to describe, test, and predict more abstract phenomena and to design systems.

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.

DCI Disciplinary Core Ideas

Earth's Place in the Universe

CCC Crosscutting Concepts

Patterns

Macroscopic patterns are related to the nature of microscopic and atomic-level structure. Patterns in rates of change and other numerical relationships can provide information about natural and human-designed systems. Patterns can be used to identify cause and effect relationships. Graphs, charts, and images can be used to identify patterns in data.

Cause and Effect: Mechanism and Prediction

Relationships can be classified as causal or correlational, and correlation does not necessarily imply causation. Cause and effect relationships may be used to predict phenomena in natural or designed systems. Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.

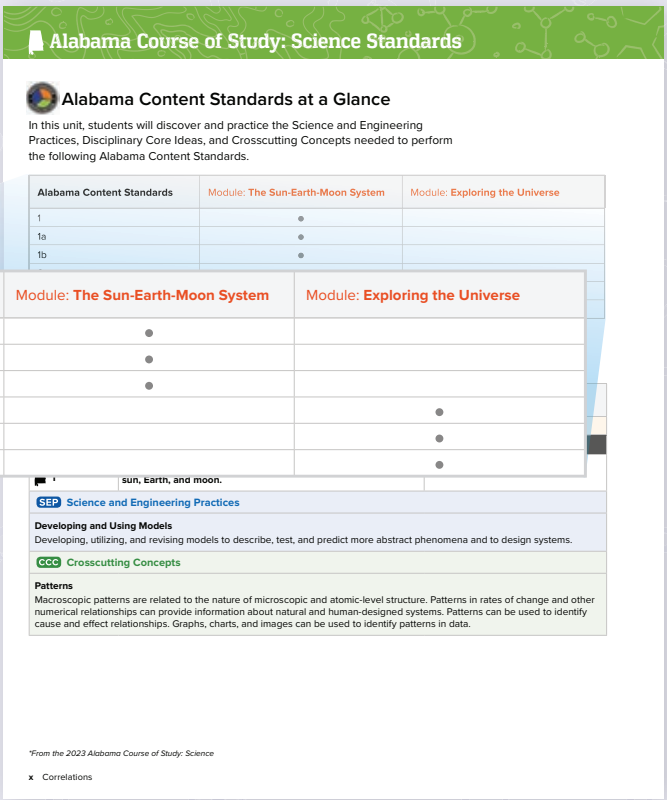
6A Module: **The Sun-Earth-Moon System**

Focused Lesson Planning for Effective Standards-Based Instruction

Within the lesson opener, find the extension of Building to the Alabama Science Course of Study to help focus student learning by standard and integrated Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts.

Three Dimensions at a Glance Building to Alabama Science Course of Study

Use this chart to locate where students will encounter each of the three dimensions that build to the Alabama Science Course of Study expectations within the module.



Alabama Course of Study: Science Standards

Alabama Content Standards at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Alabama Content Standards.

Alabama Content Standards	Module: The Sun-Earth-Moon System	Module: Exploring the Universe
1	●	
1a	●	
1b	●	
2		●
3		●
4		●

sun, Earth, and moon.

SEP Science and Engineering Practices

Developing and Using Models

Developing, utilizing, and revising models to describe, test, and predict more abstract phenomena and to design systems.

CCC Crosscutting Concepts

Patterns

Macroscopic patterns are related to the nature of microscopic and atomic-level structure. Patterns in rates of change and other numerical relationships can provide information about natural and human-designed systems. Patterns can be used to identify cause and effect relationships. Graphs, charts, and images can be used to identify patterns in data.

**From the 2023 Alabama Course of Study: Science*

x Correlations

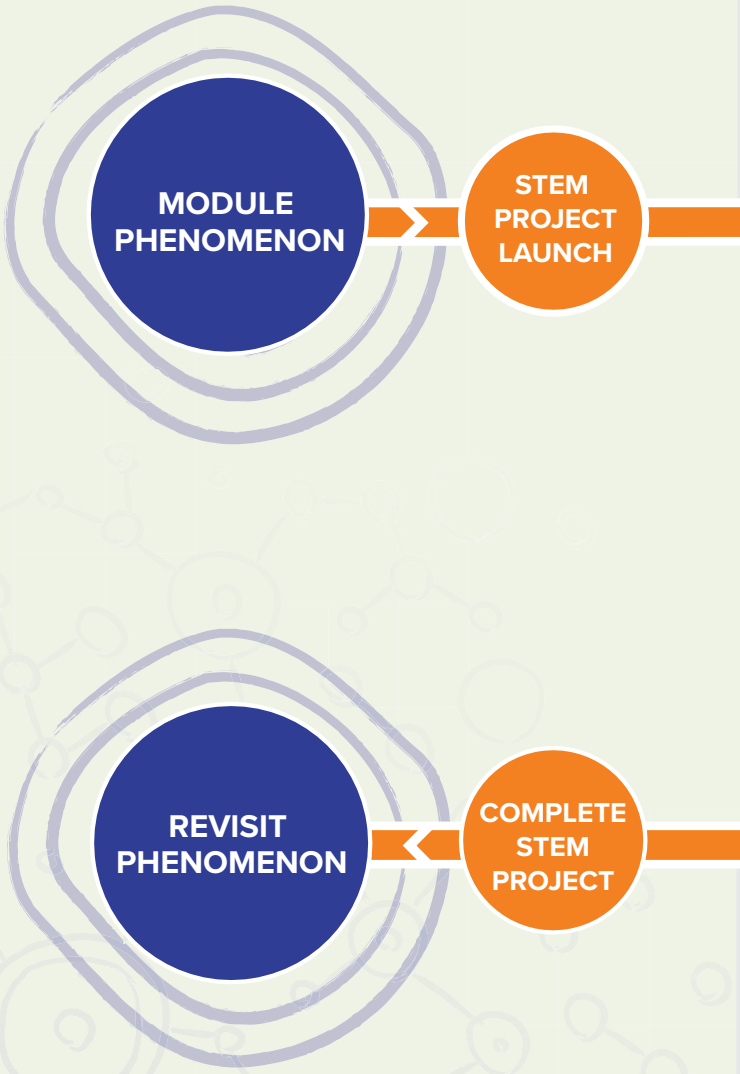
Learning Through Storylines

Students are surrounded by natural phenomena.

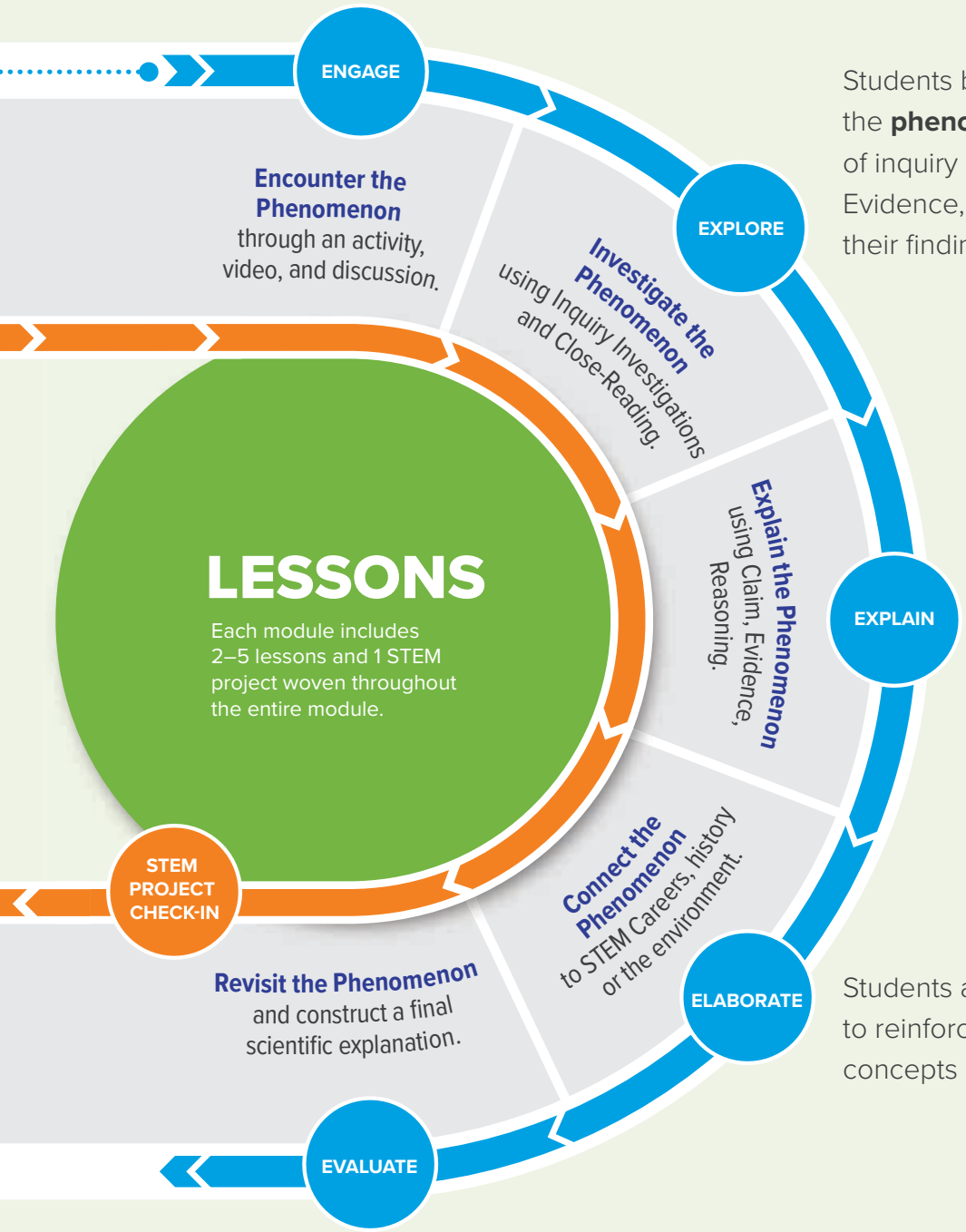
These phenomena are the centerpiece of each *Alabama Inspire Science* module and lesson; find Module Storylines as the anchor to engage students as they investigate each lesson-level phenomenon. Within each lesson-level phenomenon, they will gather pieces of the puzzle to help solve and explain the module-level phenomenon.

Students experience the topic through multiple related phenomena. This strategy offers students multiple entry points for connection to their lives and a deeper understanding of the world around them.

Alabama Inspire Science is built around the 5E+IA framework to guide students toward scientific understanding using a thorough and methodical process aligned with Alabama Science Course of Study.



Each module and lesson in *Alabama Inspire Science* begins by introducing a natural **phenomenon**, which students are charged with investigating as they progress through the text.



Students begin to explore and investigate the **phenomenon** through different types of inquiry activities, using the CER (Claim, Evidence, Reasoning) framework to record their findings and results.

Students delve into an array of informational text, supportive resources, and interactive activities designed to help them synthesize and convey their understanding of **phenomena** while practicing close-reading skills.

Students apply knowledge to new situations to reinforce deep understanding of lesson concepts introduced by the **phenomenon**.

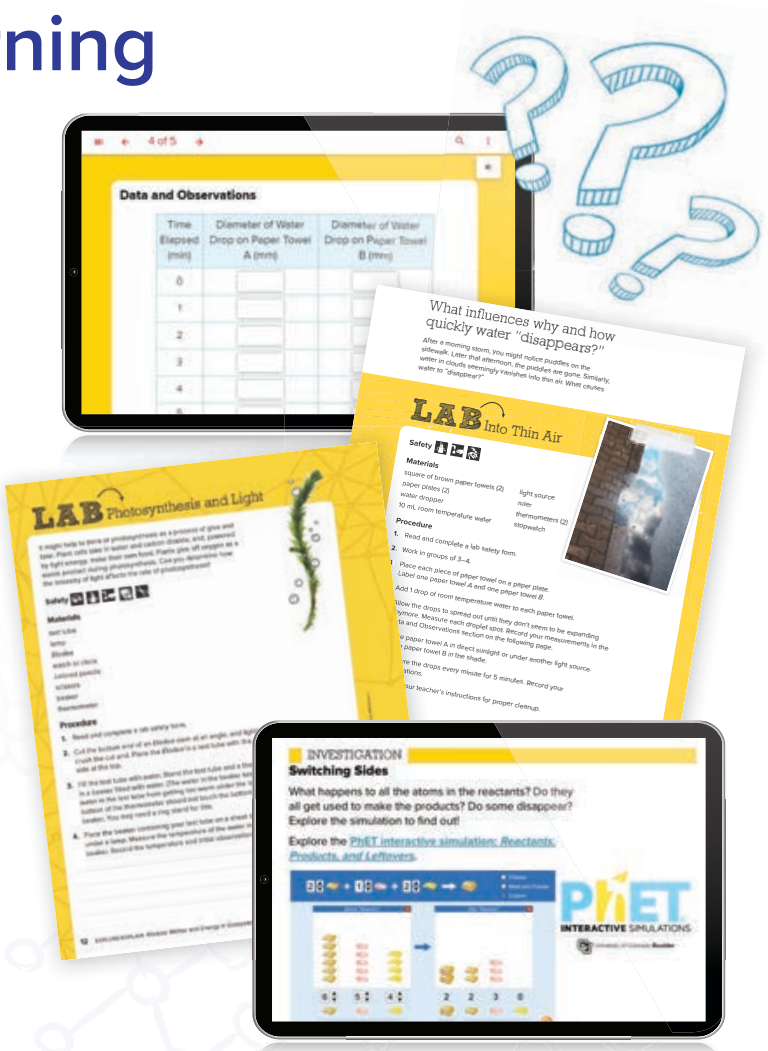
Students explain the **phenomenon** so that teachers can gauge progress and assess understanding.

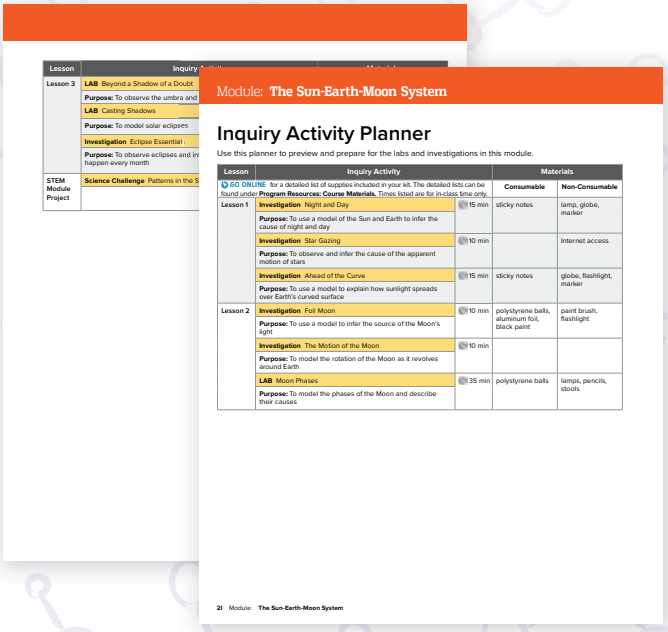
Empower Students With Hands-On, Inquiry-Based Learning

During two to three Inquiry Activities per lesson—typically found in Explore/Explain or Elaborate—students use the same techniques as scientists and engineers as they use their results and findings to communicate their understanding. These Inquiry Activities drive home science topics in meaningful, engaging ways.

There are five types of Inquiry Activities in *Alabama Inspire Science* that enable students to investigate phenomena and record findings in the same way as real-world practitioners do:

- Hands-On
- Engineering
- Investigations
- Simulations
- Data Analysis





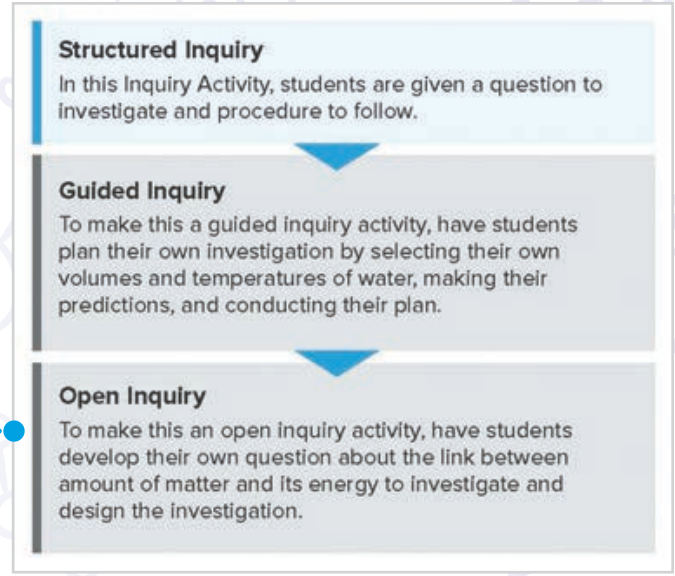
Inquiry Activity Planning

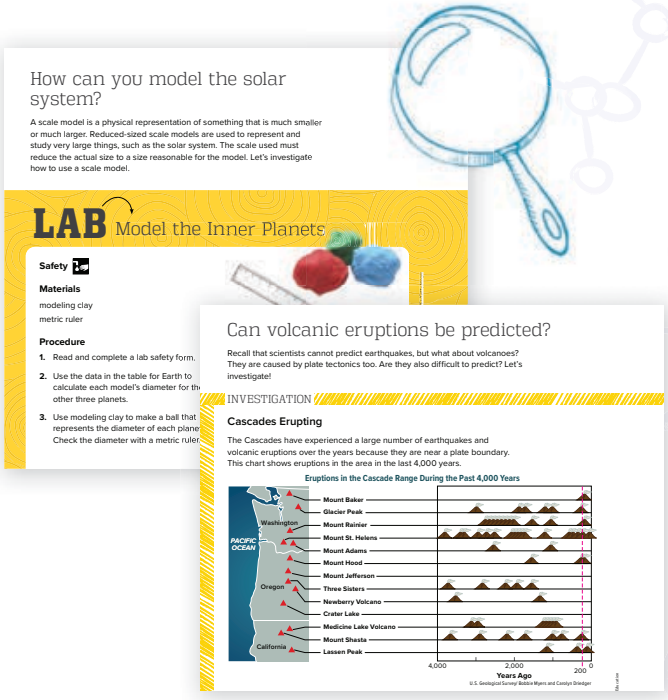
Planning and preparing for students to become elbows-deep in science is made easier with the *Alabama Inspire Science* Inquiry Activity Planner that clearly identifies all the materials needed within the module.

Inquiry Spectrum

Not all inquiry activities are the same. Depending upon the available time and student readiness, structured inquiry might be perfect, or your class may be ready for open inquiry. The *Alabama Inspire Science* Inquiry Spectrum provides flexible options to adjust the inquiry level to align with the learning needs of each student.

Each lesson offers inquiry activities developed with a recommended inquiry spectrum level, giving you the flexibility to modify the level of instruction based on your students' needs.





Student-Driven Data Analysis

All Inquiry Activities in *Alabama Inspire Science* promote student engagement and allow each student to develop skills in both inquiry and science and engineering skills. The combination of Investigations and Labs enable students to cover the full range of the inquiry spectrum.

Labs provide students an opportunity to conduct an investigation and gather their own data to analyze, interpret, and apply to the lesson and module phenomena.

Investigations offer students practice with data sets, graphs and other scientific scenarios to further hone their abilities to think like scientists.

Collaboration Kits

When students are engaged in their learning, they succeed, and nothing is more engaging than rolling up your sleeves and digging into hands-on activities. Developed to support engagement, *Alabama Inspire Science* Collaboration Kits make it easy to innovate and incorporate investigative thinking about core science concepts.

Support Every Learner

Alabama Inspire Science incorporates the research-based Universal Design Learning Principles to ensure that all students have access to rigorous curriculum.

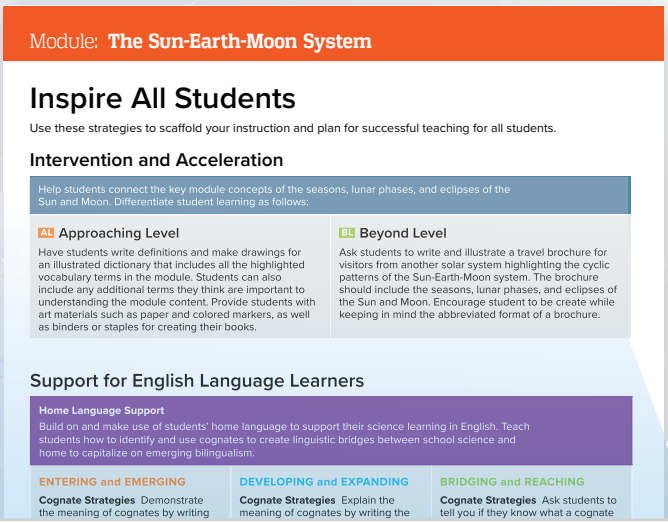
Support with practical strategies is found at the module and lesson level at multiple points. The Leveled text aligns with the Lexile ranges appropriate for each grade level.

Uniting Phenomena

Phenomena-driven instruction levels the playing field for learners by allowing them to access the core science instruction via a shared experience by observing a highly relevant real-world phenomenon. These shared experiences with supporting instruction ensure learning is truly accessible to ALL students.

Intervention and Acceleration

Robust differentiation support including guiding questions for different student levels, as well as differentiation guidance is found in the Teacher's Edition. Module and lesson level practice strategies are also found at multiple points.


Module: **The Sun-Earth-Moon System**

Inspire All Students

Use these strategies to scaffold your instruction and plan for successful teaching for all students.

Intervention and Acceleration

Help students connect the key module concepts of the seasons, lunar phases, and eclipses of the Sun and Moon. Differentiate student learning as follows:

AL **Approaching Level**

Have students write definitions and make drawings for an illustrated dictionary that includes all the highlighted vocabulary terms in the module. Students can also include any additional terms they think are important to understanding the module content. Provide students with art materials such as paper and colored markers, as well as binders or staples for creating their books.

BL **Beyond Level**

Ask students to write and illustrate a travel brochure for visitors from another solar system highlighting the cyclic patterns of the Sun-Earth-Moon system. The brochure should include the seasons, lunar phases, and eclipses of the Sun and Moon. Encourage student to be create while keeping in mind the abbreviated format of a brochure.

Support for English Language Learners

Home Language Support

Build on and make use of students' home language to support their science learning in English. Teach students how to identify and use cognates to create linguistic bridges between school science and home to capitalize on emerging bilingualism.

ENTERING and EMERGING

Cognate Strategies Demonstrate the meaning of cognates by writing

DEVELOPING and EXPANDING

Cognate Strategies Explain the meaning of cognates by writing the

BRIDGING and REACHING

Cognate Strategies Ask students to tell you if they know what a cognate

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English Language Learner Support

Alabama Inspire Science applies the best instructional practices for teaching ELL students. Each module and lesson have scaffolded activities that offer students of any level of English language proficiency the opportunity to engage in academically challenging science and engineering content while supporting language acquisition.


Lesson 1: Resources in Ecosystems

ASSESS PRIOR KNOWLEDGE

PAGE KEELEY SCIENCE PROBES

Populations and Communities

Use this science probe to assess students' prior knowledge of the lesson content and identify possible preconceptions. This probe works well with the Confidence Levels strategy.

GO ONLINE to learn about this and other strategies to use with this probe.

The best answer is C: *Population* describes all the organisms of the same species living in the same area at the same time; *community* describes all the *populations* living together in the same area at the same time. Some students confuse these words with everyday usage. For example, the word population often refers to the number of people or organisms living in a certain place, or increases and decreases in that number. *Community* is often confused with the place where people live. For example, "He lives in the community of Riverside."

The big idea is that *population* and *community* are words used to help us understand how organisms interact and change in an ecosystem. Students' answer choices and explanations will alert you to the need to make sure instruction builds a bridge between the students' everyday definitions of these words and the way these words are used in an ecological context.

ELL Support

ENTERING and EMERGING Ask students to look at the image in the lesson opener on the next page. Point to the zebras. **ASK:** What is the *population* of zebras in this *community*? 9 **ASK:** What other populations are part of the *community*? giraffes, antelope. Elicit from students that *population* refers to those that are the same, while *community* refers to all the populations living together. Connect this to scientists' use of these terms.

DEVELOPING and EXPANDING **ASK:** What is the student *population* of our school? number of students Followed by: What populations are part of our city/town *community*? children, teens, adults, senior citizens. Elicit from students that *population* refers to those that are the same, in this case, by age, while *community* refers to all the populations living together. Ask students to look through the module for pictures that are examples of these two terms.

BRIDGING and REACHING Before reading the Launch, ask students to define *population* and *community* in their own words, drawing on the context in which they use them. Ask students to select their Launch answer using their understanding of the terms to help decipher the scientific meaning.

SCIENCE PROBE Lesson 1 **Resources in Ecosystems** 69

ELL Support

ENTERING and EMERGING Ask students to look at the image in the lesson opener on the next page. Point to the zebras. **ASK:** What is the *population* of zebras in this *community*? 9 **ASK:** What other populations are part of the *community*? giraffes, antelope. Elicit from students that *population* refers to those that are the same, while *community* refers to all the populations living together. Connect this to scientists' use of these terms.

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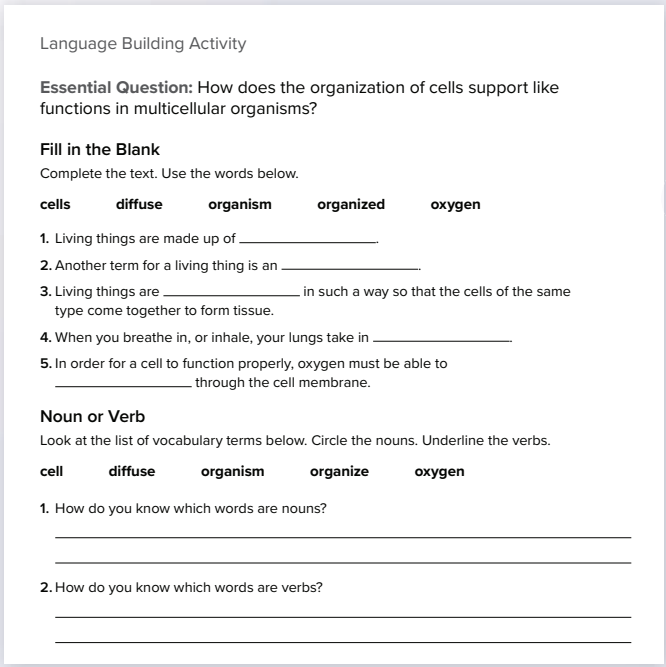

Language Building Activity

Essential Question: How does the organization of cells support like functions in multicellular organisms?

Fill in the Blank

Complete the text. Use the words below.

cells **diffuse** **organism** **organized** **oxygen**

1. Living things are made up of _____.
2. Another term for a living thing is an _____.
3. Living things are _____ in such a way so that the cells of the same type come together to form tissue.
4. When you breathe in, or inhale, your lungs take in _____.
5. In order for a cell to function properly, oxygen must be able to _____ through the cell membrane.

Noun or Verb

Look at the list of vocabulary terms below. Circle the nouns. Underline the verbs.

cell **diffuse** **organism** **organize** **oxygen**

1. How do you know which words are nouns?

_____

_____

2. How do you know which words are verbs?

_____

_____

Language Building Resources

Alabama Inspire Science lessons carefully and purposefully integrate reading, writing, speaking, listening, and collaborating into each lesson. This structure provides ELL students with purposeful language usage and resource access to convey their understanding.

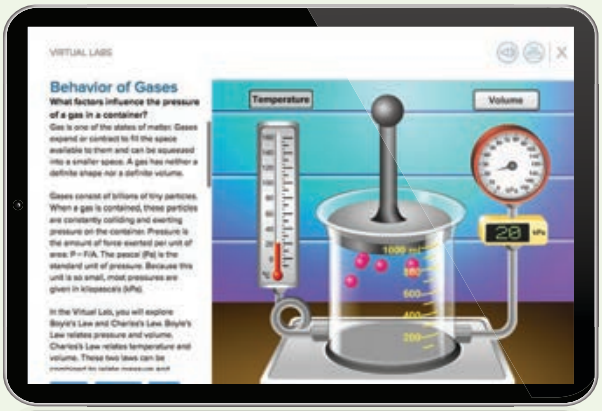
Bring Science to Life

Alabama Inspire Science transports students beyond the walls of your classroom with cutting-edge digital content, including interactives, simulations, videos, and more.

Fun and easy-to-use, these features align with lesson topics to spark scientific curiosity, support discussion, enhance review, and deepen understanding.

Simulations

Simulations offer a chance to experience real life scenarios that depict true events. These proven tools improve learning as well as create safe and engaging learning environments where failure is possible, something that is often missed when students are learning.



Virtual Labs

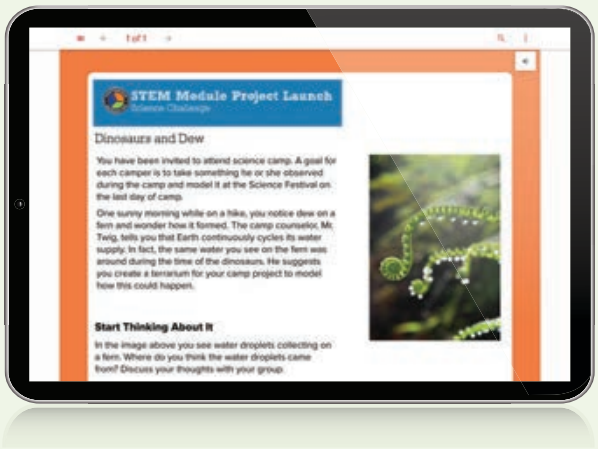
Virtual Labs provide an alternative engaging way for students to interact with an experiment that cannot always be done in a classroom setting. These interactive Virtual Labs are found throughout your *Alabama Inspire Science* program.

Interactive Text

Engage students in online literacy learning with tools like text to speech, note-taking, and text highlighting. Interacting with learning creates a dynamic experience that's more engaging and will improve student learning and retention.

Videos

Enhance teaching and learning with videos that reinforce concepts and spark discussion. Videos encourage students to hone their analytical skills by analyzing media using the theories and concepts they are studying and to experience worlds beyond their own.



Project Based Learning

Alabama Inspire Science provides activities and instruction that progress toward a culminating STEM Module project where students meet grade-level Performance Expectations.

McGraw Hill K–12 Portal App

Students can access their content anywhere, any time, on any device—with or without internet access—using the McGraw HIll K–12 Portal App.

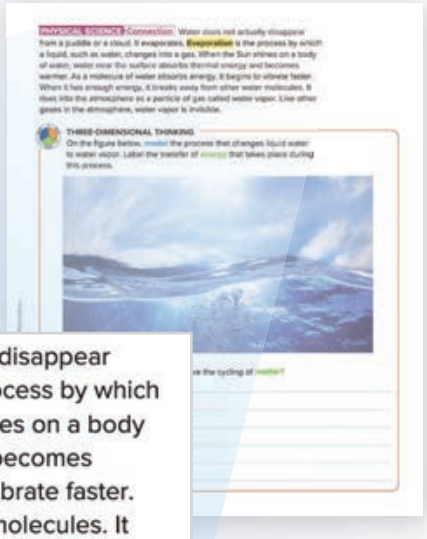
Cross-Curricular Connections

When students study science, they practice and build upon other skill sets along the way.

Alabama Inspire Science has been designed to maximize opportunities for cross-curricular connections, integrating ELA/Literacy and Mathematics standards so they are prepared for success on the ACAP.

Other connections, such as those listed below, are found throughout *Alabama Inspire Science* Lessons. These connections are found vertically and horizontally across disciplines as students approach a single phenomenon from different perspectives.

- Physical Science
- Earth Science
- Environmental
- Health
- Writing
- Reading

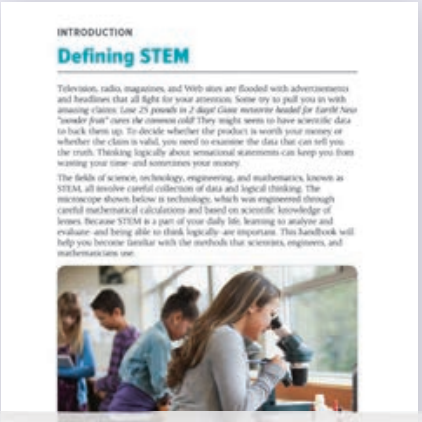


PHYSICAL SCIENCE Connection Water does not actually disappear from a puddle or a cloud. It evaporates. **Evaporation** is the process by which a liquid, such as water, changes into a gas. When the Sun shines on a body of water, water near the surface absorbs thermal energy and becomes warmer. As a molecule of water absorbs energy, it begins to vibrate faster. When it has enough energy, it breaks away from other water molecules. It rises into the atmosphere as a particle of gas called water vapor. Like other gases in the atmosphere, water vapor is invisible.

ENGINEERING Connection About 97 percent of Earth's water is salty. People can't drink salt water. Using what you've learned about the water cycle, explain which processes could be used to design a device for turning salt water into freshwater.

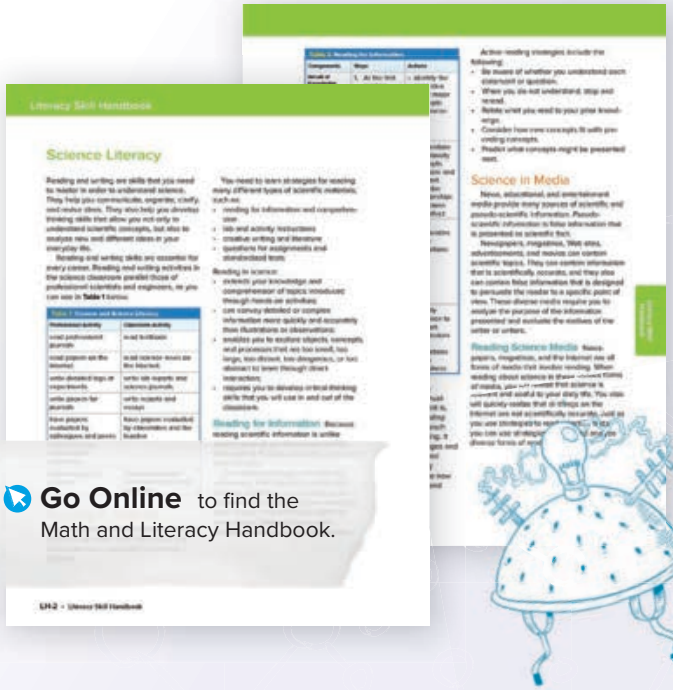
Integrated Engineering

Alabama Inspire Science supports teachers and students with the integration of engineering into the science curriculum. For broad support, teachers and students can access the Science and Engineering Handbook, which provides simple, approachable descriptions of the Science and Engineering practices. Students can also practice these skills by applying them as they read through the handbook. The Student Edition also helps students understand the integration of engineering through lab explorations and module projects, where the science and engineering practices are interwoven with other concepts and content.


INTRODUCTION

Defining STEM

Go Online to find the Science and Engineering Handbook to learn more about each of the eight SEPs.


Science Literacy

Science in Media

Go Online to find the Math and Literacy Handbook.

Math and Literacy Handbook

Alabama Inspire Science supports students with literacy and math access through the Literacy Handbook and the Math Handbook. Each of these handbooks provides background information, student support, and examples that get students ready to make the connections they need to science.

STEM Career Connection

STEM Career Connection allow students to connect with science by seeing potential career paths, as well as how what they're studying connects to the real world. Students can read about the STEM career, and then do an activity for further exploration in the It's Your Turn section of the feature.


STEM CAREER Connection

A Day in the Life of a Yuba River Waterkeeper

Many people work together to protect and preserve the Yuba River. One important role is that of a waterkeeper. Waterkeepers work with the public and government officials to ensure that future generations have a healthy river to enjoy.

One of the most important tasks for a waterkeeper is water-quality monitoring. Waterkeepers test water temperature, oxygen content, and pollutants. One test uses a black and white disk called a Secchi disk to measure turbidity, or how clear the water is. The disk is attached to a rope and lowered into the river. The deeper it can be lowered and remain visible, the less sediment the water likely contains.

On any given day, a waterkeeper can be a detective, a teacher, an ambassador, or a scientist. The keepers of the Yuba River monitor its health, identify and solve water quality problems, and educate the public about the importance of clean water.

It's Your Turn

ENVIRONMENTAL Connection Imagine you are a waterkeeper for a river near your home or school. Investigate the quality of the water and what types of plants and wildlife depend on the river. Create a short presentation for a group of younger students to teach them the importance of protecting California's rivers.

30 ELABORATE Module: The Water Cycle

Alabama Assessment Strategies

Alabama Inspire Science includes a variety of assessment options to support teachers with differentiation strategies and support students on their journey to mastery of the Alabama Course of Study: Science and culminating with success on the Alabama Comprehensive Assessment Program (ACAP).

Each *Alabama Inspire Science* lesson begins with a Formative Assessment Science Probe.

Page Keeley, M.Ed.

Page Keeley's Science Probes present the lesson phenomenon in an engaging way to promote student thinking and discussion, revealing commonly-held preconceptions students bring to their learning to guide differentiated instruction strategies.

Formative Assessment

Formative assessment, embedded at many points throughout each module and lesson, facilitates student reflection on their thinking (metacognition) and allows teachers to dynamically differentiate instruction. The table below shows the types of formative assessment resources in *Alabama Inspire Science* found online and in print.

FEATURE	INSTRUCTIONAL PURPOSE
Page Keeley Science Probes	Found at the beginning of each lesson, **Science Probes** reveal student preconceptions to guide instruction.
Claim-Evidence-Reasoning	With the **CER Framework** (Claim/Evidence/Reasoning), found in all lessons, students will make claims and document their reasoning during the EXPLORE phase, and add evidence and adjust their claims as needed later in the lesson.
Three-Dimensional Thinking Questions	Students will encounter questions that address at least two of the three dimensions of the Alabama Course of Study: Science.
LABS and INVESTIGATIONS	In each **Lab** or **Investigation** (2–3 per lesson), students may encounter analyzing and concluding questions that help build Three-Dimensional Thinking.
SmartBook®	*SmartBook* transforms the way students read. A proven, adaptive learning program, it individualizes instruction to help students study more efficiently and retain more knowledge.

Summative Assessment

Summative assessment tools at the module and lesson level help ensure lasting learning and alignment of student skills to the Performance Expectations with the following summative assessment tools found in *Alabama Inspire Science* in print Student Editions and online.

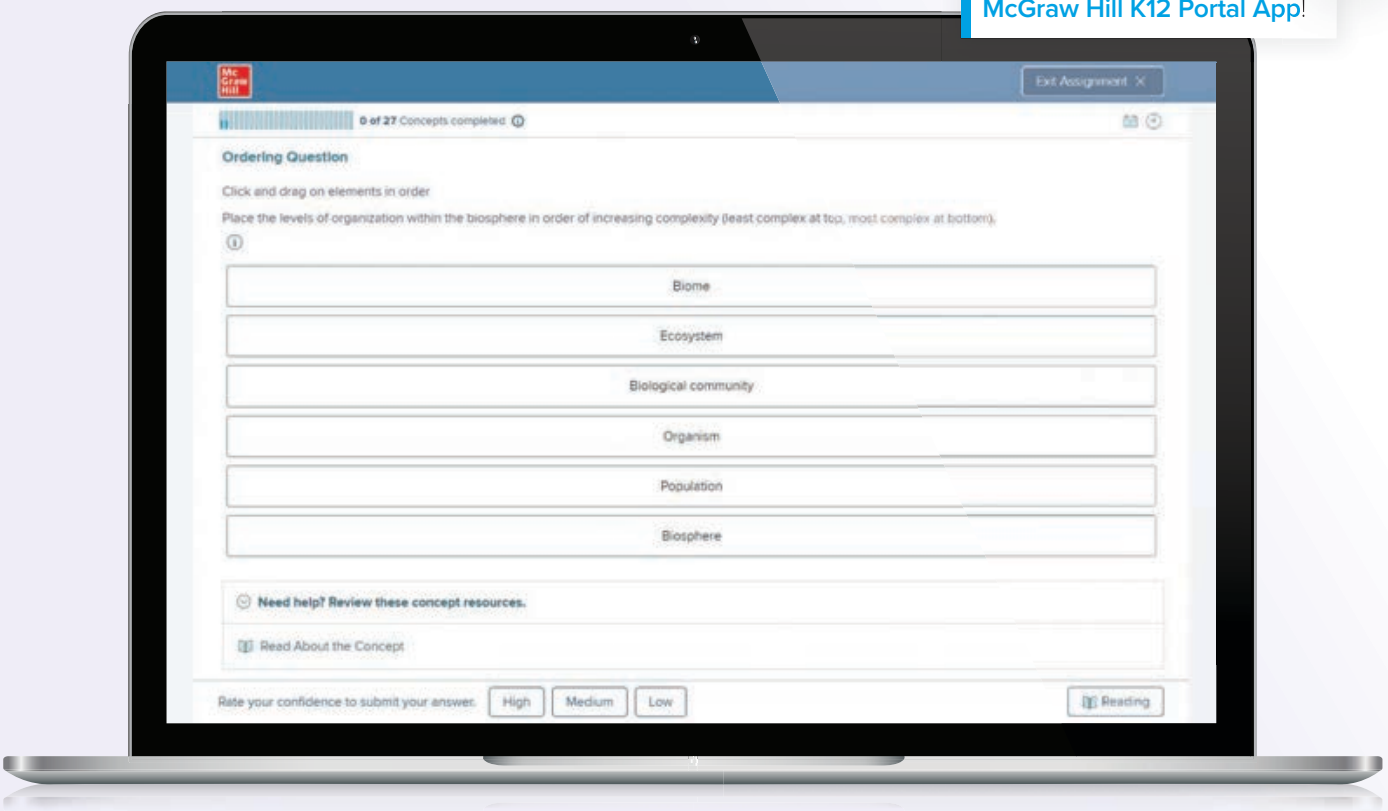
FEATURE	INSTRUCTIONAL PURPOSE
Module Pretest	The **Module Pretests**, found at the beginning of each module, assess prerequisite knowledge of Disciplinary Core Ideas from prior grades to evaluate student readiness for the module.
Three-Dimensional Thinking Questions	At the end of the lessons, students will demonstrate their understanding of at least two of the three dimensions of Alabama Course of Study: Science to develop three-dimensional thinking skills.
Lesson Check	Found in every lesson online, **Lesson Checks** determine how students are building a progression of learning toward the Performance Expectations.
Module Test	Found at the end of each module online, **Module Tests** evaluate student proficiency against the performance of the module with multiple choice, extended response, constructed response, and performance-task items.
STEM Module Project Performance-Based Rubrics	With each STEM Module Project students will complete **Performance-Based Rubrics** and answer summative questions to demonstrate how they've applied their knowledge and understanding of the Performance Expectations to their project.
Vocabulary Check	Through online interactives, students practice and check their understanding of science language. Immediate feedback from the system is provided.

Adaptive Learning with *SmartBook*®

Each student enters the classroom with different strengths, interests, and abilities. Eliminate guesswork and get to the heart of their learning needs with adaptive, comprehensive differentiation.

PROGRAM FEATURE!

Smartbook is also available offline with the **McGraw Hill K12 Portal App**!



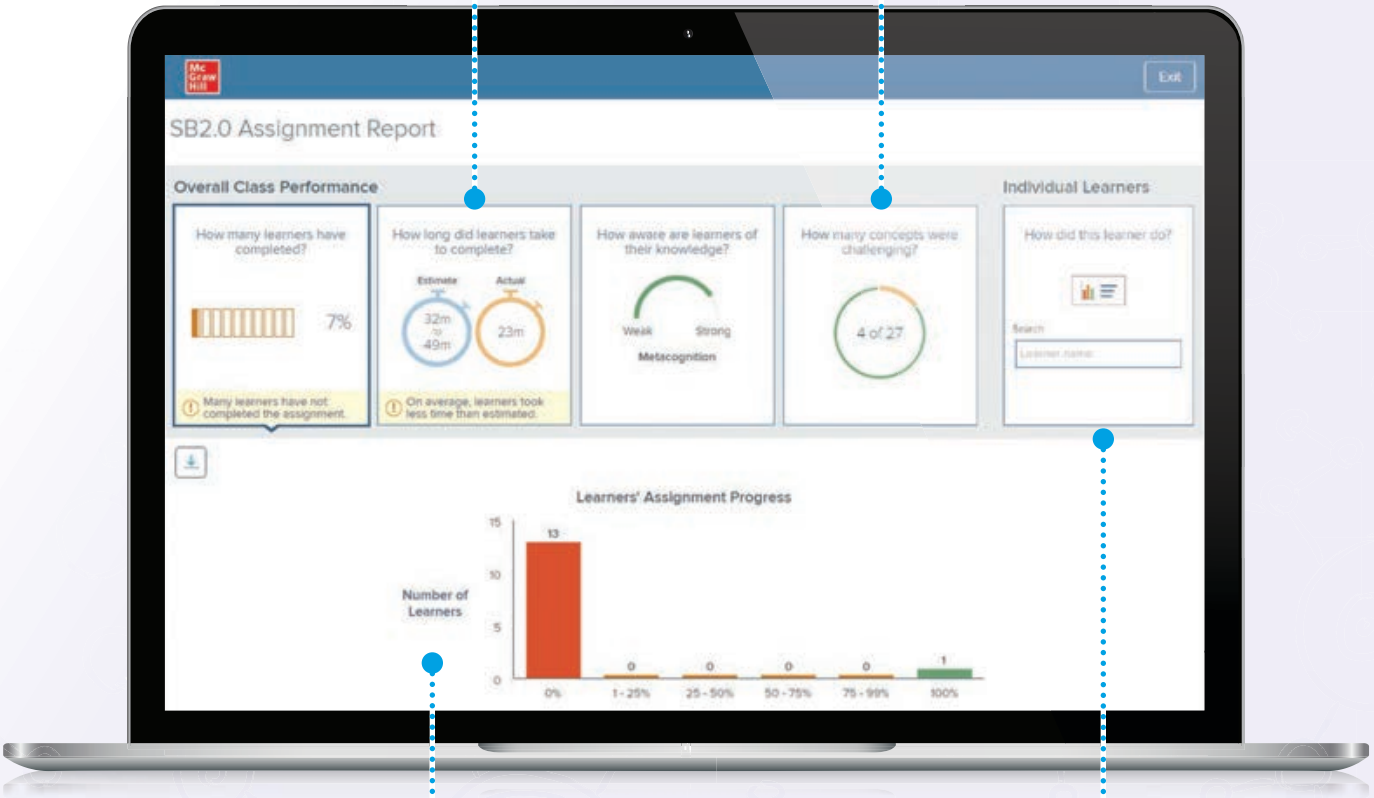
The secret is *SmartBook*, the first and only adaptive reading experience designed to change the way students read and learn. As the student progresses, *SmartBook* highlights the most impactful concepts the student needs to learn. When *SmartBook* detects what a student is most likely to forget, that content is presented for review to improve the student's knowledge retention.

Real-Time Reporting Tools

Find efficiencies by managing and tracking individual student progress and the progress of the whole class. Teachers can focus on what students don't understand or still need to learn, rather than what they've already mastered.

See the duration students take to complete the assignment compared to the estimate.

Challenging concepts are revealed as students wrap up assignments, giving teachers the chance to reinforce topics before the next lesson.



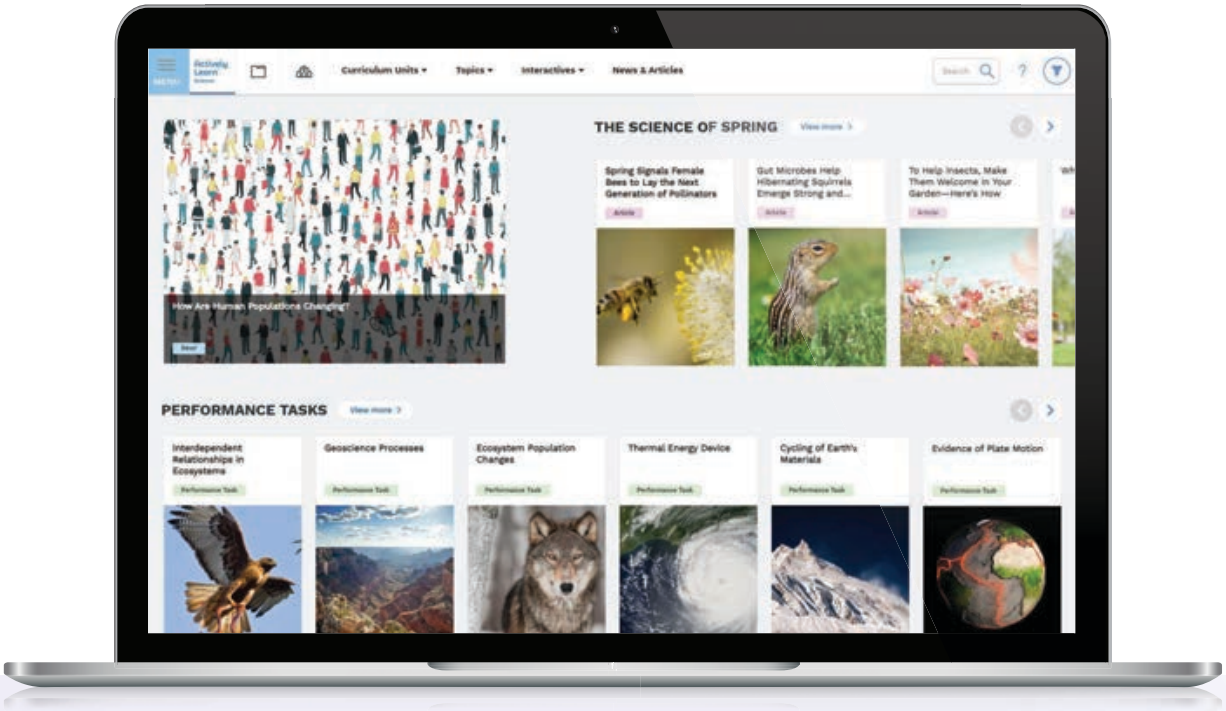
Track progress on the assignment as students work through the questions.

Breakdown reporting to the individual student level.

Drive Deeper Science Learning With *Actively Learn*

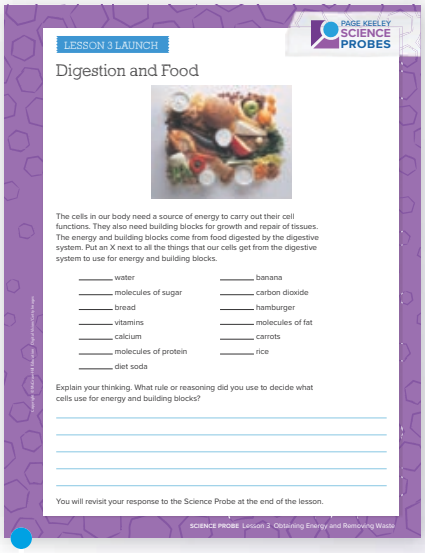
As educators, we know how important it is to keep students engaged.

That's why each *Alabama Inspire Science* module and lesson is designed to tap into students' natural curiosity about the world around them through the investigation of real-world phenomena. Student engagement is further fueled through an innovative digital experience, and connections to real-world applications with *Actively Learn*.



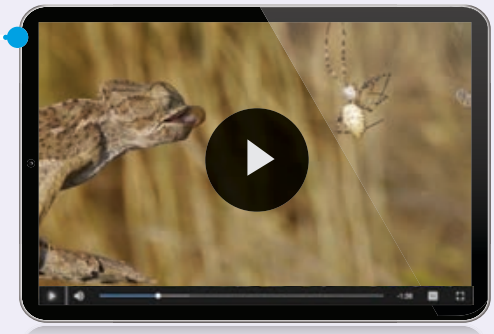
- **Engaging, relevant, standards-based content** for all learners
- **Science texts, articles, and videos** at each student's level
- **Inquiry-driven science simulations** that bring natural phenomena to life
- **TUVA Data Sets and PhET Simulations** include teacher instructional support
- **Interactive reading and study aids** that promote active collaboration
- **Rich, cross-curricular connections** to other subjects
- **Powerful tools** that let teachers customize content or upload their own
- **Access to student data** to inform instructional decisions

Fuel Student Engagement Using the World Around Them



Science Probes

Page Keeley Science Probes are module launch questions centered around relevant phenomena designed to interest and get students talking about their ideas. When students do the talking, it is evidence that they are thinking and provides you an avenue to uncover and resolve commonly-held preconceptions or misconceptions.



Visualizing Phenomena in Action

Phenomenon Videos enable students to observe scientific topics in action, providing a visual experience that encourages thinking and collaborative conversations.

Virtual Labs

Extend experiments beyond the classroom setting. With Virtual Lab, students have an engaging, alternative, digital interaction to interact with an experiment.

STEM Module Project

Planning and Completing the Science Challenge

How will you meet this goal? The concepts you will learn throughout this module will help you plan and complete the Science Challenge. Just follow the prompts at the end of each lesson!

STEM Module Projects

Introduce students to real-world STEM Science or Engineering Challenge to get them thinking about questions they have, what plan they can put in place to complete the challenge, and begin experiencing the same engineering-design processes, including research and experimentation, just like science professionals do.

State Assessment Guide

Following the scope and sequence of *Alabama Inspire Science*, this State Assessment Guide provides Guided Practice and Practice for both discrete items and performance tasks with teacher support for each. Also included are standards alignment correlations, DOK levels, evidence statements, answer keys with rationale for correct and incorrect answers, and scoring rubrics for performance tasks.

Unit Tests provide extra assessment support for groups of Alabama Content Standards to help you measure how students are progressing to the end of year goals for Alabama Content Standards mastery.

Use this guide in your classroom in a variety of ways to meet the needs of your students.

- ✓ Use the guided practice and independent practice sections before a Module Test to provide extra support.
- ✓ Use the practice sections after a Module Test but before a Unit Test for remediation.
- ✓ Administer the independent practice section first and use the guided practice as remediation.
- ✓ Use the Unit Test before implementing a *Alabama Inspire Science* unit for pre-assessment to serve as a benchmark, or after to identify reteaching opportunities.

Seamless Integration Services

We are proud to work with schools across Alabama to implement our programs into a range of classroom environments using different platforms. Both our Integration team and our Digital Technical Support team are ready to support you and your implementation.

To learn more, visit **mheducation.com/alabama**.

Google Classroom

Clever

PowerSchool

CANVAS BY INSTRUCTURE

schoology

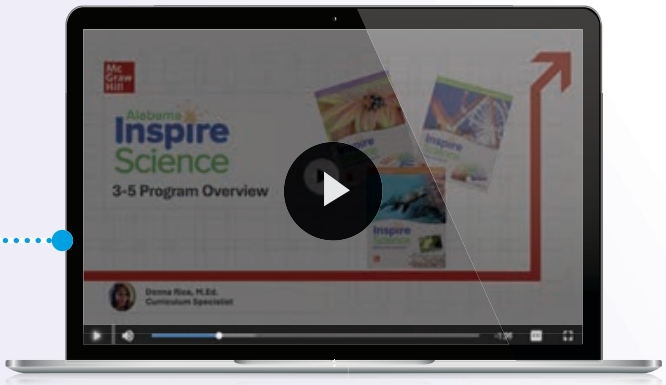
Continued Professional Learning

Professional Development

We know it can be a challenge to implement a new science program with new standards. That's why *Alabama Inspire Science* comes with a library of relevant, self-paced, professional learning videos and modules to support you from implementation through instructional progression and mastery, all available 24/7, from any device.

Program Implementation Support

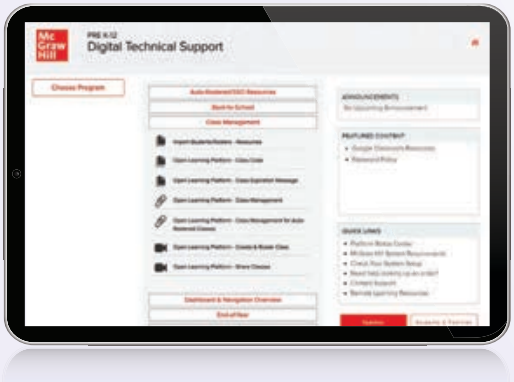
Implementation support provides everything you need to know to get up to speed on the first day of school.

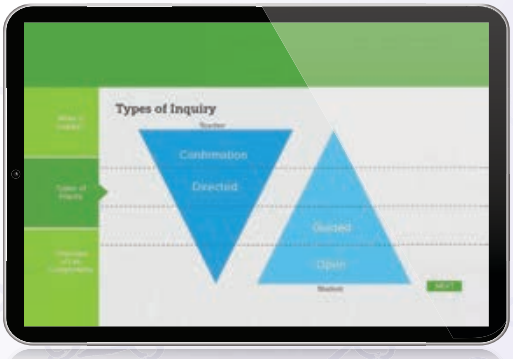


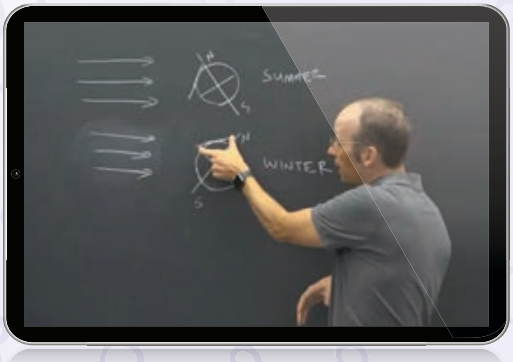
Quick Start Videos explain program basics to help get you started.

Digital Platform Support

In the Technical Support Resource Library, you will find step-by-step instructions for each of your digital tools to help you feel confident planning, teaching, and assessing in the digital experience. Step-by-step instructions for each of your digital tools help you feel confident planning, teaching, and assessing with digital.







Ongoing Pedagogy Support

With *Alabama Inspire Science*, you will find a wide range of resources on key instructional and pedagogical topics, including videos from our program authors and consultants.

- **STEM Classroom Videos** model lessons from real classrooms.
- **Science Preconceptions Videos** review common preconceptions and strategies to overcome them.
- **Instructional Coaching Videos** discuss best practice strategies and the "Why" behind the success.
- **Teacher Activity Videos** show planning tips and expected results to help with hands-on activity time.
- **Science Pedagogy Micro-Courses** provide facilitation guides for both self-guided or small group courses.

Alabama Inspire Science

Learn More at mheducation.com/alabama

Mc Graw Hill

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