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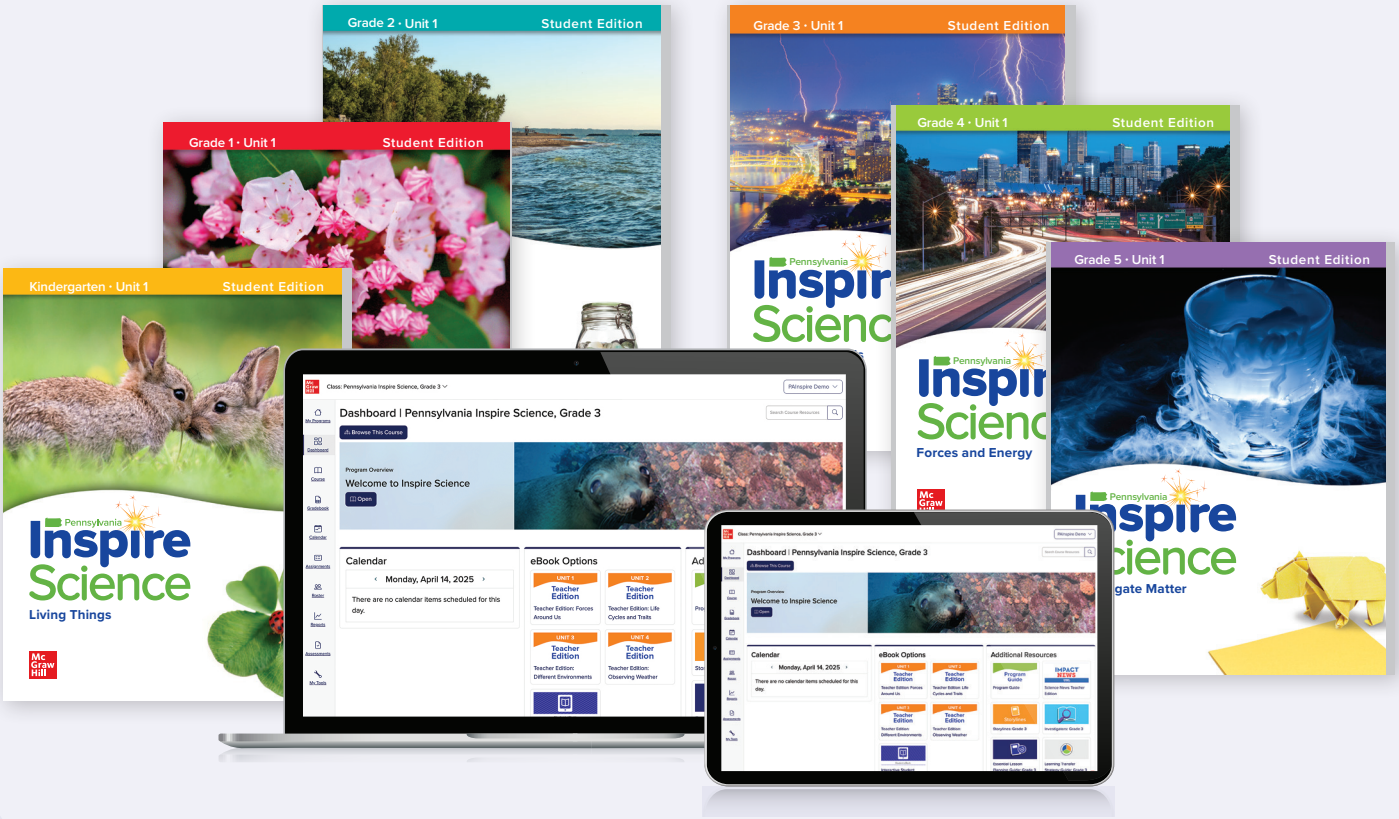
Program Overview
Grades K–5

Pennsylvania

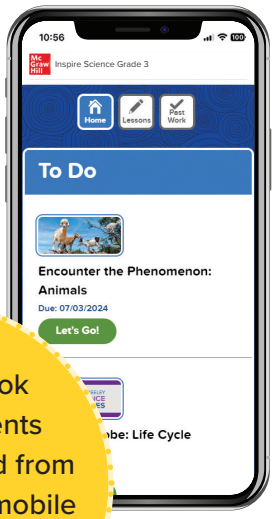
Inspire Science



Welcome to *Pennsylvania Inspire Science*

Engaging, Flexible, Cross-Curricular Learning

Pennsylvania 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 Pennsylvania Science, Technology & Engineering, Environmental Literacy & Sustainability Standards in mind, *Pennsylvania 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!

Encourage Young Students to Explore Their World

Children are natural problem-solvers and innovators. Fueled by curiosity, they approach each day with a sense of wonder and a drive to learn. *Pennsylvania Inspire Science* helps students retain and expand on this natural inclination by empowering them to explore and learn from our world's amazing natural phenomena in exciting, hands-on ways. A new generation of innovators is ready to grow up now and many are tomorrow's scientists. **Are you ready to help guide them to meet the challenges of the 21st Century?**

Designed for the Rigor of the Pennsylvania STEELS Standards

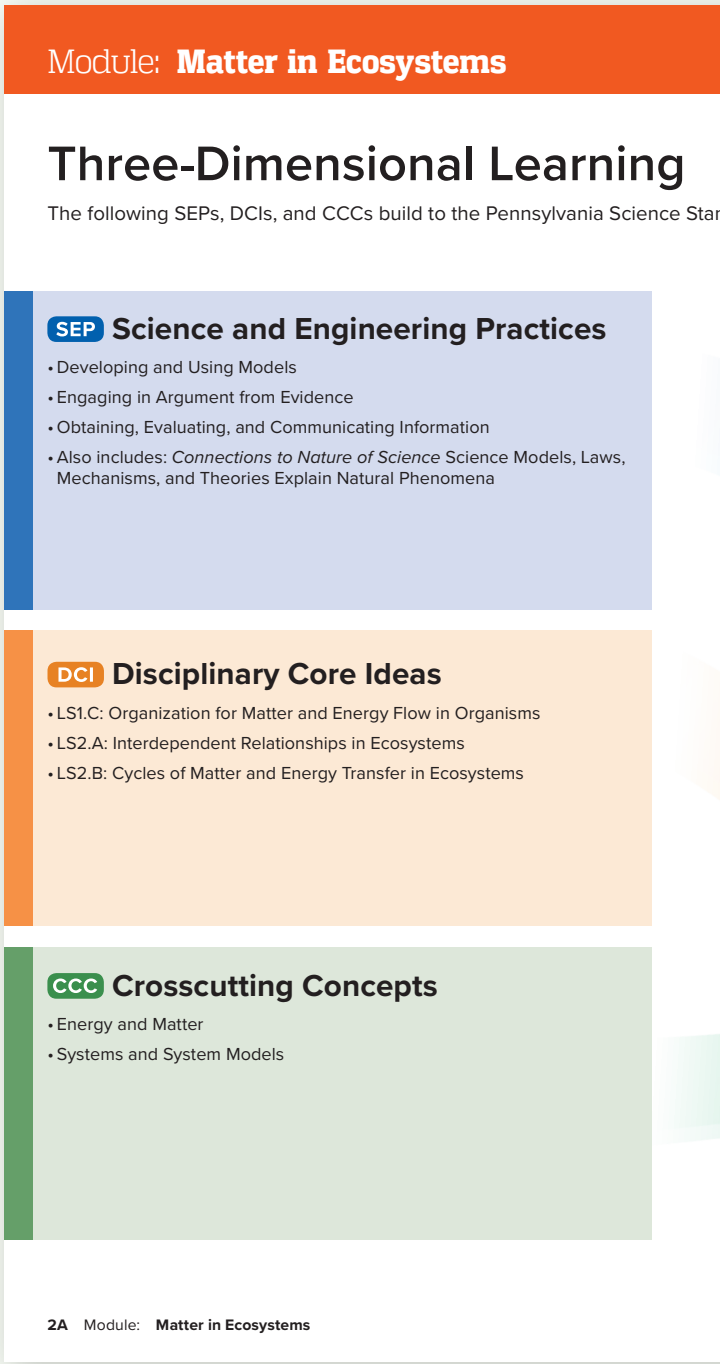
Pennsylvania Inspire Science represents a program that ensures Pennsylvania educators have the resources and tools to deliver high-quality instruction to help students meet the rigor and challenge of the Pennsylvania Science, Technology & Engineering, Environmental Literacy & Sustainability (STEELS) Standards.

Comprehensive Pennsylvania STEELS Standards Planning

At the beginning of each module, Pennsylvania STEELS Standards codes and descriptions help teachers quickly see performance expectations addressed in the module.

Building to the Pennsylvania ELA Content Standards

Each lesson includes Correlations to the Pennsylvania ELA Standards and Math Standards program to help teachers and students make connections to literacy and math activities.



Module: **Matter in Ecosystems**

Three-Dimensional Learning

The following SEPs, DCIs, and CCCs build to the Pennsylvania Science Star

SEP Science and Engineering Practices

- Developing and Using Models
- Engaging in Argument from Evidence
- Obtaining, Evaluating, and Communicating Information
- Also includes: *Connections to Nature of Science* Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena

DCI Disciplinary Core Ideas

- LS1.C: Organization for Matter and Energy Flow in Organisms
- LS2.A: Interdependent Relationships in Ecosystems
- LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

CCC Crosscutting Concepts

- Energy and Matter
- Systems and System Models

2A Module: **Matter in Ecosystems**

ndards.

Pennsylvania Science Standards

3.1.5.A Support an argument that plants get the materials they need for growth chiefly from air and water.

3.1.5.B Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

3.4.3-5.A Analyze how living organisms, including humans, affect the environment in which they live, and how their environment affects them.

3.5.3-5.HH Differentiate between the role of scientists, engineers, technologists, and others in creating and maintaining technological systems.

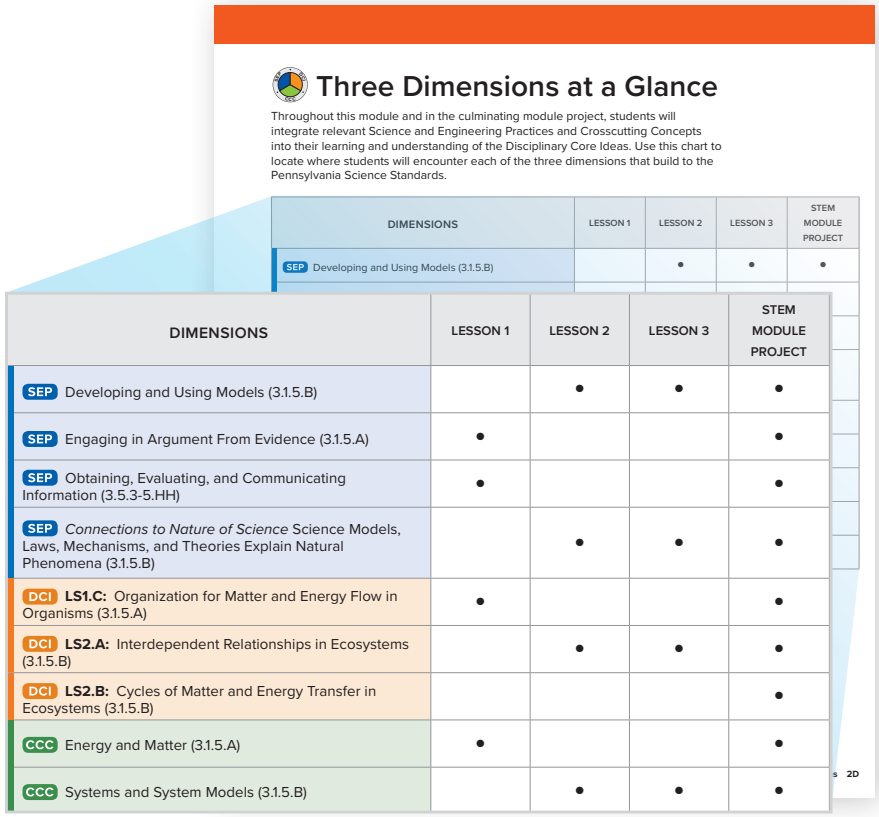
CROSS-CURRICULAR Connections

In addition to in-depth coverage of the three dimensions, this module also covers connections to English-Language Arts and Environmental topics.

GO ONLINE Explore the videos in Module Planning Resources that support professional development of three-dimensional learning.

Three Dimensions at a Glance, Building to Pennsylvania STEELS Standards

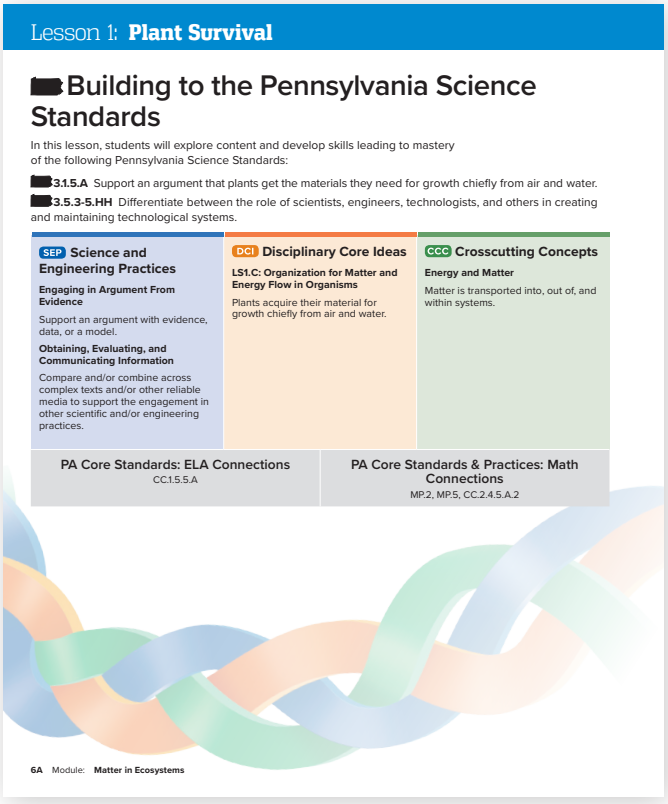
Use this chart to locate where students will encounter each of the three dimensions that build to the Pennsylvania STEELS Standards expectations within the module.



Three Dimensions at a Glance

Throughout this module and in the culminating module project, students will integrate relevant Science and Engineering Practices and Crosscutting Concepts into their learning and understanding of the Disciplinary Core Ideas. Use this chart to locate where students will encounter each of the three dimensions that build to the Pennsylvania Science Standards.

DIMENSIONS	LESSON 1	LESSON 2	LESSON 3	STEM MODULE PROJECT
SEP Developing and Using Models (3.1.5.B)		•	•	•
SEP Engaging in Argument From Evidence (3.1.5.A)	•			•
SEP Obtaining, Evaluating, and Communicating Information (3.5.3-5.HH)	•			•
SEP *Connections to Nature of Science* Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena (3.1.5.B)		•	•	•
DCI **LS1.C:** Organization for Matter and Energy Flow in Organisms (3.1.5.A)	•			•
DCI **LS2.A:** Interdependent Relationships in Ecosystems (3.1.5.B)		•	•	•
DCI **LS2.B:** Cycles of Matter and Energy Transfer in Ecosystems (3.1.5.B)				•
CCC Energy and Matter (3.1.5.A)	•			•
CCC Systems and System Models (3.1.5.B)		•	•	•



Lesson 1: **Plant Survival**

Building to the Pennsylvania Science Standards

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

3.1.5.A Support an argument that plants get the materials they need for growth chiefly from air and water.

3.5.3-5.HH Differentiate between the role of scientists, engineers, technologists, and others in creating and maintaining technological systems.

SEP Science and Engineering Practices

Engaging in Argument From Evidence

Support an argument with evidence, data, or a model.

Obtaining, Evaluating, and Communicating Information

Compare and/or combine across complex texts and/or other reliable media to support the engagement in other scientific and/or engineering practices.

DCI Disciplinary Core Ideas

LS1.C: Organization for Matter and Energy Flow in Organisms

Plants acquire their material for growth chiefly from air and water.

CCC Crosscutting Concepts

Energy and Matter

Matter is transported into, out of, and within systems.

PA Core Standards: ELA Connections
CC.1.5.5.A

PA Core Standards & Practices: Math Connections
MP.2, MP.5, CC.2.4.5.A.2

Focused Lesson Planning for Effective Standards-Based Instruction

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

Connections to the Pennsylvania ELA Standards and Math Standards help teachers and students make connections to literacy activities.

Lesson 1: **Plant Survival**

Lesson at a Glance

Full Track is the recommended path for the complete lesson experience. FlexTrack A and FlexTrack B provide timesaving strategies and alternatives.

Full Track
45 min/day (full year)

	Day-to-Day	Pacing	Resources
Assess Prior Knowledge	Page Keeley Science Probe: *Plant Growth*	Day 1	Page 5
Engage	Encounter the Phenomenon: How does this tree get what it needs to survive?	Day 1	Pages 6–7 Video: *Giant Sequoia Growth*
Explore	Inquiry Activity: *Virtual Plant*	Day 2	Pages 8–9
Explain	Plant Structures	Day 3	Page 10
	Plant Needs	Day 3	Page 11
	Inquiry Activity: *Plant Investigation*	Day 4	Pages 12–13
Elaborate	STEM Connection: *What Does an Agricultural and Food Science Technician Do?*	Day 5	Page 14
	Inquiry Activity: *Soil-less Gardens*	Day 5	Page 15 Investigator article *Soil-less Gardens*
Evaluate	Explain the Phenomenon: How does this tree get what it needs to survive?	Day 6	Pages 16–18
	STEM Module Project Planning	Day 7	Page 51
			7 Days

Essential Question: What do plants need to survive?
Objective: Students will support an argument that most of the mass of a plant is obtained from water and air and not from the soil.
Vocabulary: energy, transpiration, stomata, xylem, phloem

FlexTrack A
30 min/day (5 days per week)

Pacing	Resources
Day 1	Page 5 Use the Sticky Bar Graphs: Part 1 strategy and chose one student and have them explain their reasoning for each answer choice.
Day 1	Pages 6–7 Video: *Giant Sequoia Growth*
Day 2	Page 8 *Simulation: Virtual Plant*
Day 3	Page 10 Answer the questions together as a class.
Day 3	Page 11 Answer the questions together as a class.
Day 4	Pages 12–13 Have students begin the activity by completing step 1.
Day 5	Pages 12–13 Have students finish the activity by completing steps 2 and 3.
Day 6	Page 15 Limit student resources to the Investigator article only. Investigator article: *Soil-less Gardens*
Day 7	Pages 16–18 Complete Explain the Phenomenon as a whole class.
	7 Days

FlexTrack B
30 min/day (3 days per week)

Pacing	Resources
Day 1	Page 5 Use the Sticky Bar Graphs: Part 1 strategy and chose one student and have them explain their reasoning for each answer choice.
Day 1	Pages 6–7 Video: *Giant Sequoia Growth*
Day 2	Page 10 Answer the questions together as a class.
Day 2	Page 11 Answer the questions together as a class.
Day 3	Page 15 Limit student resources to the Investigator article only. Investigator article: *Soil-less Gardens*
Day 4	Pages 16–18 Complete Explain the Phenomenon as a whole class.
	4 Days

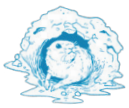
Flexibility for Busy Class Schedules

Pennsylvania Inspire Science provides Grades K–5 teachers with the flexibility to decide what works for their classroom schedule and student learning needs. With a choice between the Full Track and two FlexTracks in the Teacher Edition or the online Essential Lesson Guide, teachers will find it easy to integrate science into their classroom literacy instruction so that students have continued emphasis on reading, writing, listening, and speaking.

Finding time for science becomes easier with the Essential Lesson Guide.

Essential Lesson Planning Guide

What is the Essential Lesson Planning Guide?



The Essential Lesson Planning Guide is a lesson plan designed for teachers who are looking to make the most of limited science instructional time. This lesson plan uses only 60 minutes of science time every week but still ensures the entire *Inspire Science* NGSS-based curriculum can be taught within the allotted number of instructional days. In some cases, specifically for fourth and fifth grades, additional reading time may be needed so students are able to learn and apply the information necessary to meet the NGSS standards. Each lesson spans two weeks and is designed using the 5E Learning Cycle.

Instructional Overview

STEP 1 Use the chart below to plan your lesson. Set aside time each week for science.

WEEK 1 INSTRUCTION		WEEK 2 INSTRUCTION	
MODULE OVERVIEW	10 min	EXPLAIN	35 min
ENGAGE	15 min	EVALUATE	15 min
EXPLORE	10–35 min	THREE-DIMENSIONAL THINKING	5 min
		MODULE WRAP-UP*	5 min

* last lesson of each module

STEP 2 Gather and bookmark these resources for easy access:

- Digital / Online access
- Teacher Edition and Student Edition
- Learning Transfer Strategy Guide
- Science Read Alouds (K/1)

STEP 3 Choose your inquiry path for EXPLORE and gather your materials.

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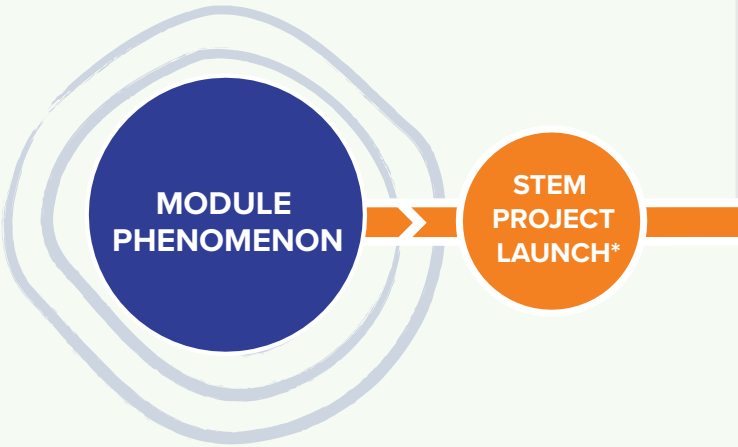
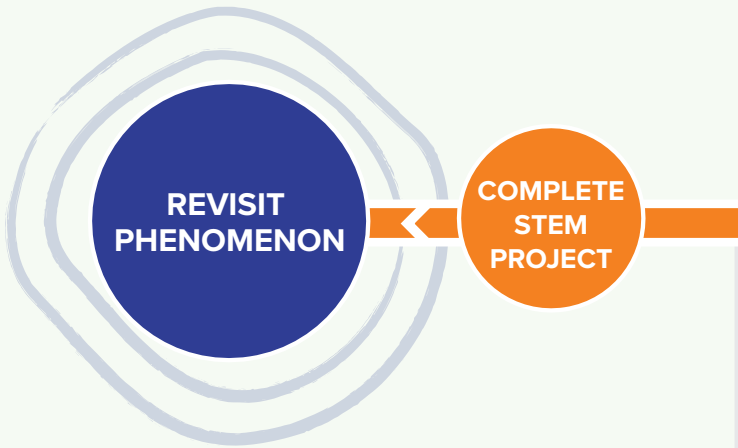
Learning Through Storylines

Children (and adults too!) live in a world full of the unknown—one governed by phenomena big and small that inspire us to pose hypotheses, make observations, ask questions, and seek explanations to increase understanding.

Pennsylvania Inspire Science starts with Module Storylines designed to anchor and 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.

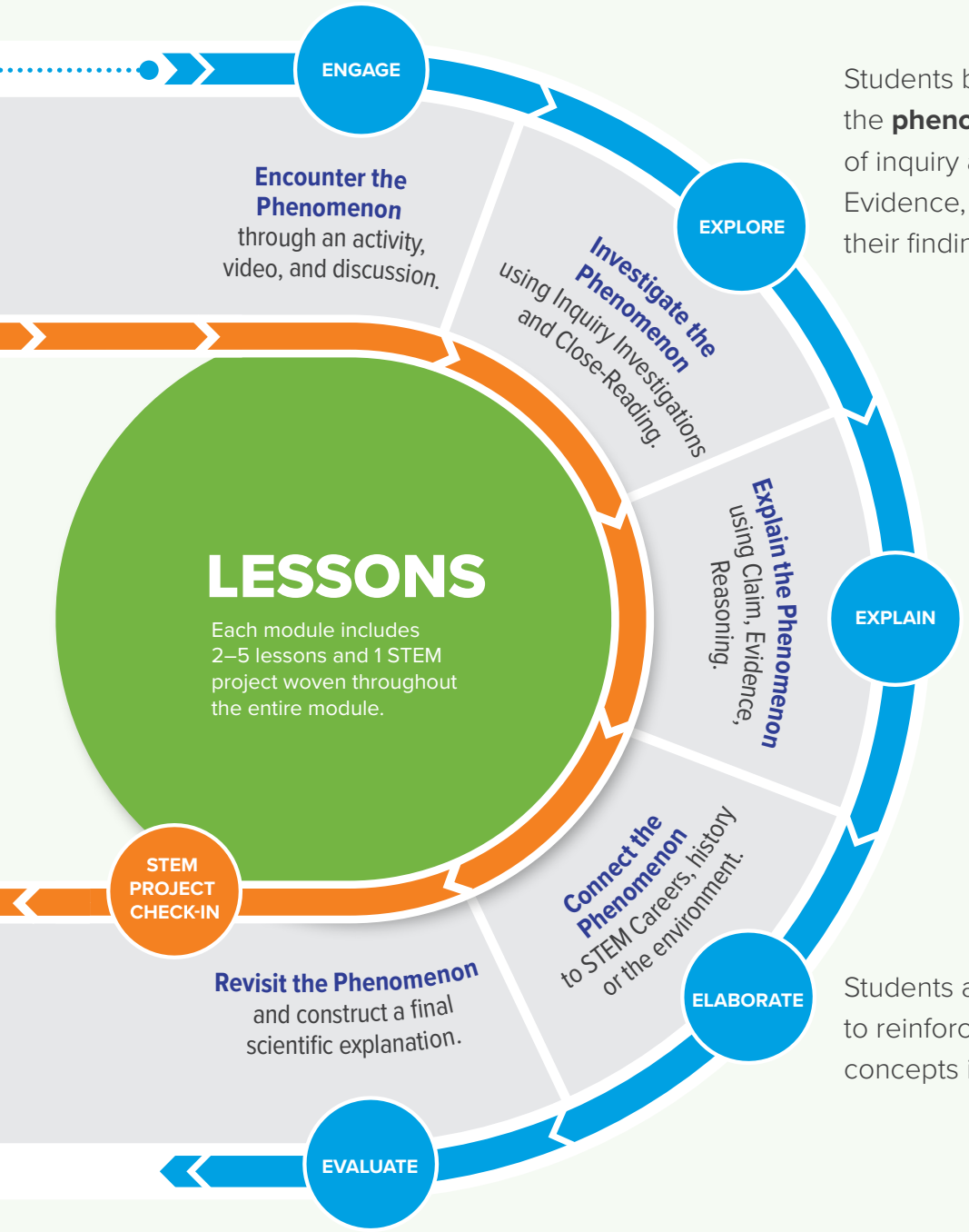
Pennsylvania Inspire Science is built around the 5E+IA framework to guide students toward scientific understanding using a thorough and methodical process aligned with Pennsylvania STEELS Standards





*In Grades K–1, the STEM module project is launched and completed at the end of the Module to reflect the simplified approach to science typically done in early elementary.

Each module and lesson in *Pennsylvania 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**.

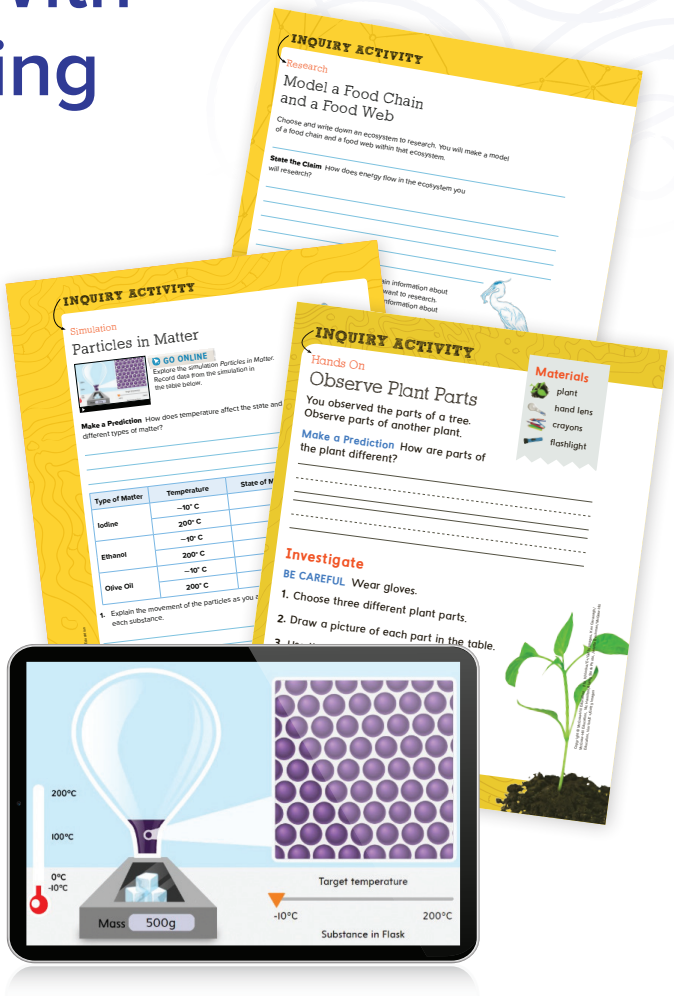
Students explain the **phenomenon** so that teachers can gauge progress and assess understanding.

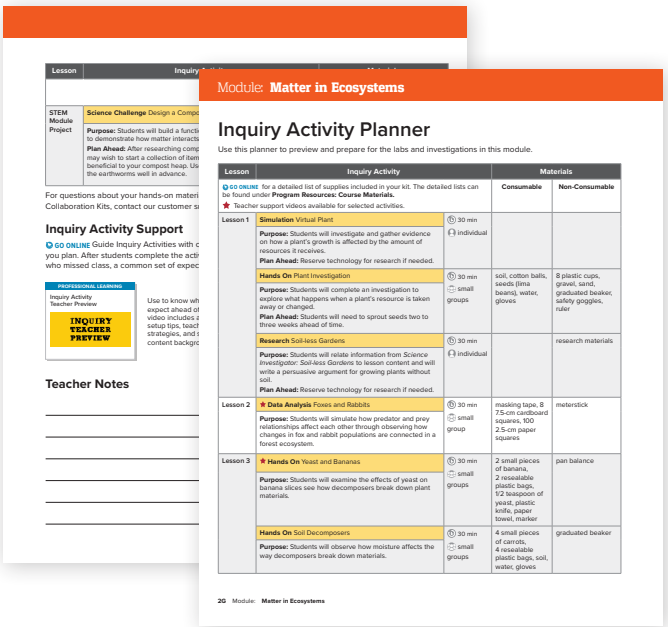
Empower Students With Inquiry-Based Learning

While working through Inquiry Activities in each lesson, students use the same techniques as scientists and engineers to ask questions, think critically, and design solutions to real-world problems. Easily implementable in any classroom, Inquiry Activities drive home science topics in meaningful, engaging ways.

Types of Inquiry Activities in *Pennsylvania Inspire Science* to enable students to investigate phenomena and record findings in the same way as real-world practitioners do:

- Hands-On
- Simulations
- Data Analysis
- Engineering
- Research





Inquiry Activity Planning

Planning and preparing for students to become elbows-deep in science is made easier with the *Pennsylvania 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 *Pennsylvania Inspire Science* Inquiry Spectrum provides flexible options to adjust the inquiry level to align with the learning needs of each student.

Structured Inquiry

This activity is **Structured Inquiry.**

Guided Inquiry

Have students plan an investigation to determine which resource results in the largest change in plant growth.

Open Inquiry

Have students investigate a question they have about plant growth.

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

Inquiry Rewind Videos:

- Encourage student engagement.
- Show the activity materials and the step-by-step procedure.
- Demonstrate the expected outcomes for each step of the activity.
- Provide opportunities for students to pause the video and utilize the Claim, Evidence, and Reasoning skills they have learned through *Pennsylvania Inspire Science*.
- Support easy implementation for new teachers, substitute teachers, absent students or remote learning.

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 specifically for group projects, the *Pennsylvania Inspire Science* Collaboration Kits make it easy to implement hands-on activities in your classroom—freeing you to focus on the activity itself.

Support Every Learner

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

Robust differentiation support is found within the Teacher's Edition, as well as through leveled informational text resources such as the leveled readers and Investigator articles. Support with practical strategies is found at the module and lesson level at multiple points. Leveled text aligns with the Lexile ranges appropriate for each grade level.

Differentiated Instruction

Module Concept Matter moves through Earth's systems, including the biosphere. Plants receive the matter they need for growth mainly from water and air. Animals and humans then receive the matter they need from plants. Decomposers break down matter and return it to Earth's nonliving systems. Help students connect these key module concepts by providing multiple means of representation.

AL Approaching Level

Display a KWL chart. Ask, What do you know about ecosystems? Record student responses in the first column. Ask, What do you think you will learn about matter moving through ecosystems? Record student responses in the second column. At the end of the module, record what students have learned in the third column.

OL On Level

Use chart paper to create a large, three-column chart titled Matter in Ecosystems. Label the columns Plant, Animal, and Decomposer. As students work through the module, have them take turns recording facts and concepts that they encounter related to each column's topic.

BL Beyond Level

Have students create a diagram of a local ecosystem, such as a backyard, park, or schoolyard. The diagram should show how matter moves through the ecosystem, and it should include photographs of the plants, animals, and decomposers that live there.

Module Level Differentiation Support

Differentiated Instruction

AL Review the video *Plant Structures* with students. As they watch, have each student write one question they need clarified. Afterward, answer their questions.

OL Have students write a short response to the following question: Why is it important for humans to understand how matter moves through an ecosystem?

BL Have students research the components of good soil for growing garden plants. Have them create a pie chart to show the proportion of each component to the whole.

Lesson Level Differentiation Support

Teacher Toolbox

Science Background

Like all living things, plants have basic needs in order to grow. Sunlight is important because it supplies the energy needed to drive the chemical reactions in photosynthesis. Photosynthesis requires carbon dioxide and water. Most plants need sunlight, nutrients from the soil, air, and water. If these needs are not met, plants cannot thrive. Plants need nutrients, such as nitrogen and potassium, for growth. Plants also require oxygen for cellular respiration to break down the food they have made into energy, which can be used for growth and survival. Giant sequoia trees, like the ones pictured, have the same basic needs as a blade of grass.

Teacher Support

Science Background and Identifying Preconception sections are found through the Teacher's Edition to provide scientific information around the topic and give educators insights into common ways students think.

Cognates

Cognates are words in two different languages that share a similar meaning, spelling, and pronunciation. Review differences in spelling and pronunciation of these terms with your Spanish-speaking English learners.

assemble ensamblar	**reversible** reversible	**temperature** temperatura
thermometer termómetro	**plastic** plástico	**block** bloque

Language Building Resources

Pennsylvania Inspire Science lessons carefully and purposefully integrate reading, writing, speaking, listening, and collaborating into each lesson. This structure provides English Learners with purposeful language usage and access to resources to convey their understanding.

Advanced and Gifted Learners

In addition to the Approaching Level, On Level, and Beyond Level support included in the differentiated instruction strategies for each module and lesson, *Pennsylvania Inspire Science* provides challenging activities directed at advanced and gifted learners.

Advanced Learners and Gifted Learners

Instruction should focus on adding depth and complexity in student understanding of the ways that materials can be put together to make other objects or changed by heating or cooling.

DOK 3 Strategic Thinking Have students revisit the investigations they conduct throughout the module to think about how they can investigate further questions. For example, what would happen if we added further heat to the ice and clay in the Heat and Materials Inquiry Activity? What observable changes can students predict?

DOK 4 Extended Have students research the melting and freezing points of several different materials, such as plastic, steel, clay, oil, and glass. Ask them to display their results in a table. Then have them choose one of the materials and tell what uses it would be good for based on its ability to withstand extreme temperatures. Have partners discuss their findings.

Pennsylvania Assessment Strategies

Pennsylvania Inspire Science includes a variety of assessment options to support teachers with differentiation strategies and support students on their journey to mastery of the Pennsylvania STEELS Standards and culminating with success.

Each lesson in Grades 3–5 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

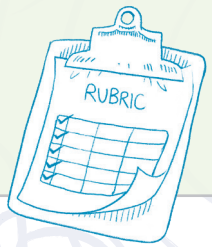
Formative assessment—embedded at many points throughout each module and lesson—facilitates student reflection on their thinking (metacognition) and allows teachers to dynamically differentiate instruction. The table below shows the types of formative assessment resources in *Pennsylvania Inspire Science*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

FEATURE	INSTRUCTIONAL PURPOSE
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 certain 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	Throughout each lesson, students will encounter questions that address at least two of the three dimensions of the Pennsylvania STEELS Standards to check progress with the SEPs, DCIs, CCCs, and Performance Expectations.
Talk About It	Throughout each lesson, student-initiated or teacher-led **Talk About It** prompts encourage discussion to enable students to demonstrate their understanding of the phenomena, DCIs, or CCCs.
Inquiry Activities	In each **Inquiry Activity**, students will encounter formative assessment questions that help build three-dimensional thinking.

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 *Pennsylvania Inspire Science* in print Student Editions and online.

FEATURE	INSTRUCTIONAL PURPOSE
Module Pretest	The **Module Pretests**, found at the beginning of each module in Grades 2–5, 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 Pennsylvania STEELS Standards 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 Expectations with multiple choice, extended response, constructed response, and performance-task items.
STEM Module Project Performance-Based Rubrics	With each STEM Module Project, found at the end of each module, 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.



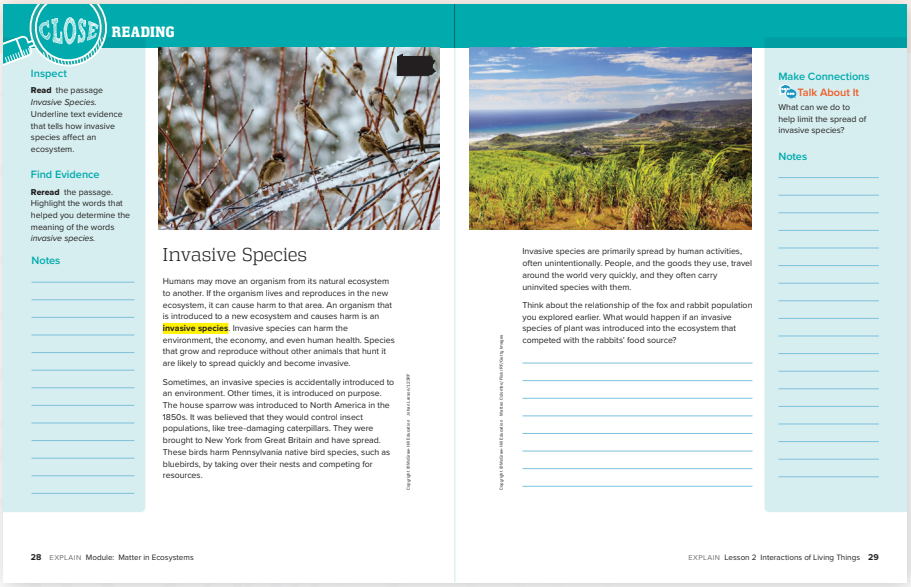
Three-Dimensional Assessment Guide

The *Pennsylvania Inspire Science* Three-Dimensional Assessment Guide—available in digital format—provides Guided Practice and Practice items that will prepare students for end-of-year success.

Cross-Curricular Connections

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

Pennsylvania Inspire Science has been designed to maximize opportunities for cross-curricular connections, integrating ELA/Literacy and Mathematics standards so that by the time students reach Grade 3 they are ready. For fourth and fifth graders, these connections prepare them for the rigors of middle school science courses.


CLOSE READING

Inspect

Read the passage *Invasive Species*. Underline text evidence that tells how invasive species affect an ecosystem.

Find Evidence

Reread the passage. Highlight the words that helped you determine the meaning of the words *invasive species*.

Notes

Invasive Species

Humans may move an organism from its natural ecosystem to another. If the organism lives and reproduces in the new ecosystem, it can cause harm to that area. An organism that is introduced to a new ecosystem and causes harm is an **invasive species**. Invasive species can harm the environment, the economy, and even human health. Species that grow and reproduce without other animals that hunt it are likely to spread quickly and become invasive.

Sometimes, an invasive species is accidentally introduced to an environment. Other times, it is introduced on purpose. The house sparrow was introduced to North America in the 1850s. It was believed that they would control insect populations, like tree-damaging caterpillars. They were brought to New York from Great Britain and have spread. These birds harm Pennsylvania native bird species, such as bluebirds, by taking over their nests and competing for resources.

Invasive species are primarily spread by human activities, often unintentionally. People, and the goods they use, travel around the world very quickly, and they often carry uninvited species with them.

Think about the relationship of the fox and rabbit population you explored earlier. What would happen if an invasive species of plant was introduced into the ecosystem that competed with the rabbits' food source?

Make Connections

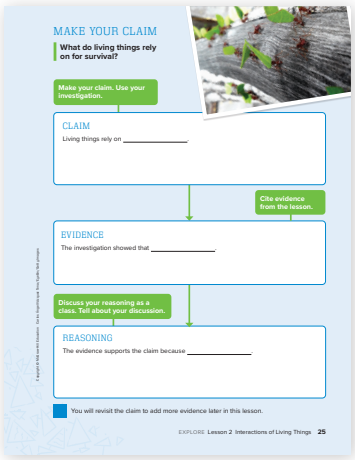
Talk About It

What can we do to help limit the spread of invasive species?

Notes

28 EXPLAIN Module: Matter in Ecosystems

EXPLAIN Lesson 2 Interactions of Living Things 29


MAKE YOUR CLAIM

What do living things rely on for survival?

Make your claim. Use your investigation.

CLAIM

Living things rely on _____.

Cite evidence from the lesson.

EVIDENCE

The investigation showed that _____.

Discuss your reasoning as a class. Tell about your discussion.

REASONING

The evidence supports the claim because _____.

You will revisit the claim to add more evidence later in this lesson.

EXPLORE Lesson 2 Interactions of Living Things 25

Close Reading

The Close Reading activities in *Pennsylvania Inspire Science* guide students to search for answers to text dependent questions within informational text passages, encouraging them to focus on meaning.

Writing Prompts

With the CER Framework (Claim, Evidence, Reasoning) found in certain lessons, students will make claims and document their reasoning during the Explore phase of the lesson. Later, they add evidence and revise their claims as needed.

Science Read Alouds

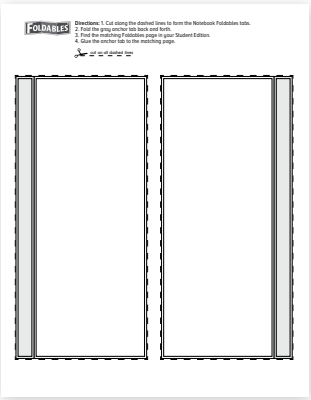
For students in Grades K–1, Science Read Alouds anchor module content and drive discovery by using the power of narrative storytelling to pique students' interest in a science topic.

Investigator Articles

For students in Grades 2–5, Investigator Articles supply real-world science and engineering stories, available in Approaching Grade Level and On Grade Level.

Leveled Readers

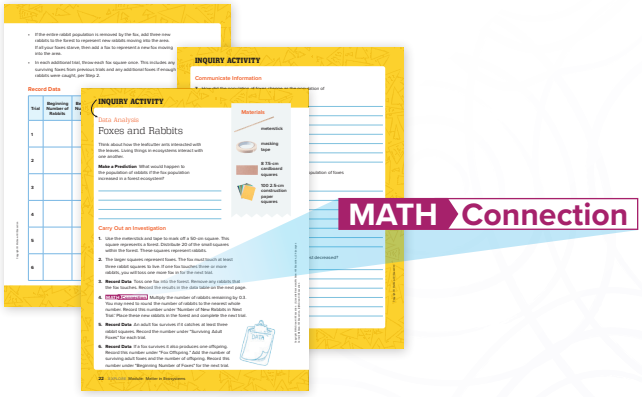
Every *Pennsylvania Inspire Science* module includes a Leveled Reader title, written at four readability levels—Approaching, On, Beyond, and ELL. For Grades 1–5, these readers include a Paired Read to enhance the experience with a narrative-story.



Dinah Zike's Foldables® and Kinesthetic Vocabulary

Engage students as they organize their notes with Dinah Zike's Study Guide and Notebook Foldables®, which help organize important lesson information.

Introduce and review vocabulary terms using the Visual Kinesthetic Vocabulary designed to construct meaning and promote mastery.



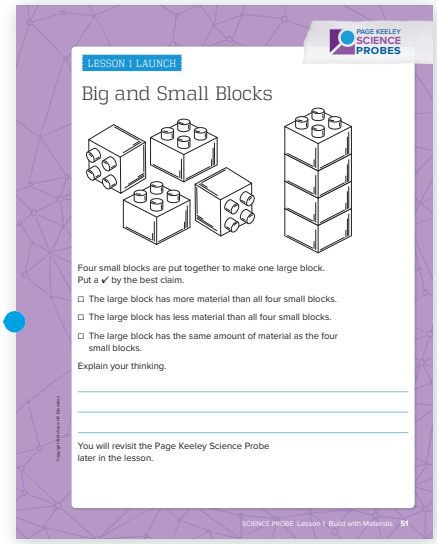
Math Integration

Science and math are closely related in the real-world—a key reason for the Science and Engineering Practice of using Mathematical and Computational Thinking, as well as Analyzing and Interpreting Data. In *Pennsylvania Inspire Science*, students engage with math the way science and engineers do by collecting and analyzing data, creating graphs, and making connections between mathematics and real-world events to solve challenging problems.

Fuel Student Engagement

What happens when students are truly engaged?

The classroom has a buzzing undercurrent, students have an increased focus, and they are waiting to see what comes next. *Pennsylvania Inspire Science* helps you fuel that engagement with features that keep students interested.



Page Keeley Science Probes

When students do the talking, it is evidence that they are thinking and provides you an avenue to uncover and resolve 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.

STEM Career Connections

Introduce students to real-world STEM professions that they may have one day. Students will learn about careers and apply what they have learned to a related assignment. The wide variety of connections, whether real-world or avatar based, represents a broad range of careers, from jobs that require a high-school education to those that require a Ph.D.

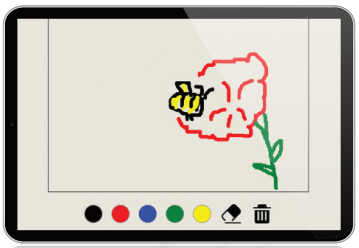
Types of Interactive Resources

In the *Pennsylvania Inspire Science* digital experience, students will interact with a wide variety of digital content types that will make learning science engaging and fun.

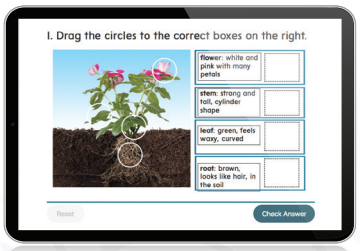
Why Go Online?

The following list is a few of many offerings for *Pennsylvania Inspire Science*:

- Engaging Interactive Content
- Video Demos of Hands-On Activities
- Science Content Videos
- Text Read Aloud and Highlighting Features
- Dynamic Search Tools



Drawing Tool

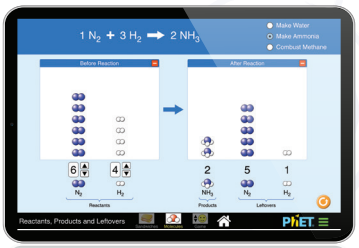


Drag and Drop

Science Content Videos

Pop Tips

Phenomena Videos

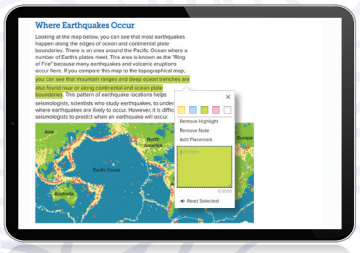


Simulations

Games

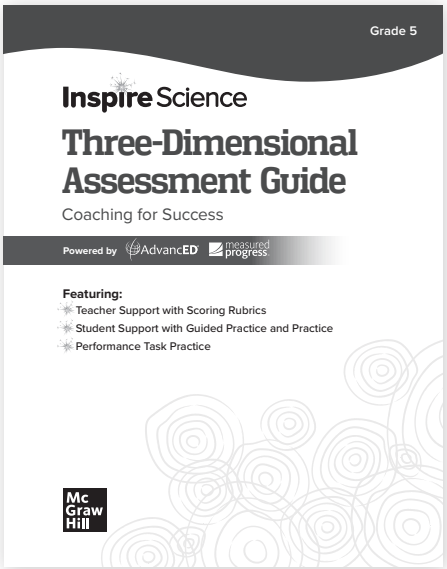
Layer Reveal

Choose Your Path



Interactive Text

Beyond the Classroom (Grades 2–5)



Three-Dimensional Assessment Guide

Following the scope and sequence of *Inspire Science*, this Three-Dimensional 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 Pennsylvania Content Standards to help you measure how students are progressing to the end of year goals for Pennsylvania STEELS 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 an *Pennsylvania 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 Pennsylvania 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/pennsylvania**.

Google Classroom

Clever

PowerSchool

CANVAS BY INSTRUCTURE

schoology

Continued Professional Learning

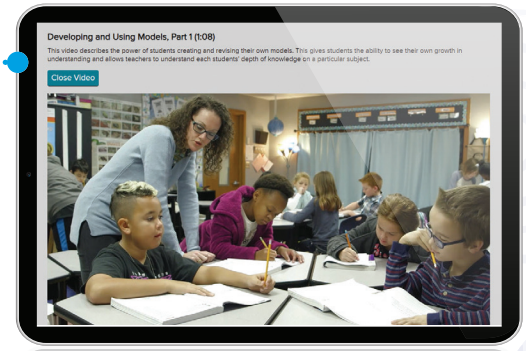
Professional Development

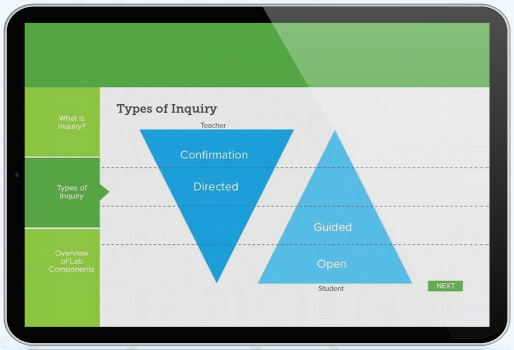
We know it can be a challenge to implement a new science program with new standards. That's why *Pennsylvania Inspire Science* comes with a library of relevant, self-paced, professional learning videos and modules to support you from implementation through instructional progression and mastery, all available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

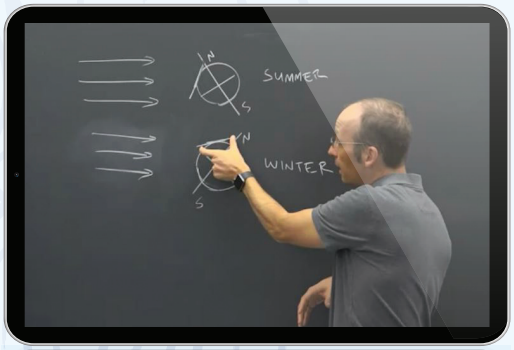
Program Implementation Support

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

Plan, Teach, and Assess **eLearning Modules** provide deep-dives of the program's instructional model and resources.



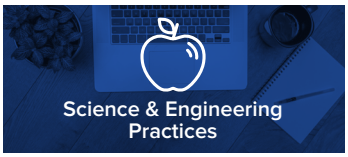




Ongoing Pedagogy Support

With *Pennsylvania 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.



Pennsylvania

Inspire Science

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