Program Overview Grades K-5



Inspire Science

Explore Our Phenomenal World

inspire-science.com

Inspire Science

Explore Our Phenomenal World



The Legacy of Innovation

While career opportunities in Science, Technology, Engineering, and Math (STEM) increase each year, qualified candidates for these careers continue to fall short. This is known as the STEM Gap. This gap represents a great opportunity for the students in your classrooms today to become the innovators of the future.

Inspire Science helps students build innovative thinking skills by empowering them to explore and learn from our world's amazing natural phenomena in exciting, hands-on ways.

By fostering student's innate **curiosity**, you elevate their critical thinking.

By facilitating hands-on **investigation**, you deepen their understanding.

By encouraging creative problem-solving, you inspire their **innovation**.

A new generation of innovators is growing up right now. Are you ready to inspire?



Let's Embrace Change, Together.

The Next Generation Science Standards (NGSS), offer a new approach to K-12 Science education. With this new, more hands-on and application-oriented approach, a number of questions will no doubt be at the forefront of every science educator's mind...

How can I easily transition to NGSS?



How will I manage the increase of hands-on activities?

The Inspire Science development team at McGraw-Hill Education has put solutions to these challenges (and more) at the forefront of our work through years of close collaboration with educators like you. The result - a userfriendly approach to implementing NGSS, so you can focus your energy on the art of teaching, and the joy of inspiring the next generation of innovators.

Let's take a look at how Inspire Science will help you with a smooth transition to NGSS.



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Inspire Science

A History of Innovation

THOMAS EDISON

Invention: Electrical Light **Date of Invention:** 1879

America's Greatest Inventor

On February 11, 1847, an inventor and businessman who would influence the world was born in Milan, OH. Thomas Edison has been described as America's greatest inventor, holding 1093 US patents and hundreds more across the world. His most famous patent was for the incandescent light bulb.

Edison began his work on the incandescent light bulb in 1878. He wanted to invent a light bulb that would replace gas lights and last for extended periods of time. After much trial and error and numerous attempts with different types of materials, he finally succeeded in lighting the first incandescent light bulb on October 22, 1879. It stayed lit for roughly 14 hours! The success of the light bulb led to many additional patents, which earned him the label of America's Greatest Inventor.

Edison's success with the light bulb and other successful patents led the launch of a number of businesses in the United States and worldwide. Throughout history, Thomas Edison's innovations have revolutionized life as we know it, and influenced many inventors, including Nikola Tesla.

"I have not failed. I've just found 10,000 ways that won't work." —Thomas Edison



Thomas Edison



NIKOLA TESLA Invention: The Tesla Coil Date of Invention: 1905

An Electric Personality:

Nikola Tesla was born on July 10, 1856 in Smiljan, Croatia. He was an inventor, electrical and mechanical engineer, and physicist. He is best known for his ground-breaking contributions to the design of the alternating-current (AC) electrical system.

From a young age, Tesla showed an interest in science. After working for Thomas Edison for a year, Tesla struck out on his own and received more than 30 patents for his inventions. In 1891, Tesla invented the Tesla coil - an induction coil used in radio communications. Throughout his life, Nikola Tesla obtained 278 patents.

Today we use Tesla's inventions in many ways, most notably every time we 'flip a switch' to turn on a light!

"The day science begins to study non-physical phenomena, it will make more progress in one decade than in all the previous centuries of its existence."

Nikola Tesla

A New Level of Innovation

A Smooth Transition to NGSS

NGSS isn't just about a new set of standards. It's a new philosophy for K-12 Science education focused on helping you prepare students for career and college readiness.

At McGraw-Hill Education, we understand that making the shift to new standards can be challenging, and we want to help make it easier on you. That's why the Inspire Science team has been studying the NGSS standards for years, while testing ideas with teachers like you to create a user-friendly experience for both teachers and students.

ENCOUNTER THE INSPIRATION

How does Inspire Science Ensure a Smooth Transition to NGSS?

Let's look at a few inspiring ways Inspire Science will help you make the transition to NGSS as smooth as can be.



A New Level of Innovation

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Inspire Science

User-Friendly Instructional Model

Inspire Science provides the proven and researchdriven 5E instructional model enhanced to align with the demands of the NGSS for three-dimensional, phenomena-driven learning.

Built with Teachers, Since the Beginning of NGSS

Our close collaboration with the NGSS writers, and educators just like you has resulted in a tried-and-true approach to NGSS that you'll love.



Support for NGSS

The transition to NGSS requires a few shifts in science instruction and learning, and Inspire Science supports you through each one.

- Progressive, Three-Dimensional Learning
- Depth Over Breadth
- Phenomena-Driven, Inquiry-Based, Hands-On Learning
- Performance-Based Testing
- Integrated Engineering

Professional Learning When You Need It

Inspire Science includes an expansive library of relevant, self-paced, professional learning courses to support implementation, instructional progression and mastery — all available 24/7.



Page Keeley, M.Ed.

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Next Generation Engagement

Ensure Student Engagement

As educators, we understand what happens when students are truly engaged: a classroom full of excitement, increased focus, and deeper conceptual understanding.

That's why Inspire Science places student engagement at the forefront. Each 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 the connections to real-world applications with the STEM Career Connections and STEM Module Projects.

6 Program Overview

ENCOUNTER THE INSPIRATION

How will Inspire Science Keep My Students Engaged?

Take a closer look at some of the features in Inspire Science that support deeper investigation, better engagement, and greater understanding.



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6 Program Overview

Inspire Science

Phenomena-Driven Learning

Inspire Science places natural phenomena at center stage within each module and lesson. By introducing an anchoring phenomenon in each module, supported by lesson-level investigative phenomena, students dig deep into key science and engineering concepts.

ENCOUNTER THE PHENOMENON



Designed for the Digital Generation

Inspire Science is infused with highly engaging interactive experiences designed for today's digitallynative students. Interactive simulations, 360 videos, 3D models, learning-based games, and immersive science content videos will keep students' attention and inspire them to explore and discover.



Learning-Based Games

Student-Led, Collaborative Learning

The more involved, the more engaged. With Inspire Science, students take a leadership role in their learning experience and develop teamwork and ideation skills through deep collaboration with their classmates at many points during each module and lesson.



Inquiry-Based Approach

Inquiry-driven learning helps students understand how to ask deeper questions and think critically as they answer science questions and design creative solutions to real-world problems. With Inspire Science, students learn how to become great investigators through a variety of inquiry activities that connect to the Science and Engineering Practices.

INQUIRY ACTIVITIES



Hands On

Hands-On Support

Enjoy the Increase in Inquiry-Based Hands-On Activities That NGSS Requires

NGSS require a marked increase in inquiry-based learning, resulting in more hands-on activities. This shift makes for a more exciting classroom experience, but it also comes with new logistical challenges that can be difficult to manage. With Inspire Science, we've provided a number of support structures to help make this shift more manageable and more fun for you and your students.

ENCOUNTER THE INSPIRATION

How does Inspire Science Make the Increase in Inquiry-Based Hands-On Activities Easier for Educators?

Let's look at some of the ways Inspire Science will help you look forward to more hands-on learning.



Hands-On Support

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Inspire Science

Inquiry Activity Planners

The Inspire Science Inquiry Activity Planners make preparing for hands-on activities easier than ever — listing out all the materials needed for the entire module and clearly noting which materials are included in the Collaboration Kits.

Module: Information Processing and Transfer

Inquiry Activity Planner

In this module, students will investigate information processing and transfer and design and build a device that uses light and/or sound to communicate a message

Lesson	Inquiry Activity	Materials		
to GO ONLINE for teacher support videos on selected activities.			Consumable	Non-Consumable
Materials	Materials included in the Collaboration Kit are listed in blue.			
Lesson 1	Hands On Sense of Touch	(b) 30 min	material for blindfold	3 sandpaper samples of different grades, hand lens
	Purpose: To explore how their sense of touch works when their sense of sight is impaired.	small groups		
	Hands On Pill Bugs	(b) 30 min	15 pill bugs,	hand lens, plastic habitat
	Purpose: To investigate how pill bugs use their senses to help them survive.	groups	leaves, paper towels, water, fish food	

Engaging Inquiry Activities with Options

Every lesson in Inspire Science offers multiple inquirybased activities, along with techniques that scientists and engineers use in the real world. These inquiry activities include differentiation strategies (through the Inquiry Spectrum), and various pacing options ranging from simple investigations to complex lab explorations.



The Inquiry Spectrum

Depending upon the available time and the topic being investigated, structured inquiry might be perfect, or your class may be ready for open inquiry. The Inspire Science Inquiry Spectrum provides flexible options to adjust the inquiry level to align with the learning needs of each student.

Inquiry Spectrum

Structured Inquiry

In this Inquiry Activity, students are given a question to investigate and procedure to follow.

Guided Inquiry

To make this a guided inquiry, present students with the same question to investigate and make a prediction on, but have students come up with materials and a procedure to investigate the question.

Open Inquiry

To make this an open inquiry, have students investigate one of their own questions based on the phenomenon. Allow students time to plan how they will investigate their question and carry out their investigation.

Collaboration Kits

Nothing is more engaging than rolling up your sleeves and digging into hands-on activities, but we understand managing the materials to support hands-on time can be a challenge. Developed specifically for group collaboration, the Inspire Science Collaboration Kits make hands-on activities a breeze — freeing you to focus on the activity rather than planning and hunting for supplies.



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Universal Access

Ensure All Students Have Success with NGSS

Students of all learning levels have questions about their world and phenomena they see every day, and they need equal access to instruction, support, and content.

Inspire Science fosters deep learning for every student by providing built-in supports for differentiated instruction, EL strategies, and language-building resources at the module level and at multiple points throughout each lesson. Each student is given an opportunity to construct explanations of phenomena and use evidence-based logic to make connections, building critical skills at every step.



ENCOUNTER THE INSPIRATION

How does Inspire Science Inspire All Students?

Let's look at some of the practical ways this program inspires all students with equal access to rigorous science content.



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Inspire Science

Differentiated Instruction

Inspire Science incorporates the research-based Universal Design 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 of the CCSS.

odule: Animal Parents and Their Inspire All Students

ACT Access Complex Text

CLAIM

The Claim, Evidence, Reasoning (CER) framework in Inspire Science — which becomes increasingly sophisticated from K-12 — ensures every student is engaged in rigorous scientific inquiry and argument from evidence.

EVIDENCE REASONING The off mich party

English Language Support

Rooted in learning sciences research, Inspire Science applies the best instructional practices for teaching EL students. Each module and lesson has 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.

CER Framework

English Language Support

mammal	insect	reptile
mamífero	insecto	reptil
amphibian	protection	signal
anfibio	protección	señal
armadillo	zebra	lion
armadillo	cebra	león

Next Generation Assessments

Ensuring students are well prepared for the state-wide tests can seem daunting, but with Inspire Science's next generation assessment tools, in partnership with Measured Progress (STEM Gauge), you'll know what to expect and how to prepare your students for success with mastery of the Performance Expectations.

Online Assessment Center GO ONLINE

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Program Overview 11

Designed to Fit Any Classroom

Resources for Every Classroom

At McGraw-Hill Education, we understand that different classrooms have different needs for tactile and digital resources. We know those needs can change day to day. Inspire Science is designed to fit all of your resource needs through a wide array of print, digital, and hands-on materials so you have access to all of the great learning resources in any form you'd like, whenever you need them.

ENCOUNTER THE INSPIRATION

How does Inspire Science Meet All of My Classroom Needs for Print, Digital, and Hands-On Resources?

Let's look at how with this program, you'll have everything you need for success with NGSS.



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Inspire Science

Print Resources

Every Inspire Science print book includes a digital companion to compliment the digital interactive resources such as simulations, 3D models, videos, and learning-based games.

TEACHER'S AND STUDENT EDITION (Grades K-5, Four Units Per Grade)





INVESTIGATOR ARTICLES

WESTIG

(Grades 2-5)

SCIENCE READ ALOUDS (Grades K-1)



Inspire Science Science Read Aloud



LEVELED READERS (Grades K-5)



Collaboration Kits

Inspire Science Collaboration Kits make planning for hands-on time easier, so you can focus more of your time on the activities than the planning. Each Collaboration Kit contains the materials needed

for the hands-on inquiry activities, organized by unit and module.





See the Collaboration Kit Guide to learn more about what each unit kit includes.

Digital Resources

In addition to the digital versions of each print book, Inspire Science provides a digital experience designed with advantages for both you and your students, including innovative interactives, videos, simulations, learning-based games, personal tutors, and more.



A Future Full of Possibilities

Let Them Dream Big

Americans have always been at the forefront of innovation and invention. With the emphasis Inspire Science places on curiosity, investigative skills, and innovative thinking, just imagine what the students in your classroom today might dream up to improve our lives someday – in our country and beyond.

ENCOUNTER THE INSPIRATION

How Might the Future Innovators of America Impact Our World Someday?

We know that students in our classrooms today have the potential to solve the problems of tomorrow. Inspire Science is designed to help you build the skills students need to carry on America's legacy of inspired thinking.

Let's look at some of the possibilities for the future innovators.



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Inspire Science

A Future Full of Innovation

With the creative thinking and problem-solving skills your students will build with Inspire Science, they will have so many opportunities to impact the world. What problems will you inspire them to solve in the future?

Innovative Solutions for Global Warming

New solutions to reduce carbon emissions and clean up the carbon from our atmosphere?

Practical fuel cell transportation to power cars from water, emitting only steam?

An influential role in global carbon emissions management?







Innovations in Health Care and Disease Management

Advances in cellular immunotherapy treatments to leverage our own immune systems to stop cancer and diseases in their tracks?

Advances in using robotics for healing and repairing the human body?

New ideas for identifying and stopping diseases before they happen?





Innovations for Natural Resources Practical ways to harness energy from the ocean waves?

Creative solutions to food creation and distribution to address world hunger?



Inspire Science

Explore Our Phenomenal World



Inspire Curiosity



Inspire Investigation



Inspire Innovation

Learn more at inspire-science.com



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