

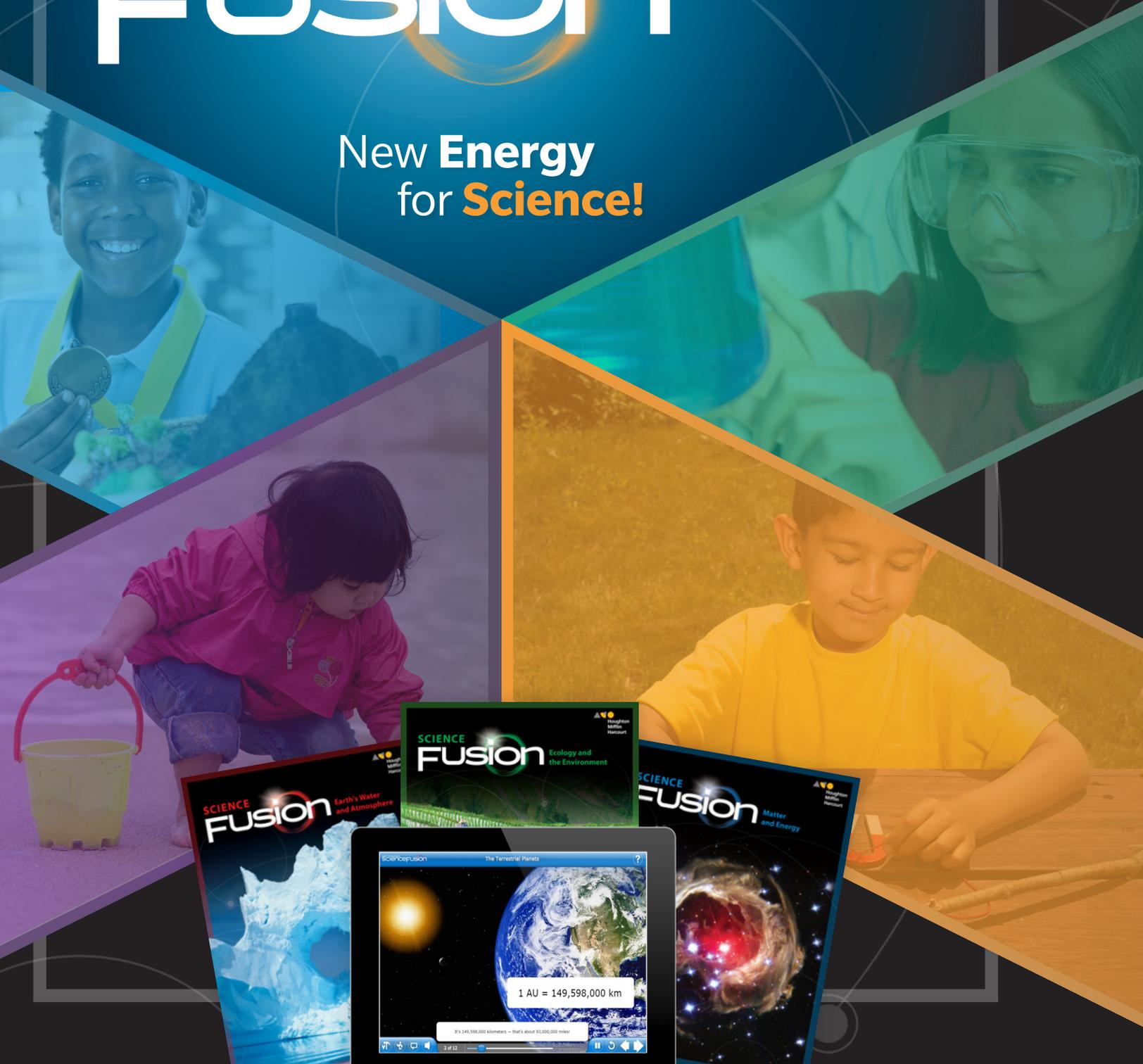


Houghton
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Harcourt

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SCIENCE FUSION

New Energy
for Science!



Program Overview Grades 6–8

Power up with *Science Fusion!*

This best-in-class program fuses...



...to generate new science energy
for today's science learner

Preview Now!

Experience our
interactive and
engaging online
resources today!

1. Go to thinkcentral.com and click on **Science & Health**
2. Click **Evaluators Click Here** then **Register** (for New Users)
3. Enter the access word: **68fusion17**
4. Enter the required information, click the check box for **Terms of Use** and **Privacy Policy**, then click **Next**
5. Select a role to preview (teacher, student, or administrator), then click **Login**
6. Select a **grade** and a **resource shortcut** on the dashboard or click the **Resources** link to see other options

Energize Your Classroom!

ScienceFusion's **innovative** and **award-winning** print and digital curriculum encourages inquiry and scientific thinking in all students. This state-of-the-art science program incorporates **multimodal learning**, support for STEM and 21st-century skills acquisition, and a vast set of unique and engaging online resources. **ScienceFusion** can be accessed in the classroom or at home, on a laptop or tablet, or through the print write-in textbook. The digital and print pathways develop important **critical-thinking skills** that prepare students for success in future science courses and in the workplace.

Two unique learning pathways, one complete classroom solution

More than a science textbook with companion technology, **ScienceFusion** is like having **two science programs in one**. That's because we designed the program to give you two unique learning pathways—one print and one digital—combining to create one complete classroom solution.

Use the digital path independently to cover units, lessons, or parts of lessons. Or mix the print and digital paths together. That's part of **ScienceFusion's** built-in flexibility.



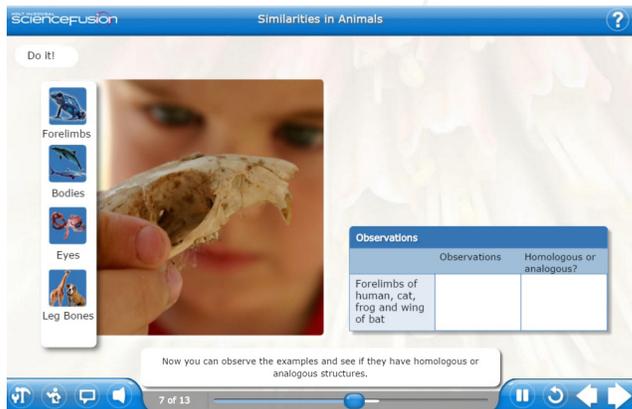


Discover What Makes ScienceFusion Best in Class!

1. Scientific Literacy: With a strong focus on developing literacy skills, the **ScienceFusion Write-In Student Edition Worktext** encourages **active reading** and interaction with content. Add the **ScienceSaurus® Student Handbook's** dynamic visuals and clear explanations of key scientific concepts to further build students' literacy and vocabulary abilities.



Module H Interactive Write-In Student Worktext

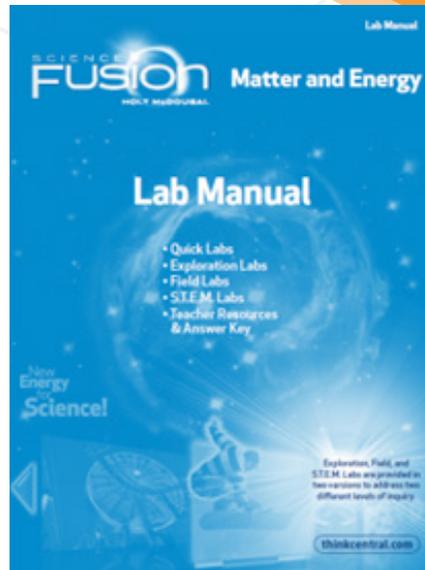


Module B Virtual Lab

2. Engaging Technology: Innovative eLearning allows students to conduct **Virtual Labs**, complete **Video-Based Projects**, and reinforce concepts with unique **Digital Lessons**. With access to **Google Expeditions**, students can experience and explore **virtual worlds** to understand how science is all around them.

New Energy for Science!

3. Hands-on Exploration: Science is all about **doing**. With the **Lab Manual** and **Equipment Kits**, students learn the excitement of investigating, asking questions, and drawing conclusions. Engaging investigations for every lesson allow students to test their ideas and share what they learn.



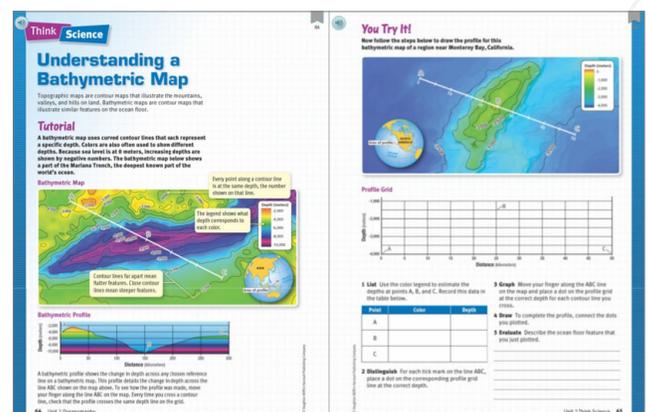
Module H Lab Manual



21st-Century Skills Technology and Coding Curriculum

4. 21st-Century Skills: The emphasis on **STEM**, found in the **STEM lessons and labs**, **People in Science**, and **Careers in Science** features, and in a **NEW “Technology and Coding”** curriculum, help to prepare students for college and science-based careers.

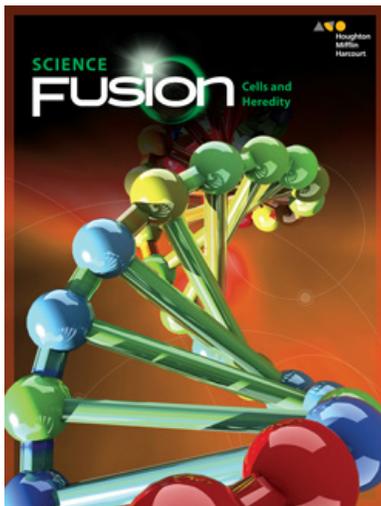
5. 360° of Inquiry: **ScienceFusion** was developed to create an inquiry-based approach in every component of the program. This is 360° of inquiry—a fusion of all program components to develop science skills, concepts, and vocabulary through **inquiry** and **application**. The **Think Science** feature included in each module encourages students to further develop critical-thinking skills.



Module F
Student Edition, *Think Science*

Multimodal Learning for Today's Students!

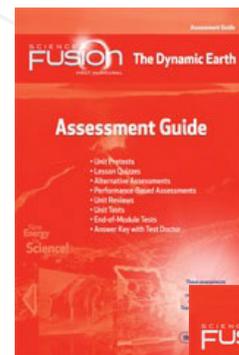
In order to maximize flexibility, **ScienceFusion** 6–8 is organized by topics in the form of discrete modules, both in print and online. These 11 modules consist of all the life, Earth, and physical science topics needed for any 6–8 curriculum.



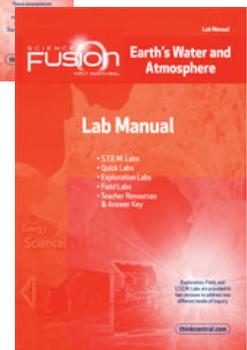
Write-In Student Edition Interactive Worktext
Module A Student Edition



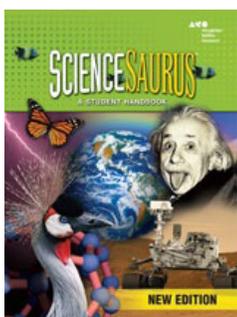
Teacher Edition
Module I Teacher Edition



Teacher Assessment Guide
Module E



Teacher Lab Manual
Module F



ScienceSaurus Student Handbook
Grades 6–8



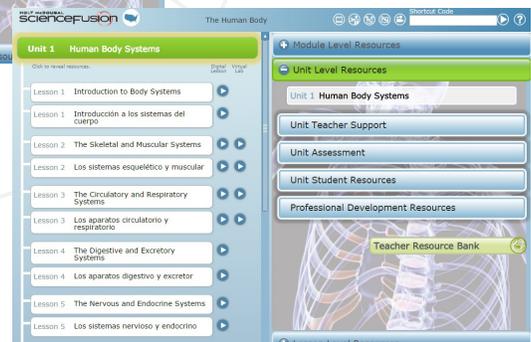
Student Interactive Digital Curriculum
Module C Student Online Access



Equipment and Safety Kits
Non-Consumable Equipment Kit

Teacher Online Management Center

Module C Teacher Online Access



Legend: Print Digital

Student Interactive Digital Curriculum

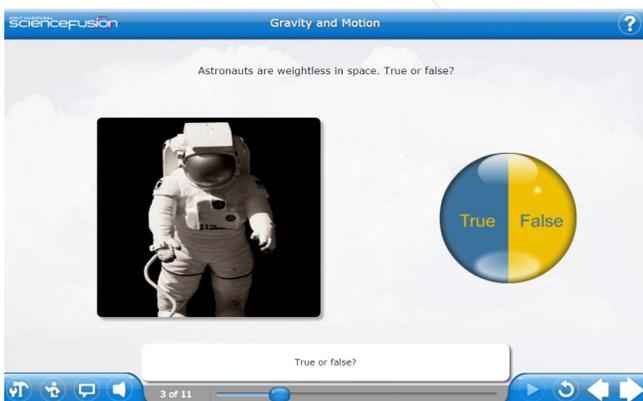
ScienceFusion's Interactive Digital Curriculum is an award-winning, **research-proven** way to teach science in a familiar, engaging, online environment. Through continuous interaction via simulations, animations, videos, virtual labs, video-based projects, and assessments, students are active participants in the learning process. Teachers can assign the lessons and resources to students, or use them on an interactive whiteboard for whole-class or small-group instruction.

All resources available in both **English and Spanish!**

The **Interactive Online Student Edition** provides students with anytime access to the Student Edition. The **ScienceFusion** eBooks are now based on the HTML standard so they can be accessed from any compatible platform or device. In addition, powerful personalization functions like note-taking, highlighting, bookmarking, and searching are supported and saved. There is a direct **audio read** in both English and Spanish for those students who need reading support.



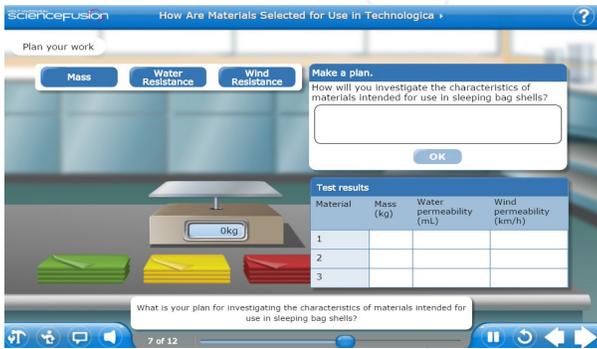
Module D Spanish and English Interactive Online Student Edition



Module I Digital Lesson

Digital Lessons provide an alternative online experience for every write-in textbook lesson. These **highly engaging** and **colorful** lessons teach the same content, vocabulary, and inquiry skills, but in a completely different way. **ScienceFusion** now supports the ability for students to bookmark their location in a lesson and return to that same point at a later time. In addition, students' work is saved between sessions. The **Digital Lesson Tracker** shows how much time students spent on each screen, their number of attempts, and the answers they selected, so teachers can identify areas where students need to improve.





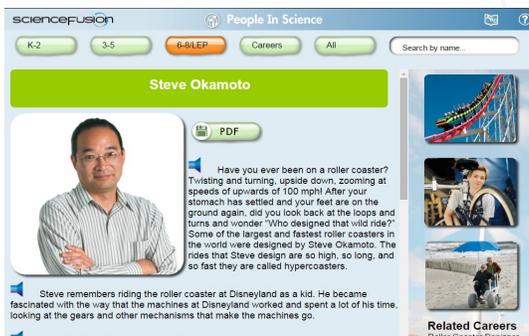
Module K Virtual Lab

Virtual Labs review important concepts developed in the lessons and provide students with the opportunity to **apply** what they are learning in the digital lessons. Using **simulated equipment**, students are immersed in a scenario in which they collect data and draw conclusions following a rigorous scientific investigation process. Student progress can be tracked using the **Virtual Lab Data Sheets**, which can be saved and emailed or printed for assignment purposes.



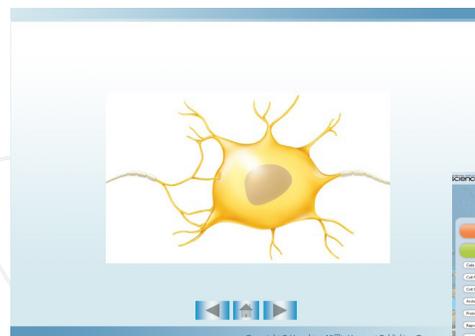
Module F Video-Based Project

Video-Based Projects are **captivating inquiry-based projects** introduced by one of our authors, Dr. Michael Heithaus or Michael DiSpezio. With the help of a video, teacher support pages, and student activity worksheets, students solve problems or tackle engineering challenges. There are one to two projects for each module, focusing on STEM, ecology, and biotechnology topics.



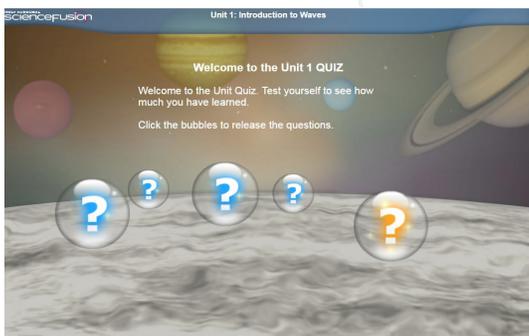
People in Science Gallery

The **People in Science Gallery** contains a collection of multimedia biographies of scientists from past and present with descriptions of **scientific careers** found at point of use in each unit.



Media Gallery and Cell Image

A large collection of **key images** has been compiled in the **Media Gallery**. These files are in PowerPoint® format and can be used by the teacher or student to create their own presentations. These can be displayed with an interactive whiteboard as well.

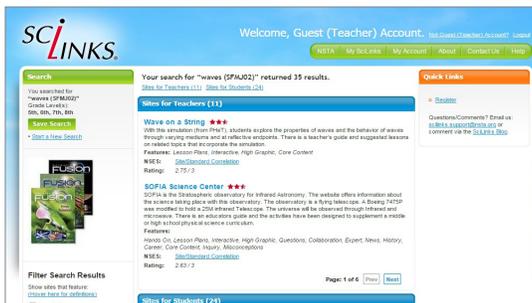


Module J Online Unit Self-Check

The **Online Unit Self-Checks** are a **fun, interactive assessment** that will give students a view of their strengths and weaknesses in a given unit. The design of these online quizzes has been improved to maximize learning effectiveness by giving students more opportunities to arrive at the correct answer.



New Energy for Science!



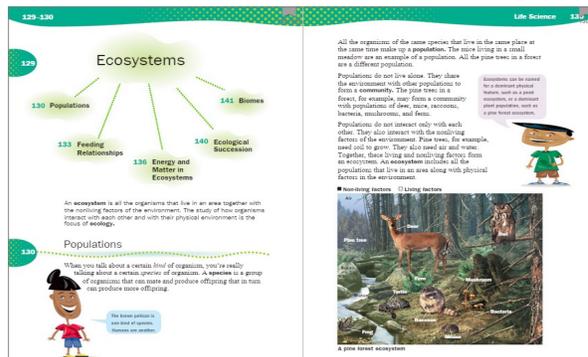
National Science Teachers Association (NSTA) SciLINKS® are found at point of use in each unit to extend your students' understanding of unit concepts and skills. These resources are vetted by scientific experts at NSTA, so you can be assured they are **exemplary resources** and "safe surfing" for students.

NSTA SciLINKS



Module B HISTORY Channel video

As part of an exclusive partnership with the **HISTORY® Channel**, videos have been included in select modules. These short videos relate to the unit content and include **cross-curricular connections** to social studies.

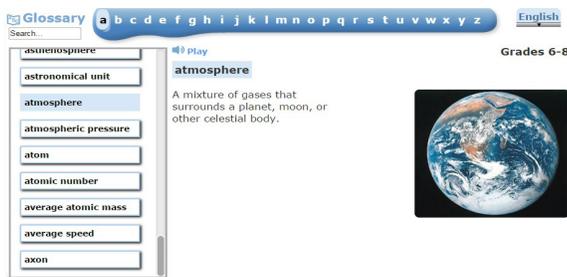


ScienceSaurus

Online access to **ScienceSaurus** is included with **ScienceFusion** © 2017. This convenient handbook covers life, Earth, physical, and environmental science, as well as engineering and technology. Clear explanations with dynamic visuals can be used for **presentation**, **review**, or **reinforcement** of science concepts. In addition, powerful personalization functions like highlighting, bookmarking, and searching are supported and saved.



Through its alliance with Google®, HMH is developing content for **Google Expeditions**. Using a simple Google Cardboard™ device and a smartphone, students are swept away into **immersive virtual worlds** where learning and engagement are maximized. These virtual field trips are 3D, 360-degree experiences in fascinating locations, directly tied to science content! **A Teacher Guide** provides ideas on ways to incorporate the Expeditions into the curriculum.



Interactive Glossary

These components are also available online, as part of the **Student Interactive Digital Curriculum**:

- **Multi-Language Glossary** A glossary of key terms and definitions in English, Spanish, Chinese, Vietnamese, Khmer, Laotian, Arabic, Haitian Creole, Russian, and Portuguese
- **Interactive Glossary** Provides program vocabulary and definitions with either visuals or video and audio
- **Lab Datasheets** All lesson labs with worksheets available to students in PDF format
- **Student Edition Audio** Full audio of the textbook accessible to students via their mobile devices
- **Student Handbook** Student Edition Resources section in the back of each module; includes Scientific Reference Materials, Reading and Study Skills, Science Skills, Math Refresher, and Glossary
- **Take It Home Worksheets** Student worksheets for the Engage and Explore activity suggestion found before each lesson in the Teacher Edition

Everything You Need—In One Place!

Teacher Online Management Center

The **Teacher Online Management Center** is designed to make it easier for you to access all of the program resources—for teacher and student—to assist in planning, teaching, assessing, and tracking student progress. Additionally, most student resources are assignable. **ScienceFusion** offers teachers **24/7 access** to effective, research-proven, targeted resources, which will never get lost or misplaced—giving you the flexibility to choose the right resources to meet your classroom needs.

The **Teacher Online Management Center** makes it easy to:

- **Preview** program resources
- Download editable resources to **customize** them for your classroom
- **Assign and schedule** resources online, so they will appear in your students' inboxes
- Automatically **score** all quizzes and tests taken online
- Automatically provide individual **remediation** plans based on test results
- Easily monitor and **track student progress**, and provide remediation for students who need it



New Energy for Science!



Module B Teacher Online Management Center

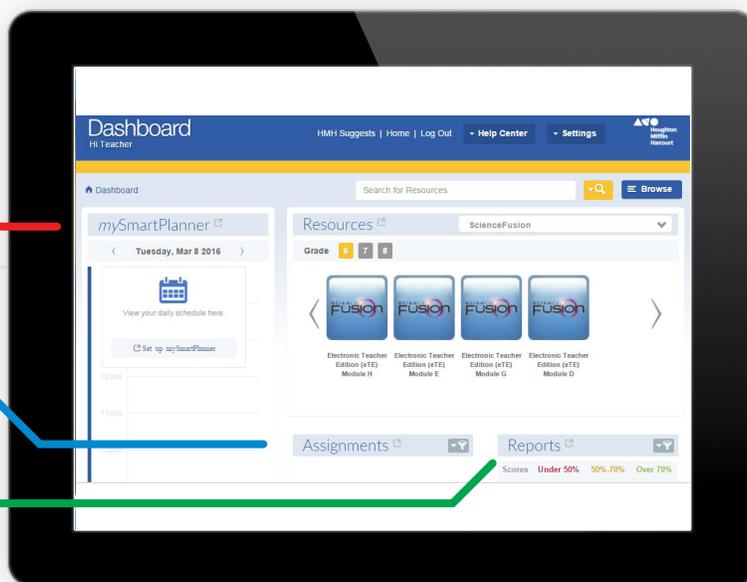
The **Teacher Online Management Center** incorporates **full access** to the Student Interactive Digital Curriculum, including the Student Edition, Student Edition Audio, Digital Lessons, Virtual Labs and Data Sheets, Video-Based Projects, HISTORY Channel videos, People in Science, Online Unit Self-Checks, and NSTA SciLINKS.

From your custom-tailored **Dashboard**, see all your **ScienceFusion** content, navigate to any grade, set up your daily schedule in **mySmartPlanner**, and view **Assignments** and **Reports**.

mySmartPlanner

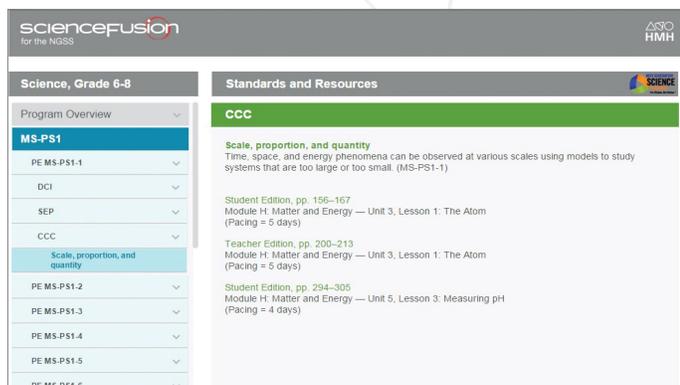
Assignments

Reports



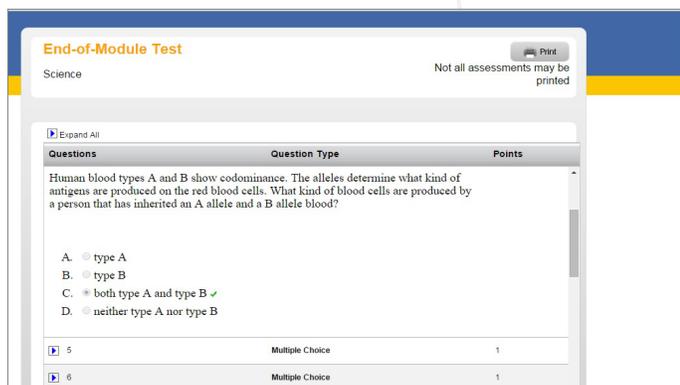
Module C Interactive Online Teacher Edition

The **Interactive Online Teacher Edition** provides teachers with anytime access to their print TE. Teachers can easily navigate using the Table of Contents and Bookmarks. In addition, powerful personalization functions like note-taking, highlighting, bookmarking, and searching are supported and saved.



NGSS Correlation Tool

The © 2017 edition of **ScienceFusion** includes a correlation tool for the **Next Generation Science Standards (NGSS)***. The online **NGSS Correlation Tool** provides links to actual curriculum material that supports the **Three Dimensions of Learning** that make up the NGSS. Correlations are also available in the print Teacher Edition. Depending on the package purchased, online access to content from additional grades may be included.



Module A End-of-Module Test

End-of-Module Tests, Unit Pre-Tests, Unit Reviews, Unit Tests (Tests A and B), and Lesson Quizzes are available in both English and Spanish, along with the **Answer Keys**. Assessments are assignable and editable with individual and whole-class reporting and **automated grading** and **remediation** tied to test questions. Many of these same assessments are available as PDF files or in the printed **Assessment Guide**.



Module I ExamView

ExamView® Test Banks contain extra editable assessment items. You can **customize** an assessment by adding or deleting items, revising difficulty levels, changing formats, revising sequence, and editing items. Students can take customized quizzes and tests directly online.



HMH's partnership with NSTA provides custom **Professional Development Resources** for every unit. Materials are a mix of online interactive content modules, journal and book chapter materials, pre-recorded podcasts, and more. Teachers have 24/7 access to **quality professional development** from the science experts.

Module B Professional Development Resources

*Next Generation Science Standards and logo are registered trademarks of Achieve. Neither Achieve nor the lead states and partners that developed the Next Generation Science Standards was involved in the production of, and does not endorse, this product.

Weathering

Screen	Number of Visits	Time on Screen	Number of Attempts
1. Introduction	0	00 : 00	NA
2. Green liberty	0	00 : 00	NA
3. Physical versus chemical	0	00 : 00	NA
4. Physical weathering	0	00 : 00	NA
5. Chemical weathering	0	00 : 00	NA
6.	0	00 : 00	NA
7. Match the examples!	0	00 : 00	NA
8. Sinkhole	0	00 : 00	NA
9. Summary	0	00 : 00	NA

Screen 7 : Match the examples!

Match each agent of **weathering** with its correct image.

Module E Digital Lesson Tracker

The Teacher View of Digital Lessons includes a **Digital Lesson Tracker with Answers** that shows answers to the digital lesson interactivities. **Digital Lesson Formative Assessment** provides additional teacher questions and answers that can be used for **individual** or **whole-class instruction** using the digital lesson.

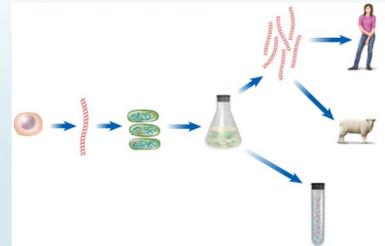
These components are also available online, as part of the Teacher Online Management Center:

- **Google Expeditions Teacher Guide** offering ideas on ways to incorporate the virtual field trips into your lessons and guide the experience
- **Lab Manual PDF files** including Virtual Lab Datasheets with Answers and blank Virtual Lab Data Sheets
- **Multi-Language Glossary** providing key terms and definitions in English, Spanish, Chinese, Vietnamese, Khmer, Laotian, Arabic, Haitian Creole, Russian, and Portuguese
- **Correlations to Common Core** bridging each module to the CCSS ELA and Mathematics standards
- **School-Home Connection Letters** offering families information on the current unit as well as activities that can be done at home
- **Take It Home Worksheets** presenting activities that can be done at home to extend classroom learning
- **Assessment Guide PDF files** for End-of-Module Tests with Answer Keys, Unit Pre-Tests, Unit Reviews, Unit Tests A and B with Answer Keys, Lesson Quizzes with Answer Keys; also available in Spanish
- **Lesson Differentiated Instruction** offering Teacher Edition strategies for differentiating instruction
- **ScienceSaurus** in the Interactive Online Edition
- **Teacher Resource Bank** including lessons for substitute teachers, science fair support, rubrics, graphic organizers, cooperative learning activities, and more

3 Lesson 5 Engineering and Life Science

What technology is used to change organisms or make new organisms?

- How do scientists modify DNA through genetic engineering?



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Module K PowerNotes Presentation

PowerNotes® Presentations are downloadable, editable PowerPoint® files with **lesson summaries**, **key vocabulary**, and **engaging visuals** for whole-class instruction.

Multi-Language Glossary Selection

English	Spanish
Chinese	Vietnamese
Khmer	Laotian
Arabic	Haitian Creole
Russian	Portugese

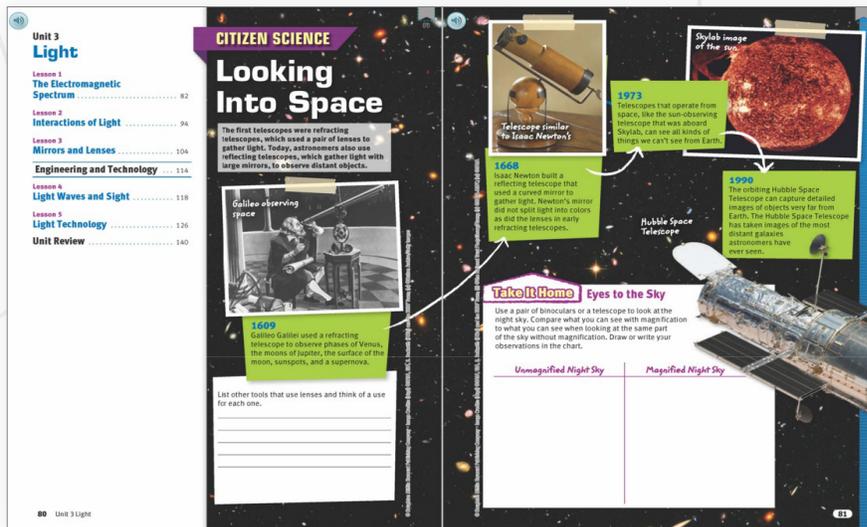
Multi-Language Glossary

Inspire Scientific Literacy!

Student Print Resources

ScienceFusion's print resources engage students in exciting, inquiry-based learning at every point of instruction. The effective, research-based program is **easy to implement**, **fun to teach**, and **enjoyable** for students to use. The program's innovative approach to print resources encourages students to become active participants in their own learning and encourages development of scientific and reading literacy. For teacher ease of use, all of the program's student print resources are located online at point of use.

The **Interactive Student Edition Worktext** has a **magazine-style layout** that matches the way today's students learn best—by actively engaging with the content they're reading. Students can write their ideas, answer questions, make notes, complete drawings, and record their observations right on the page.



Module J Student Edition

Resources
available in both
**English and
Spanish!**

New Energy for Science!

How does blood move through the body?
Blood is pumped from the right side of the heart to the lungs. From the lungs it returns to the left side of the heart. The blood is then pumped from the left side of the heart to the body. It flows to the tiny capillaries around the body before returning to the right side of the heart. Blood in the arteries that come out of the heart is under great pressure because of the force from the pumping action of the heart. Blood in veins is under much less pressure than arterial blood because veins have larger internal diameters than arteries do. Veins carry larger volumes of blood more slowly.

Blood Moves in Circuits
Blood moves in two loops or circuits around the body. The heating heart moves blood to the lungs and also around the body. The flow of blood between the heart and the lungs is called the pulmonary circulation. As blood passes through the lungs, carbon dioxide leaves the blood and oxygen is picked up. The oxygen-rich blood then flows back to the heart, where it is pumped around the rest of the body. The circulation of blood between the heart and the rest of the body is called systemic circulation. Oxygen-poor blood returns to the heart from body cells in the systemic circulation.

14 Compare What is the difference between the pulmonary and systemic circulations?

15 Analyze In systemic circulation, blood moves around the body.

17 Apply Put a box around the part of the diagram that shows the pulmonary circulation. Where in the diagram would you find oxygen-poor blood?

Lesson 3 The Circulatory and Respiratory Systems 37

The write-in **Student Editions** promote a student-centered approach for:

- Learning and applying **critical-thinking** and **reading skills**
- Building inquiry, STEM, and 21st-century skills
- Developing attentive, energetic readers who reach a deep level of **comprehension**

UNIT 1
Earth's Water

Big Idea
Water moves through Earth's atmosphere, oceans, and land in a cycle and is essential for life on Earth.

What do you think?
Fresh water is found in ponds, lakes, streams, rivers, and underground in aquifers. Where does the water in your school come from?

Humans rely on water to stay healthy.

Each unit is designed to:

- Focus on a **Big Idea** and supporting **Essential Questions**
- Incorporate **Active Reading** prompts that teach students how to **analyze** and **interact** with content

Module C Student Edition

STEM Engineering & Technology

Analyzing Technology

Skills	Objectives
Identify risks	Analyze the life cycle of an aluminum can.
Identify benefits	Analyze the life cycle of a glass bottle.
Evaluate cost of technology	Evaluate the cost of recycling versus disposal of technology.
Evaluate environmental impact	Analyze the environmental impact of technology.
Propose improvements	
Propose risk reduction	
Compare technology	
Communicate results	

Analyzing the Life Cycles of Aluminum and Glass

A life cycle analysis is a way to evaluate the real cost of a product. The analysis considers how much money an item costs to make. It also examines how making the product affects the economy and the environment through the life of the product. Engineers, scientists, and technologists use this information to improve processes and to compare products.

Costs of Production

Have you ever wondered where an aluminum soda can comes from? Have you wondered where the can goes when you are done with it? If so, you have started a life cycle analysis by asking the right questions. Aluminum is a metal found in a type of rock called bauxite. To get aluminum, first bauxite must be mined. The mined ore is then shipped to a processing plant. There, the bauxite is melted to get aluminum in a process called smelting. After smelting, the aluminum is processed. It may be shaped into bicycle parts or rolled into sheets to make cans. Every step in the production involves both financial costs and environmental costs that must be considered in a life cycle analysis.

Many bicycles are made of aluminum because it is lightweight and strong.

166 Unit 3 Minerals and Rocks

Every module features one or more **STEM lessons** that focus on a scaffolded approach to building **engineering and design skills** and practice of those skills in subsequent units.

Module F Student Edition, Big Idea

NEW for © 2017!

Module E Student Edition, STEM lesson

An important component of many **21st-century careers** is the meaningful understanding of the foundations of technology, engineering, and computer coding. A **NEW** spiraled curriculum on **"Technology and Coding"** has been added to address this need.

Up to <<Code>>

How is computer software created?
Imagine that you are using a computer at the library to learn more about the history of electronic music. You use the library's database application to start searching for internet resources. You also do a search to look for audio recordings. Finally, you open a word processor to take notes on the computer. Perhaps without realizing it, you've used many different pieces of software. Have you ever wondered how computer software is created?

Computer software is designed to address a need
Computer software can help us to learn more about our world. It can be useful to business. Or, it can simply entertain us. Whatever its purpose, computer software should fulfill some human want or need. The first step in creating software is planning how it will work.

Computer software source code is written in a programming language
The instructions that tell a computer how to run video games, word processors, and other kinds of software are not written in a human language. They are written in a special programming language, or code. JavaScript, C++, and Python are examples of programming languages. Programming languages like human languages—must follow certain rules in order to be understood by the computer. A series of instructions written in a programming language is called source code.

Source code is revised
Sometimes, programmers make mistakes in their code. Many programming environments have a feature that alerts the programmer to certain errors, such as spelling mistakes in commands, missing portions of code, or logical errors in the sequence of instructions. However, many mistakes go undetected, or too many errors may cause the program to function incorrectly or not at all. When this happens, the programmer must identify the error, correct it, and test the software again.

Computer software is user tested, and revised
Once the software is created, it must be tested thoroughly to make sure it does not fail or behave in unexpected ways. It must also be tested to ensure that it meets users' needs. The creators of a piece of software might observe how people use it. Or they might ask users to provide feedback on certain features, and test the software again.

3 Know This source code contains an error. Infer where the error is located. What does this code "tell" the computer to do? Write your answers below.

```

13 # Scores are not tied, so check
14 # which player wins the round
15 if player1.score > player2.score:
16     print("Player 1 wins!")
18 else:
19     print("Player 2 wins!")
20
21 Syntax error, line 19
    
```

Identifying what a computer program address is one of the first development steps.

Test running a program is important for finding and fixing errors in the code.

184 Technology and Coding 185

Student Edition, 21st-Century Skills Technology and Coding

New Energy for Science!

Each module includes **People in Science** and **Think Science** features. **Think Science** focuses on developing **science skills** while the **People in Science** feature exposes students to the influence of science, engineering, and technology on society and inspires them to consider **careers** in science.

Found in each unit, **Do the Math!** connects math and science with sample problems, with a chance for students to try their own calculations. **Visualize It!** makes **abstract concepts** more concrete.

Additional features in the print Student Edition help students understand **how science relates to the world** around them. **Think Outside the Book** extends learning, asking students how they can apply unit concepts to their own lives. **Why It Matters** makes content relevant and offers additional opportunities for **extension**.

ScienceSaurus hardcover or softcover print handbooks are a delightful way to present, review, or reinforce science content. Essential scientific concepts and vocabulary are organized in an **encyclopedic format**. Clear explanations with dynamic visuals help students master key science ideas. Online access to **ScienceSaurus** is included with **ScienceFusion** © 2017 and print copies are included with certain packages.

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How can a Punnett square be used to make predictions about offspring?

A Punnett square does not tell you what the exact results of a certain cross will be. A Punnett square only helps you find the probability that a certain genotype will occur. **Probability** is the mathematical chance of a specific outcome in relation to the total number of possible outcomes.

Probability can be expressed in the form of a **ratio** (RAY-oh-oh), an expression that compares two quantities. A ratio written as 1:4 is read as "one to four." The ratios obtained from a Punnett square tell you the probability that any one offspring will get certain alleles. Another way of expressing probability is as a percentage. A percentage is like a ratio that compares a number to 100. A percentage states the number of times a certain outcome might happen out of a hundred chances.



1:3 is the ratio of red squares to total squares.

Do the Math Sample Problem

In guinea pigs, the dominant **B** allele is responsible for black fur, while the recessive **b** allele is responsible for brown fur. Use the Punnett square to find the probability of this cross resulting in offspring with brown fur.

	B	b
b	Bb	bb
b	Bb	bb

Identify

A. What do you know?
Parent genotypes are Bb and Bb. Possible offspring genotypes are Bb and bb.

B. What do you want to find out?
Probability of the cross resulting in offspring with brown fur.

Plan

C. Count the total number of offspring allele combinations: 4

D. Count the number of allele combinations that will result in offspring with brown fur: 2

Solve

E. Write the probability of offspring with brown fur as a ratio: 2:4

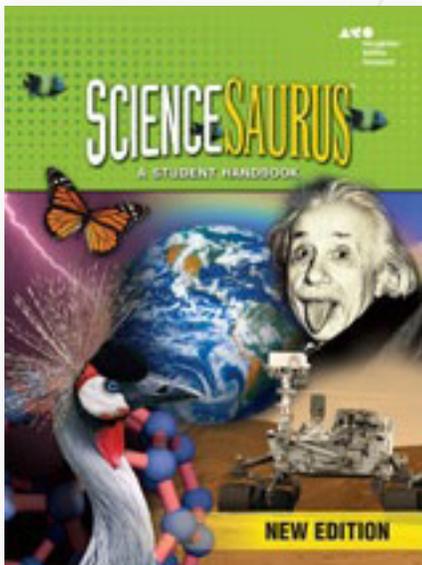
F. Rewrite the ratio to express the probability out of 100 offspring by multiplying each side of the ratio by the same number (such as 25): 50:100

G. Convert the ratio to a percentage: 50%

Answer: 50% chance of offspring with brown fur.

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Module A Student Edition, Do the Math



ScienceSaurus Student Handbook

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Think Science

Scientific Debate

Not all scientific knowledge is gained through experimentation. It is also the result of a great deal of debate and confirmation.

Tutorial

As you prepare for a debate, look for information from the following sources.

Controlled Experiments Consider the following points when planning or examining the results of a controlled experiment.

- Only one factor should be tested at a time. A factor is anything in the experiment that can influence the outcome.
- Samples are divided into experimental group(s) and a control group. All of the factors of the experimental group(s) and the control group are the same except for one variable.
- A variable is a factor that can be changed. If there are multiple variables, only one variable should be changed at a time.

Independent Studies The results of a different group may provide stronger support for your argument than your own results. And using someone else's results helps to avoid the claim that your results are biased. Bias is the tendency to think about something from only one point of view. The claim of bias can be used to argue against your point.

Compare with Similar Objects or Events If you cannot gather data from an experiment to help support your position, finding a similar object or event might help. The better your example is understood, the stronger your argument will be.

Read the passage below and answer the questions.

Many people want to protect endangered species but do not agree on the best methods to use. Incubating, or heating eggs to ensure hatching, is commonly used with bird eggs. It was logical to apply the same technique to turtle eggs. The Barbours' map turtle is found in Florida, Georgia, and Alabama. To help more turtles hatch, people would gather eggs and incubate them. However, debate really began when mostly female turtles hatched. Were efforts to help the turtles really helping them? Scientists learned that incubating eggs at 29°C (77°F) produces males and at 30°C (86°F) produces females. As a result, conservation programs have stopped artificially heating the eggs.



1 What is the variable described in the article about Barbours' map turtles?

2 Write a list of factors that were likely kept the same between the sample groups described in the article.

3 What argument could people have used who first suggested incubating the turtle eggs?

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Module B Student Edition, Think Science

Why It Matters

Lizard Invasion

Green anole lizards (*Anolis carolinensis*) have been part of the South Florida ecosystem for a long time. Recently, a closely related lizard, the nonnative brown anole (*Anolis sagrei*), invaded the green anole's habitat. How do they avoid competing with each other for resources?



Home Base
Green anoles live on perches throughout a tree. Brown anoles live mainly on branches that are close to the ground. If they have to share a tree, green anoles will move away from perches close to the ground. In this way, both kinds of anoles can live in the same tree while avoiding competition with each other.



Intrusive Neighbors
Although green and brown anoles each consist of sharing their habitats, they do not live together peacefully. For example, brown anoles attack green anoles for eating their young.

Extend

16 Describe How do green and brown anoles avoid competition? Draw a picture of a tree showing both green and brown anoles living in it.

17 Research What are other examples of two species dividing up the parts of a habitat?

18 Debate Write what would happen if the habitats of two species overlapped. Prepare your findings in a format such as a short story, a music video, or a play.

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Module D Student Edition, Why It Matters

Designed for Ease of Use!

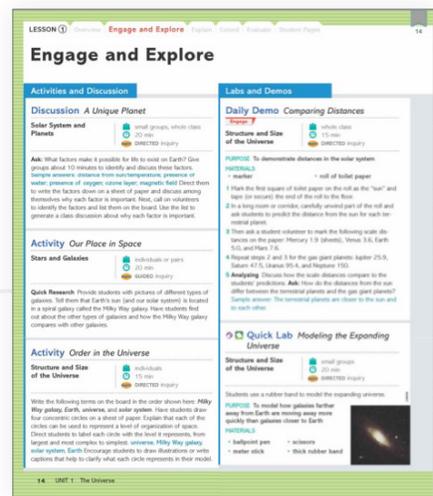
Teacher Print Resources

Teacher Edition

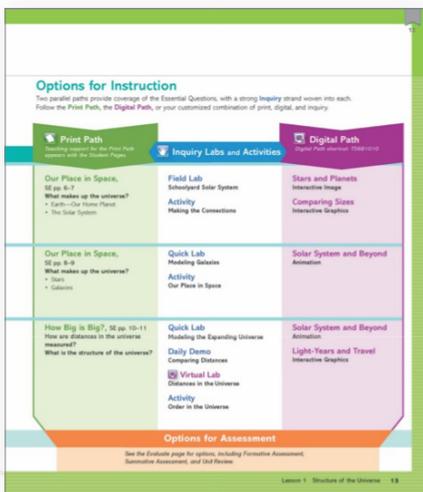
ScienceFusion's Teacher Editions for each module are designed with **middle school teachers** in mind. To match all teaching styles, the comprehensive, hardcover TE gives you the flexibility to pick and choose the resources you need. For ease of use, the targeted resources are located right at **point of use** in each unit and lesson.

The Teacher Edition includes all of the following features to enhance your instruction:

- Teacher support for each lesson that follows the **5E model**: Engage, Explore, Explain, Extend, and Evaluate.
 - **Engage** and **Explore** include: Activities, Discussions, Labs, Demos
 - **Explain** includes: Print and Digital Options, Differentiated Instruction, Lesson Vocabulary
 - **Extend** includes: Reinforce and Review, Going Further
 - **Evaluate** includes: Formative and Summative Assessment, Reteach



Module G Teacher Edition, Engage and Explore



Module G Teacher Edition, Options for Instruction

- **Options for Instruction** pages that show print, labs, and digital options for each lesson to help teachers **plan effectively**
- **Advance Planning** feature outlining activities and labs for each lesson
- Lesson-opening information highlighting required **Prerequisite Knowledge** along with **Accessing Prior Knowledge** strategies



Teacher Print Resources



• **Differentiated Instruction** page to provide resources for **meeting the needs of all students**

• **Response to Intervention** page with ways to support **struggling students**



Module G Teacher Edition, Content Refresher

• **Content Refresher** pages provide **professional development** for teachers needing support in teaching concepts. These include **Common Misconceptions** to help identify regular stumbling blocks for students.



• **Lesson Level Support** features include:

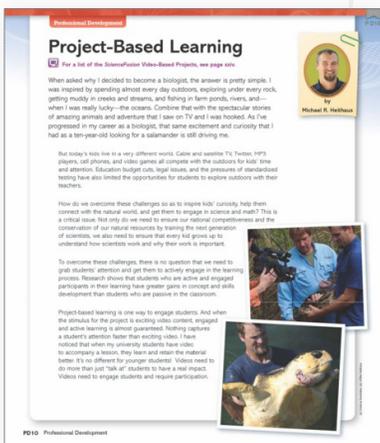
- Probing Questions to build inquiry skills and discussion features to extend learning
- Interpreting Visuals strategies
- Skill-building features like Building Reading Skills, Building Math Skills, and Building Graphing Skills
- Discussion features to extend learning
- Ongoing Formative Assessment strategies to check student comprehension

Module G Teacher Edition, Lesson Opener



Module G Teacher Edition, Citizen Science

• The **Citizen Science** feature provides support for **unit projects** while **Take It Home** supports this valuable school-home feature



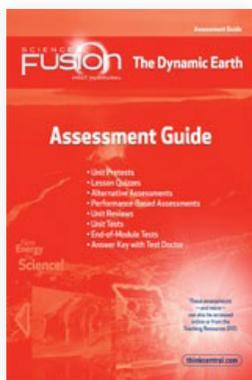
The **Teacher Edition** also includes:

- Program Scope and Sequence and Pacing Guide
- Professional Development articles and references to online NSTA Professional Development for every unit
- Correlations to the Next Generation Science Standards*, Common Core English Language Arts and Math standards, and **ScienceSaurus**

Module G Teacher Edition, Professional Development

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Assessment Guide



Module E Assessment Guide

The **ScienceFusion** formative and summative assessment options give you **maximum flexibility** in assessing what your students know and what they can do. The Assessment Guide includes a comprehensive overview of your assessment options and includes:

- Unit PreTests
- Lesson Quizzes
- Alternative Assessments
- Performance-Based Assessments
- Unit Reviews
- Unit Tests
- End-of-Module Tests
- Answer Key and explanations of answers

Lab Manual



Module F Lab Manual

The **ScienceFusion** lab program is designed to include activities that address a variety of student levels and inquiry levels—**directed, guided, and independent**. Each lesson is supported by two to three short activities and each unit includes one to four additional labs that require one or more class periods to complete. Each student activity includes datasheets, Teacher Resources with safety notes, tips, modifications, and an answer key. There are **editable** versions of all labs online as well as suggestions for differentiating labs, such as turning a Directed Lab into an Independent Inquiry Lab.

Program Labs include:

- **Quick Labs** Short activities at point of use to help concept development
- **Exploration Labs** Traditional labs designed to be used with standard equipment and materials
- **Field Labs** Designed to be partly or completely performed outside the classroom
- **STEM Labs** Activities that focus on science, technology, engineering, and math skills



Non-Consumable Material Kits

These kits provide the non-consumable materials to complete all the labs in the Lab Manual for each module. The kits include enough materials for six groups of students.



Consumable Material Kits

These kits provide the consumable materials to complete all the labs in the Lab Manual for each module. The kits include enough materials for six groups of students.

It is recommended to purchase both the Non-Consumable Equipment Kit and the Consumable E quipment Kit to get started.



Common Material and Safety Kit

These two kits supply either common science lab equipment needed for many of the labs or the safety equipment necessary for any lab program.

Two parallel and unique curriculums in one comprehensive program!

Traditional science programs repeat the same content across multiple formats, but with **ScienceFusion** you get **two full curriculums**—digital and print lessons—each with unique content, providing multiple exposures to science concepts and skills.

The **interactive, multimodal learning model** truly sets **ScienceFusion** apart—it’s easier to teach and reinforce concepts, to promote deeper understanding, and to reach all learners in their unique learning styles.

	Print **	Digital	
Student	Write-In Student Edition Interactive Worktext <ul style="list-style-type: none"> • Visual Literacy • Big Ideas & Essential Questions • Graphic Organizers • Magazine Format • STEM Lessons • Scaffolding • Labs 	Y	Y
	Student Interactive Digital Curriculum <ul style="list-style-type: none"> • Digital Lessons • Virtual Labs with Data Sheets • Video-Based Projects • Interactive Online Student Edition with Audio • NSTA SciLINKS • People in Science Gallery • Media Gallery • Online Unit Self-Checks • Interactive Glossary • Student Vocabulary Cards • Extra Support for Vocabulary and Concepts 		Y
	Content to enrich HMH programs using  Google Expeditions		Y
	ScienceSaurus	Y**	Y

**Some print components are only available with specific package purchases

New Energy for Science!

ScienceFusion © 2017 for Grades 6–8 is offered as modules in both Hybrid and Digital configurations where every fourth module purchased is available at a discount. The Hybrid bundle serves as the core offering, with both print and digital materials, while the Digital bundle offers a low-cost digital-only option. Common Cartridge® options are also available for purchase.

		Print	Digital
Teacher	Teacher Edition <ul style="list-style-type: none"> • 5E Lesson Format • Build Inquiry and STEM Skills • Build Science Vocabulary • Professional Development <ul style="list-style-type: none"> • RTI, English Language Learners, and Differentiated Instruction support • Misconception Alerts • NGSS* and Common Core Correlations 		
	Assessment Guide <ul style="list-style-type: none"> • Unit Pre-Tests • Lesson Quizzes • Alternative Assessments • Performance-Based Assessments <ul style="list-style-type: none"> • Unit Reviews • Unit Tests • End-of-Module Tests • Answer Key and explanations of answers 		
	Lab Manual <ul style="list-style-type: none"> • Quick Labs • Exploration Labs <ul style="list-style-type: none"> • Field Labs • STEM Labs 		
	Teacher Online Management Center <ul style="list-style-type: none"> • Interactive Online Teacher Edition • Full access to Student Interactive Digital Curriculum • NGSS Correlation Tool • Professional Development Resources • Teacher View of Digital Lessons and Digital Lesson Tracker with Answers <ul style="list-style-type: none"> • PowerNotes Presentations • Assessment Guide and Online Assessments • Teacher Resource Bank • Google Expeditions Teacher Guide 		

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