Houghton Mifflin Harcourt

hmhco.com

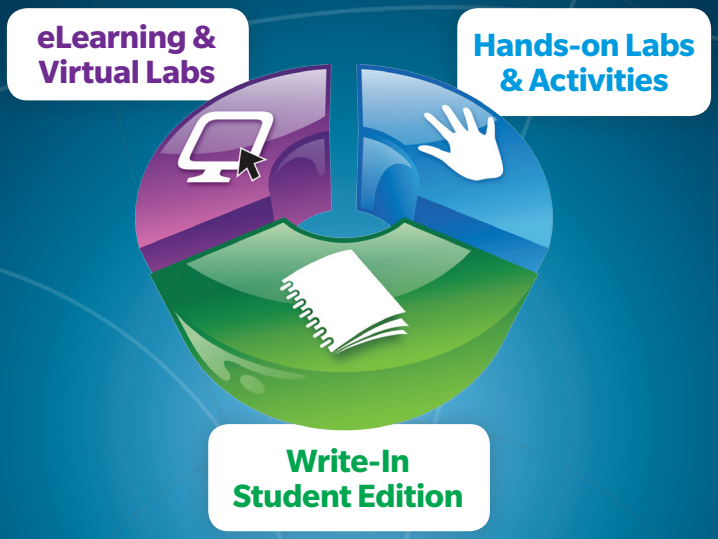
SCIENCE FUSION

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!

BEST IN CLASS

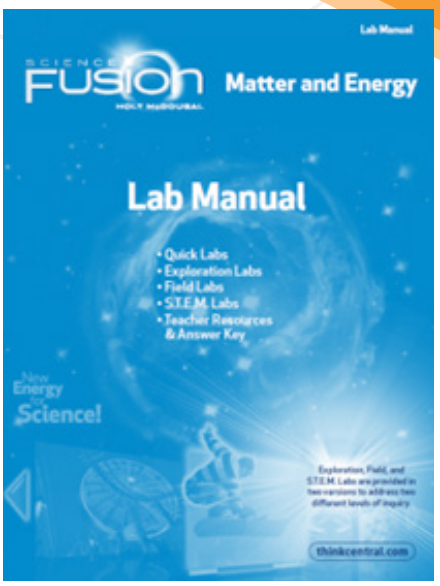
1. Scientific Literacy: With a strong focus on developing literacy skills, the ***ScienceFusion* Write-In Student Edition Worktext** encourages **active reading** and interaction with content. Add the ***ScienceSaurus*® Student Handbook's** dynamic visuals and clear explanations of key scientific concepts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

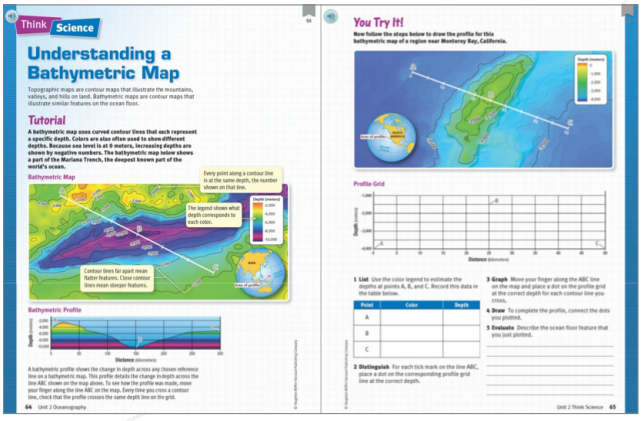
3. Hands-on Exploration: Science is all about **doing**. With the **Lab Manual** and **Equipment Kits**, students learn the excitement of investigating, asking questions, and drawing conclusions. Engaging investigations for every lesson allow students to test their ideas and share what they learn.



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.

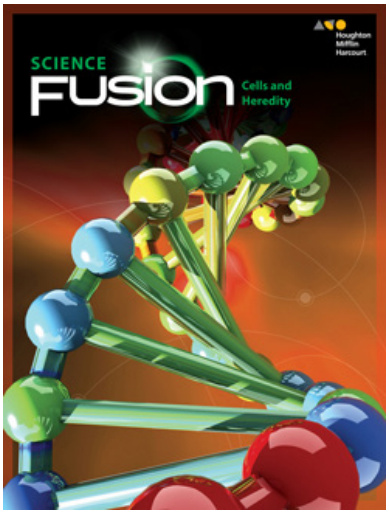


Module F
Student Edition, *Think Science*

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.

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

P D

Teacher Edition

Module I Teacher Edition

P D

Teacher Assessment Guide

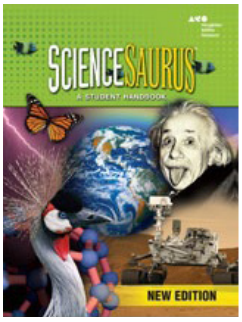
Module E

P D

Teacher Lab Manual

Module F

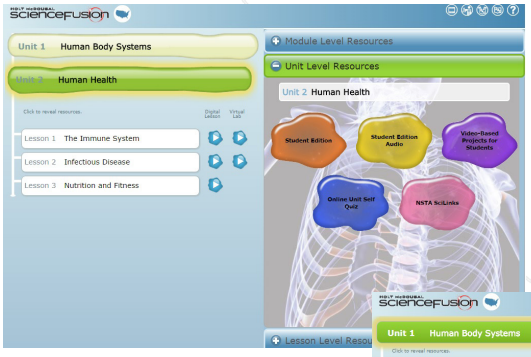
P D



ScienceSaurus **Student Handbook**

Grades 6–8

P D

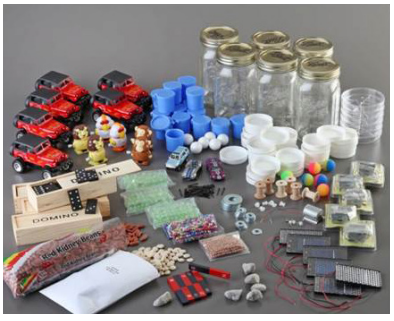


Student Interactive Digital Curriculum

Module C

Student Online Access

D



Equipment and Safety Kits

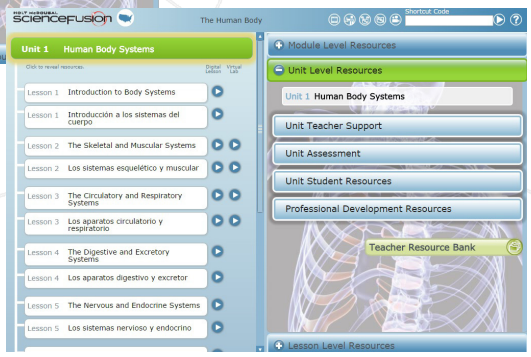
Non-Consumable Equipment Kit

Teacher Online Management Center

Module C

Teacher Online Access

D



Legend: P Print D Digital

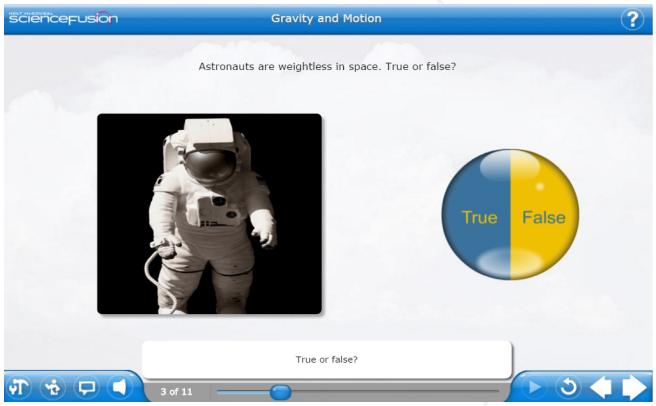
Student Interactive Digital Curriculum

***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.

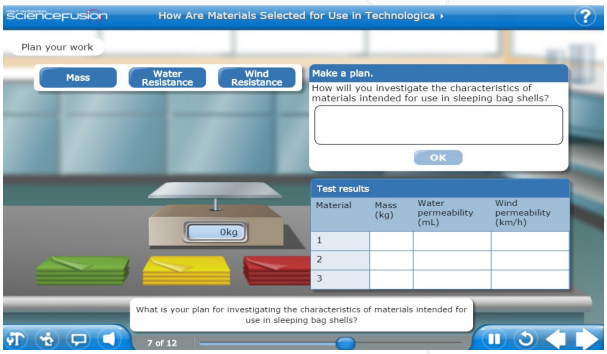
Module D Spanish and English Interactive Online Student Edition



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.

Student Interactive Digital Curriculum



Module K Virtual Lab

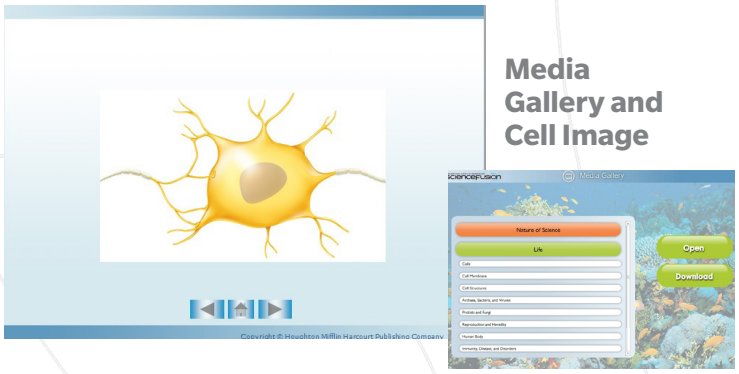
Virtual Labs review important concepts developed in the lessons and provide students with the opportunity to **apply** what they are learning in the digital lessons. Using **simulated equipment**, students are immersed in a scenario in which they collect data and draw conclusions following a rigorous 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.

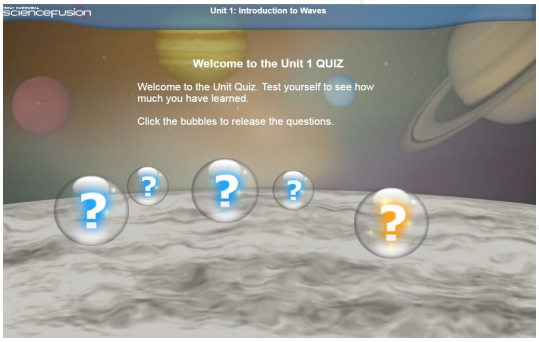
People in Science Gallery

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

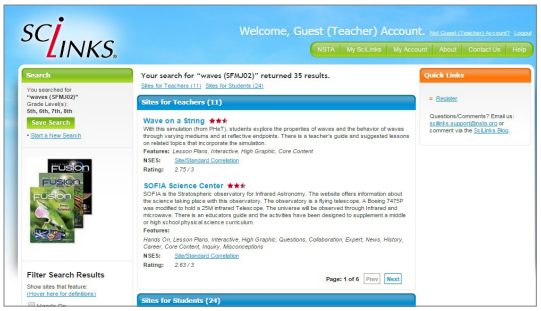
A large collection of **key images** has been compiled in the **Media Gallery**. These files are in PowerPoint® format and can be used by the teacher or student to create their own presentations. These can be displayed with an interactive whiteboard as well.



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!**

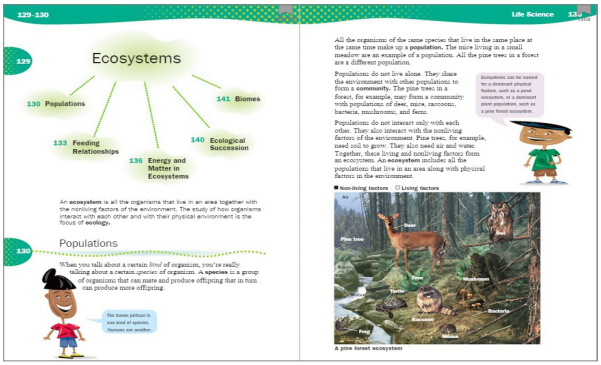


NSTA SciLINKS

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.

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

Module B Teacher Online Management Center

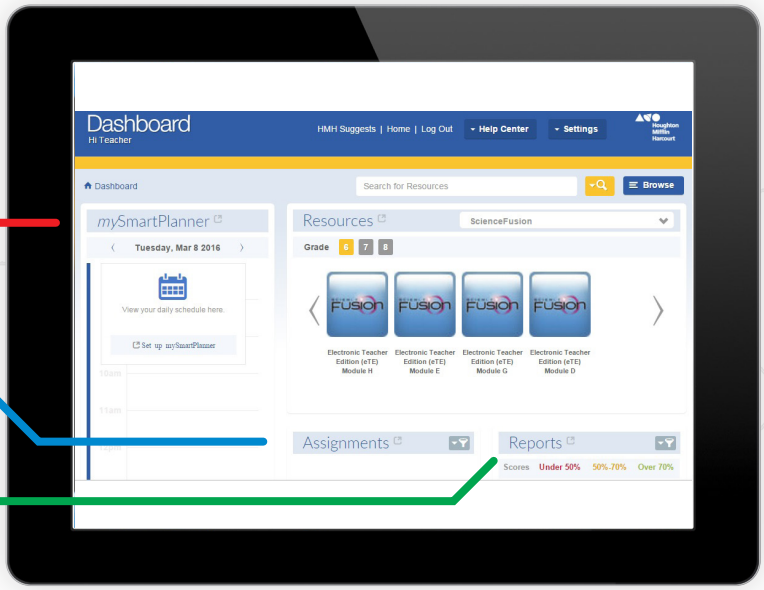
The **Teacher Online Management Center** incorporates **full access** to the Student Interactive Digital Curriculum, including the Student Edition, Student Edition Audio, Digital Lessons, Virtual Labs and Data Sheets, Video-Based Projects, HISTORY Channel videos, People in Science, Online Unit Self-Checks,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

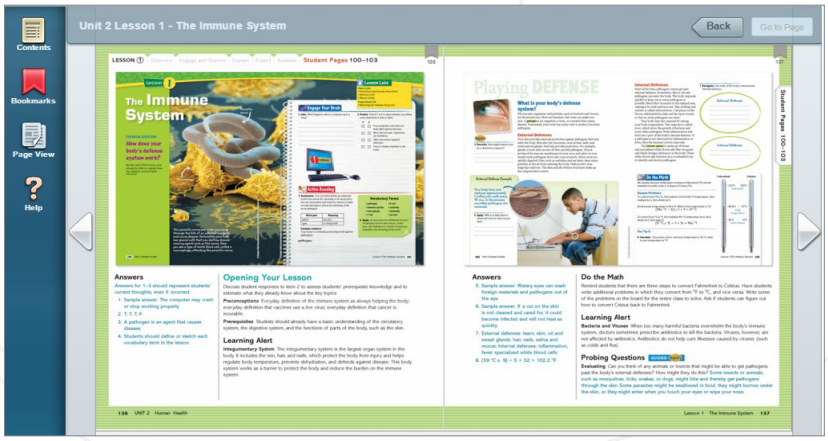
From your custom-tailored **Dashboard**, see all your ***ScienceFusion*** content, navigate to any grade, set up your daily schedule in ***mySmartPlanner***, and view **Assignments** and **Reports**.

mySmartPlanner

Assignments

Reports

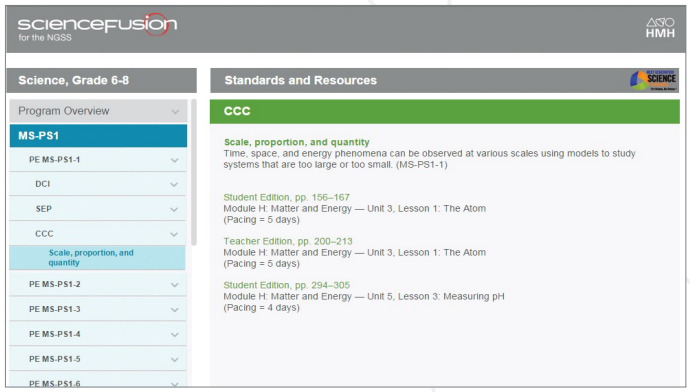




Module C Interactive Online Teacher Edition

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.

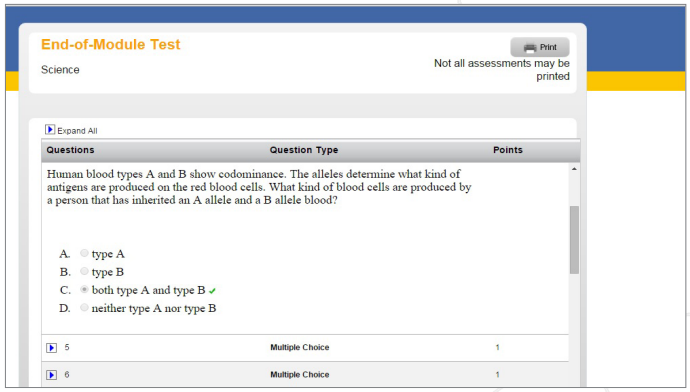
Teacher Online Management Center



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.

NEXT GENERATION SCIENCE STANDARDS
For States, By States



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.**

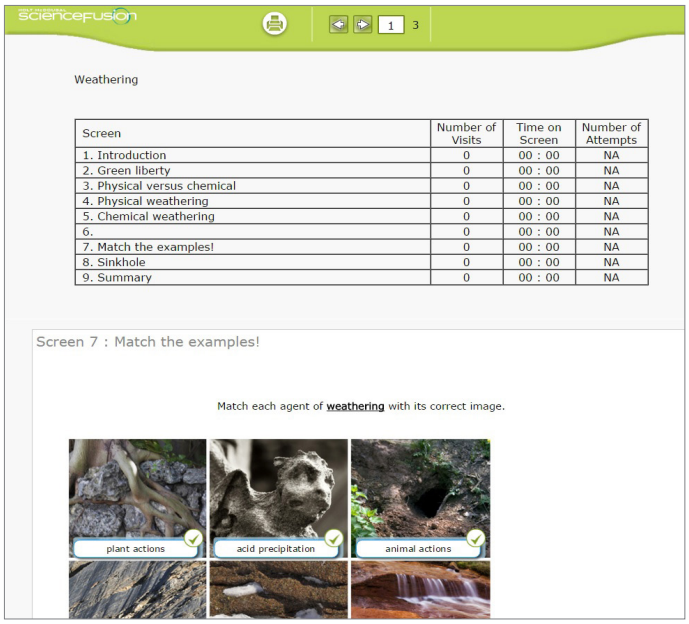
Module I ExamView

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.

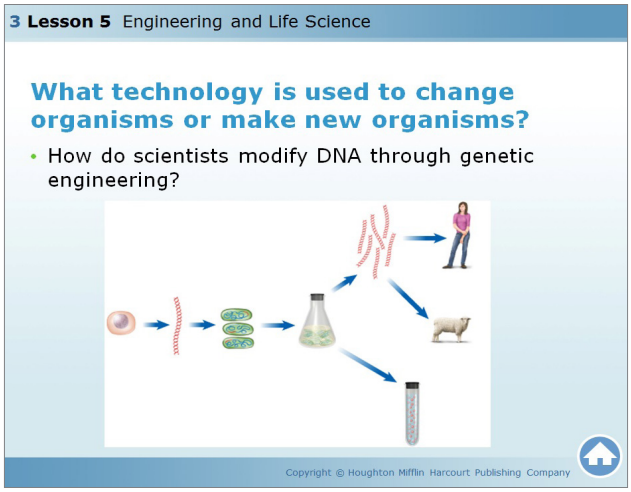
Module B Professional Development Resources

*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.



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.



Module K PowerNotes Presentation

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

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

Multi-Language Glossary

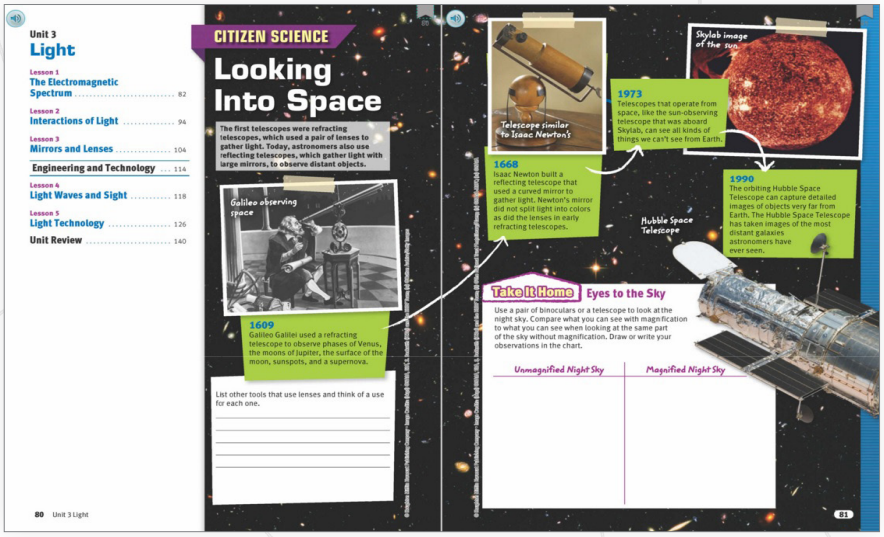
- **Assessment Guide PDF files** for End-of-Module Tests with Answer Keys, Unit Pre-Tests, Unit Reviews, Unit Tests A and B with Answer Keys, Lesson Quizzes with Answer Keys; also available in Spanish
- **Lesson Differentiated Instruction** offering Teacher Edition strategies for differentiating instruction
- ***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

Inspire Scientific Literacy!

Student Print Resources

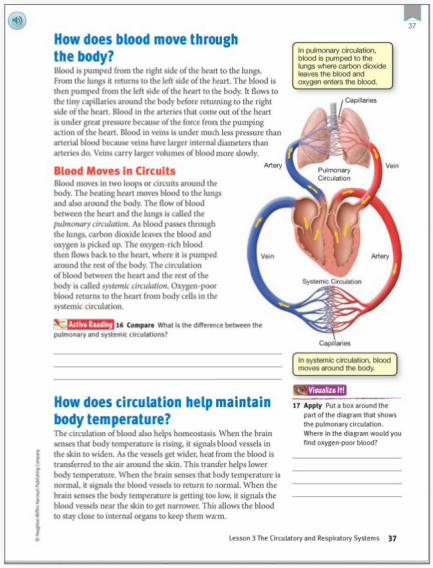
ScienceFusion's print resources engage students in exciting, inquiry-based learning at every point of instruction. The effective, research-based program is **easy to implement, fun to teach,** and **enjoyable** for students to use. The program's innovative approach to print resources encourages students 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!**



Module C Student Edition

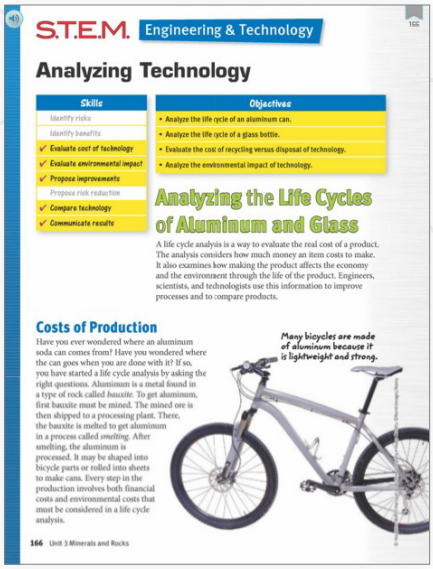
The write-in **Student Editions** promote a student-centered approach for:

- 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**

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 F Student Edition, Big Idea

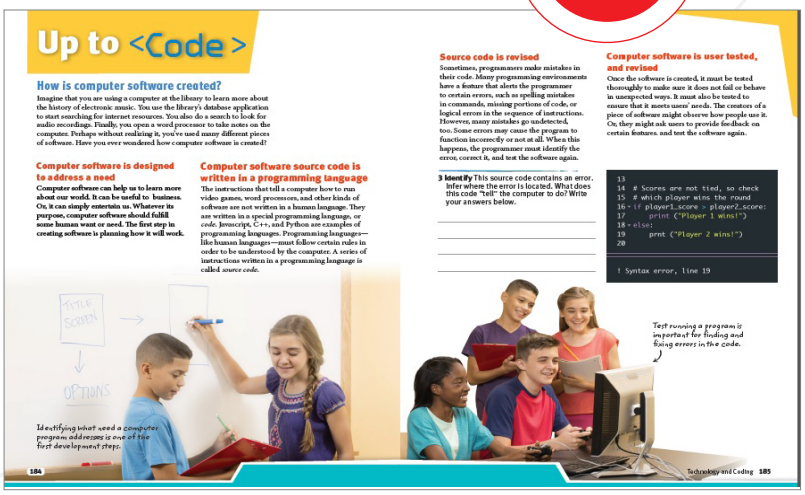


Module E Student Edition, STEM lesson

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.

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.

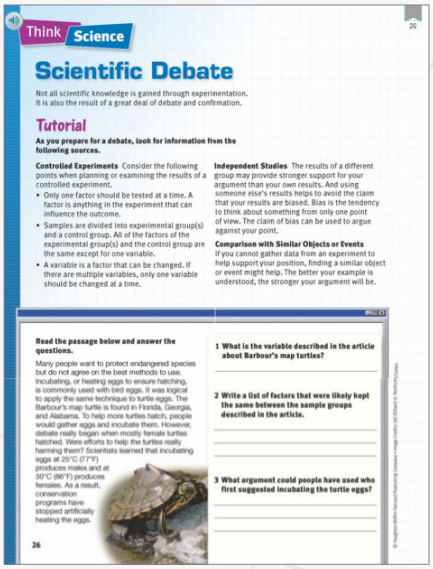
NEW for © 2017!



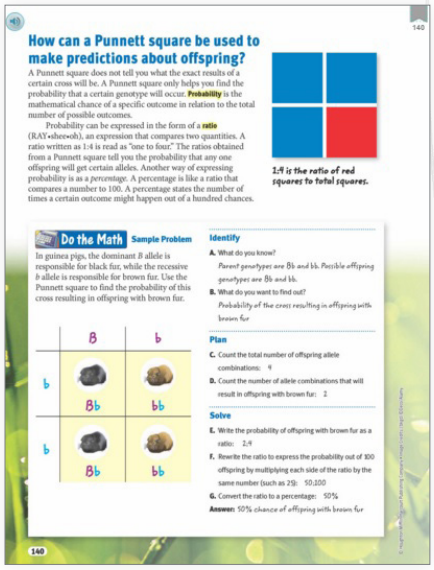
Student Edition, 21st-Century Skills Technology and Coding

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.



Module B Student Edition, Think Science

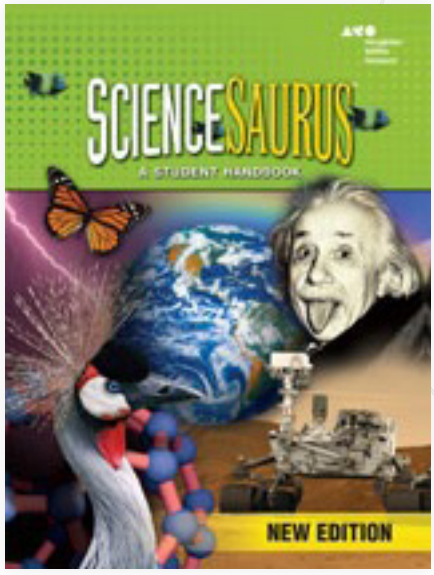


Module A Student Edition, Do the Math

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.**

Module D Student Edition, Why It Matters



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.

ScienceSaurus **Student Handbook**

Designed for Ease of Use!

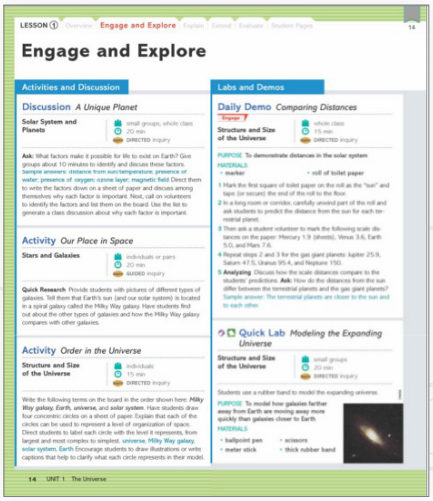
Teacher Print Resources

Teacher Edition

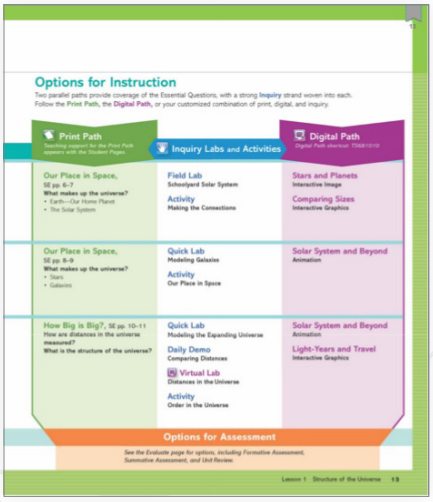
ScienceFusion's Teacher Editions for each module are designed with **middle school teachers** in mind. To match all teaching styles, the comprehensive, hardcover TE gives you the flexibility to pick and choose the resources you need. For ease of use, the targeted resources are located right at **point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



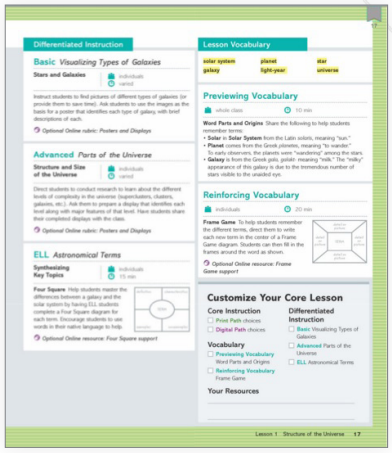
Module G Teacher Edition, Engage and Explore



Module G Teacher Edition, Options for Instruction

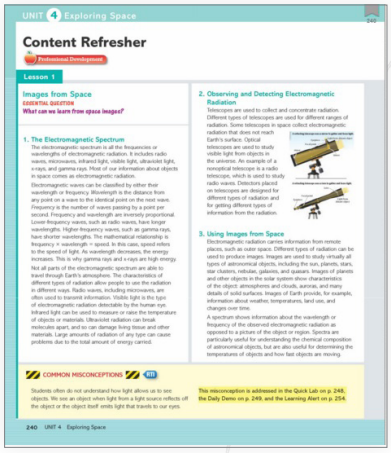
- **Options for Instruction** pages that show print, labs, and digital options for each lesson to help teachers **plan effectively**
- **Advance Planning** feature outlining activities and labs for each lesson
- Lesson-opening information highlighting required **Prerequisite Knowledge** along with **Accessing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

Teacher Print Resources



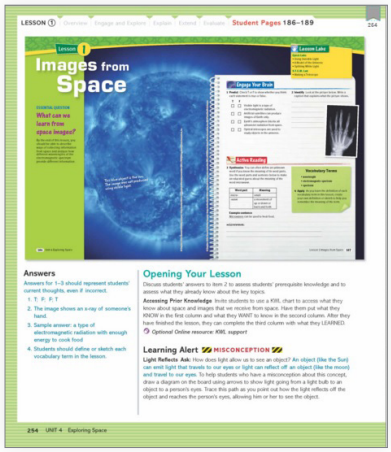
Module G Teacher Edition, Differentiated Instruction

- **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.

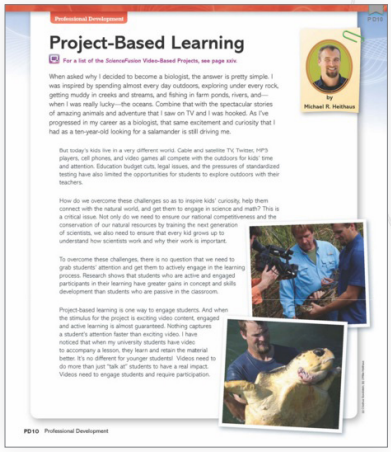


Module G Teacher Edition, Lesson Opener

- **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 SkillsDiscussion features to extend learning
  - Ongoing Formative Assessment strategies to check student comprehension

Module G Teacher Edition, Citizen Science

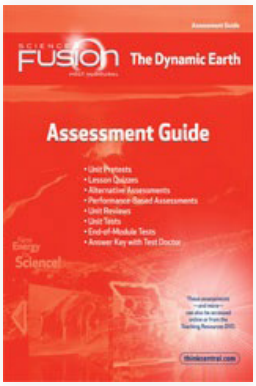
- The **Citizen Science** feature provides support for **unit projects** while **Take It Home** supports this valuable school-home feature



Module G Teacher Edition, Professional Development

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***

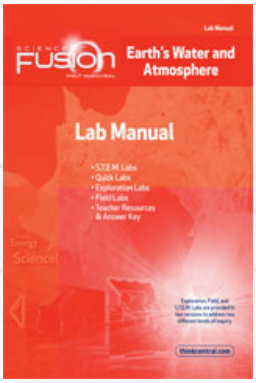


Module E
Assessment Guide

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



Module F
Lab Manual

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.

Student

	Print **	Digital
Write-In Student Edition Interactive Worktext • Visual Literacy • Big Ideas & Essential Questions • Graphic Organizers • Magazine Format • STEM Lessons • Scaffolding • Labs	Y	Y
Student Interactive Digital Curriculum • 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

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.

Teacher

	Print	Digital
Teacher Edition • 5E Lesson Format • Build Inquiry and STEM Skills • Build Science Vocabulary • Professional Development • RTI, English Language Learners, and Differentiated Instruction support • Misconception Alerts • NGSS* and Common Core Correlations	Y	Y
Assessment Guide • Unit Pre-Tests • Lesson Quizzes • Alternative Assessments • Performance-Based Assessments • Unit Reviews • Unit Tests • End-of-Module Tests • Answer Key and explanations of answers	Y	Y
Lab Manual • Quick Labs • Exploration Labs • Field Labs • STEM Labs	Y	Y
Teacher Online Management Center • 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 • PowerNotes Presentations • Assessment Guide and Online Assessments • Teacher Resource Bank • Google Expeditions Teacher Guide	Y	Y

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Notes

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