

What's new: Back-to-school 2018

Grades 6–8

Back to school 2018 is here! This document will outline the changes you need to be aware of to be successful with the 2018 version of Amplify Science.

Improved teacher resources

Print Teacher's Guides

Print Teacher's Guides are now available for purchase for each unit, containing all of the information found in the digital Teacher's Guide, including all unit overview documents, complete lesson guides, standards alignment, differentiation strategies, and more. Furthermore, teachers also have the option of downloading individual parts or the entire unit Teacher's Guide as a PDF file.



Updated Unit Guide experience

All unit overview documents ("Unit Guide") are now easier to find and are located just below the list of chapters on each unit page. Materials have been grouped into two sections, "Planning for the Unit" and "Teacher References", and can now be viewed directly on the curriculum website with no need to download each document (though the option to download a PDF is still available). A Printable Resources section has also been added along the right side of the page for easy download access to common print materials.

AmplifyScience > Earth's Changing Climate

19 Lessons

Earth's Changing Climate

JUMP DOWN TO UNIT GUIDE

GENERATE PRINTABLE TEACHER'S GUIDE

Chapter 1: Climate and the Atmosphere
5 Lessons

Chapter 2: Earth's Changing Climate
5 Lessons

Chapter 3: Earth's Changing Climate
5 Lessons

Chapter 4: Volcanic Eruptions and Climate
4 Lessons

Planning for the Unit

- Unit Overview
- Unit Map
- Progress Build
- Getting Ready to Teach
- Materials and Preparation
- Science Background
- Standards at a Glance
- Teacher References
- Lesson Overview Compilation
- Standards and Goals
- 3-D Statements
- Assessment System
- Embedded Formative Assessments
- Articles in This Unit
- Apps in This Unit

Printable Resources

- Article Compilation
- Copymaster Compilation
- OPEN PRINTABLE UNIT OVERVIEW
- Print Materials (11" x 17")

Full Teacher's Guide
(Includes Unit Guide & all 18 Lesson Guides)

Lesson Guides only
(Includes 18 Lesson Guides)

OPEN IN NEW TAB

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View Credits

Improved teacher resources

Unit Guide reorganization

Some documents found in the Unit Guide have changed names or have been separated into two documents:

- “**Unit Map**” and “**Standards at a Glance**” are now two separate sections
- “**Progress Builds**” and “**Assessment System**” are now two separate sections
- “Managing the Unit” is now called “**Getting Ready to Teach**”
- “Lesson Summaries” is now called “**Lesson Overview Compilation**”
- “On-the-Fly Assessments” is now called “**Embedded Formative Assessments**”

Many of the materials found in the Unit Guide have been revised. You can access the latest version by redownloading each PDF on its own or by downloading the entire unit's Teacher's Guide as a PDF file.

AmplifyScience > Light Waves

19 Lessons
Light Waves

JUMP DOWN TO UNIT GUIDE

GENERATE PRINTABLE TEACHER'S GUIDE

Chapter 1: Changes Caused by Light
4 Lessons

Chapter 2: Light as a Wave
5 Lessons

Chapter 3: More Light Interactions
6 Lessons

Chapter 4: Science Seminar
4 Lessons

Planning for the Unit

Unit Overview

Unit Map

Progress Build

Getting Ready to Teach

Materials and Preparation

Science Background

Standards at a Glance

Teacher References

Lesson Overview Compilation

Standards and Goals

3-D Statements

Assessment System

Embedded Formative Assessments

Articles in This Unit

Apps in This Unit

Printable Resources

Article Compilation

Copymaster Compilation

Investigation Notebook

Print Materials (8.5" x 11")

Print Materials (11" x 17")

Improved teacher resources

Larger lesson map

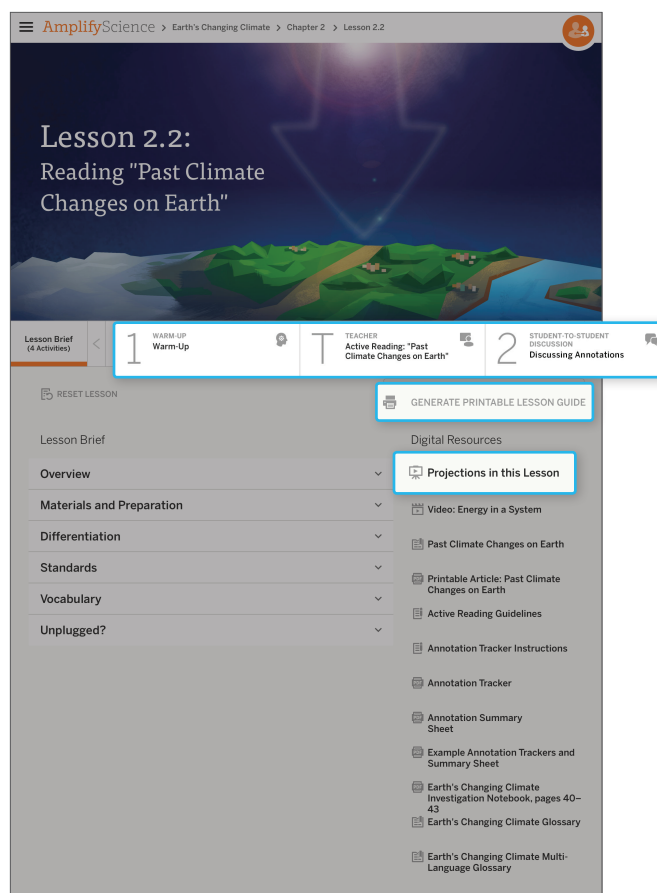
We have improved the design of the lesson map so that students can more easily follow along while the teacher is projecting, even from the back of the room.

Improved lesson guides

Printable lesson guides feature a new, improved design and include the same content as the digital version, such as teacher supports, possible responses, and On-the-Fly Assessments.

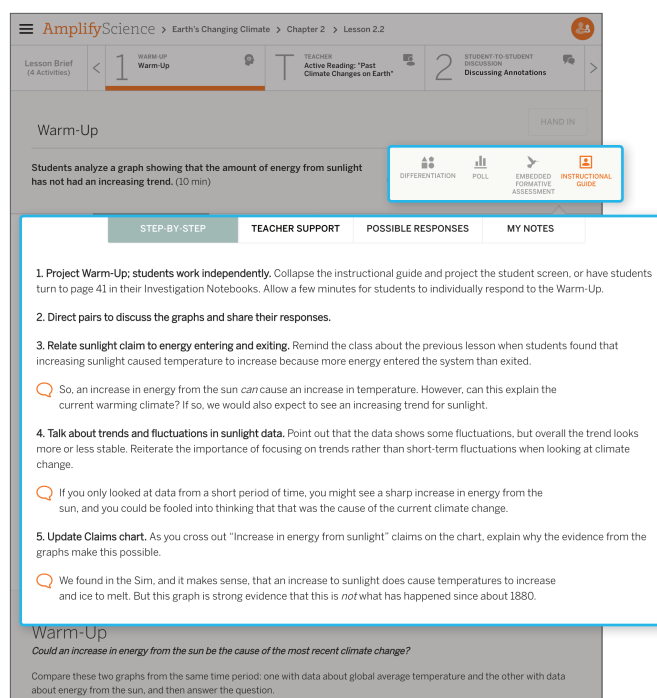
Easily displayed projections

To improve the teaching experience, we have added a projection mode that allows teachers to project and flip through the slides for a given lesson without revealing the Instructional Guide to students.



Improved lesson planning experience

The Instructional Guide has been redesigned to be more clearly organized and to ensure that teachers are able to quickly and easily find what they are looking for while planning to teach. The teacher view of lesson activities has also been updated with better labeling, icons, and color-coding.



New teacher resources

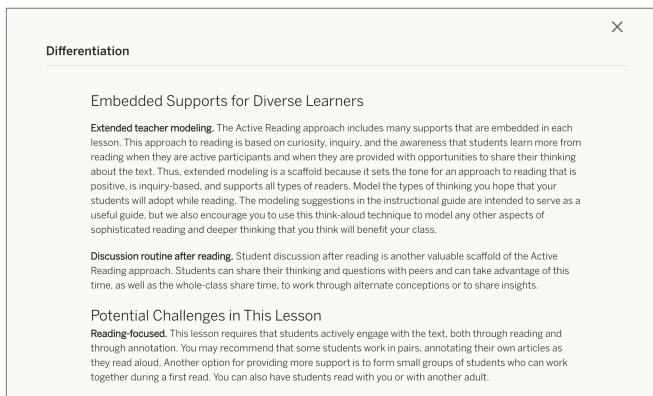
Program Guide

The Amplify Science Program Guide details information about the program, including its authorship, development, themes, and more. It serves as a resource for finding out more about the program's structure, components, supports, how it meets standards, and flexibility.



Additional differentiation strategies

New differentiation strategies are now available in the lesson-level differentiation briefs, supporting teachers in making necessary adaptations to the lesson to ensure that all students are able to engage with the curriculum.



New NGSS lesson supports

Phenomenon statements

New phenomenon statements have been added to the lesson overviews on the curriculum website, clearly labeling and describing the anchor phenomenon and other types of phenomena explored throughout each unit.

Overview

Students explore the relationship between force, mass, and velocity change by reading about an engineer who designs wheelchairs for different types of athletic competitions. Students learn that wheelchairs built for stability, not speed, have greater mass while wheelchairs designed for speed have less mass. The teacher models the Active Reading approach, which involves annotation strategies for students to practice as they read the article. The purpose of this lesson is to engage students in Active Reading as they gather more information about the relationship between force, mass, and changes in an object's velocity.

Anchor Phenomenon: Rather than stopping and docking at the space station, the asteroid sample-collecting pod moved in the opposite direction.
Investigative Phenomenon: Different wheelchair designs make them better or worse for certain activities.

Students learn:

- Reading actively means thinking about one's own understanding as one reads.
- Expert readers build understanding by asking more focused, deeper questions as they read.
- Wheelchairs built for stability, not speed, have greater mass. This means the wheelchairs change velocity less upon impact with other wheelchairs.

NGSS information for parents and guardians

New information about the Next Generation Science Standards is available to be shared with parents. This explains how students engage with three-dimensional learning to figure out real-world problems throughout each unit, and can be accessed from the Printable Resources section at the unit level.

Information about the NGSS for Parents and Guardians

What are the Next Generation Science Standards?

The Next Generation Science Standards (NGSS) are a new set of science standards for kindergarten through high school. The NGSS were designed with the idea that students should have a science education that they can use in their lives. It should empower students to be able to make sense of the world around them. And it should give students the critical thinking, problem solving, and data analysis and interpretation skills they can use in any career, and that will help them make decisions that affect themselves, their families, and their communities. Many states have adopted the NGSS or very similar standards.

In order to accomplish this, the NGSS call for science learning in which students do not just memorize a set of science facts, but rather engage in figuring out how and why things happen. Core ideas in life science, Earth science, physical science, and engineering, are intentionally arranged from kindergarten through 12th grade so that students can build their understanding over time, and can see the connections between different ideas and across disciplines. To figure out these core ideas, while building the skills that will help them make sense of the world around them, students engage in the same practices that real scientists and engineers do. For example, students will develop and use models, analyze data, and make evidence-based arguments. They also learn to make sense of core ideas using crosscutting concepts that are useful ways of thinking about and making connections across different areas of science and engineering, for example thinking in terms of systems or cause and effect. The NGSS website provides additional information and resources for families.

3-D Statements

Color-coded 3-D Statements are now available in each lesson brief in addition to at the unit level where they were found in the past. These now offer a clear overview of how instruction supports three-dimensional learning for each lesson.

Standards

3-D Statement

Key
Practices Disciplinary Core Ideas Crosscutting Concepts

Students produce written arguments about whether a planet in a two-star system is likely to have a moon with lunar eclipses based on their analysis of the evidence and their understanding of lunar eclipses in the Earth-Moon-sun system (systems and system models).

Next Generation Science Standards (NGSS)

NGSS Practices

- Practice 4: Analyzing and Interpreting Data
- Practice 6: Constructing Explanations and Designing Solutions
- Practice 7: Engaging in Argument from Evidence
- Practice 8: Obtaining, Evaluating, and Communicating Information

New assessment supports

Summative 3-D investigation assessments and scoring guidance

Four new, summative “3-D Investigation Assessment with Scoring Guidance” activities have been added. These assessments provide students with an open-ended opportunity to show what they’ve learned by developing a scientific investigation from scratch. The 3-D Investigation Assessments can be found in the following units:

- *Thermal Energy*, Lesson 3.3
- *Ocean, Atmosphere, and Climate*, Lesson 2.3, Activity 2
- *Populations and Resources*, Lesson 2.4, Activity 2
- *Force and Motion*, Lesson 2.2

NGSS Benchmark Assessments

Developed by Amplify*, these assessments are delivered three times per year to give teachers insight into how students are progressing toward mastery of the standards ahead of high-stakes, end-of-year assessments. They can be accessed as PDF files or integrated into QTI-compatible assessment platforms by school or district IT teams.

Name: _____ Date: _____

Planning and Conducting Investigations of Thermal Energy Transfer

The goal of this activity is to plan and carry out an investigation. First, read Andre’s observations and question below. Then, use the *Thermal Energy* Sim to complete Part 1 on your own. You will work with a partner to complete Part 2.

Andre’s Observations:

- Andre put two pots on the stove.
- Both pots had the same amount of liquid (same mass) in them.
- Andre turned on the stove and the same amount of energy was transferred to both pots.
- One pot increased in temperature by 5°C, and the other pot increased by 7°C.

Andre’s Question:

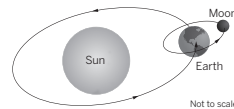
Why would two liquids of the same mass change temperature by different amounts when the same amount of energy was transferred in?

Amplify.

Student Assessment | Earth and Space Science Form A Segment A

1

Assume that the diagram depicts Earth moving counterclockwise around the sun.



Choose the only statement that is true.

- a. Earth is about to be eclipsed by the moon.
- b. The moon is about to be eclipsed by Earth.
- c. The side of Earth that is facing the sun is experiencing day.
- d. There is not enough information here to draw any conclusion.

*The Amplify NGSS Benchmark Assessments were authored by Amplify and were not developed as part of the Amplify Science program or created by the Lawrence Hall of Science.

New assessment supports

3-D connections to assessment opportunities

Easy-to-identify labeling for Disciplinary Core Ideas (DCIs), Crosscutting Concepts (CCCs), and Science and Engineering Practices (SEPs) has been added to assessment opportunities to help teachers connect formative and summative assessments to specific NGSS dimensions.

Assessment Opportunity	Next Generation Science Standards
Lesson 1.1, Activities 1–3: Multiple-Choice and Written-Response Questions Assessment Type: Pre-Unit Assessment Evaluation Guidance: • Auto-Scored Through <i>Reporting</i> (Selected-Response Items) • Rubrics & Possible Student Responses for DCIs & CCCs (Constructed-Response Items)	DCIs: • ESS2.A: Earth's Materials and Systems • ESS2.D: Weather and Climate • ESS3.B: Natural Hazards • ESS3.C: Human Impacts on Earth Systems • ESS3.D: Global Climate Change SEPs: • Practice 4: Analyzing and Interpreting Data • Practice 6: Constructing Explanations CCCs: • Stability and Change • Systems and System Models

Portfolio assessment guidance and rubrics for teachers and students

The Program Guide contains a suite of resources to plan, gather, annotate, and score portfolio assessments. The portfolio assessment process is designed to enable students to survey and reflect on the work they have done over a year, and for the teacher to look at growth across a year's worth of learning. To support this effort, student- and teacher-facing rubrics are also provided.

New student resources

Student-generated questions

Additional opportunities for student-generated questions have been added throughout the curriculum to help students practice asking questions like scientists.

Name: _____ Date: _____

Warm-Up

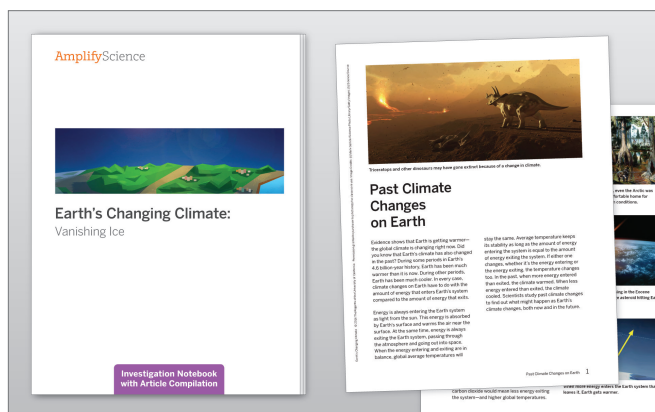
You have investigated many questions about forces and how different objects move using the Sim and other common materials (jar lids, table tennis balls, etc.). What are some questions you still have about forces, the movement of objects, speed, or velocity? What materials or tools would you use to investigate your questions?

List questions that you have:

Explain what materials you would use to investigate your questions:

Investigation Notebooks with articles

Print Student Investigation Notebooks with full-color articles are now available for purchase, giving teachers the ability to easily access the articles for a given unit offline.



New student resources

Spanish resources

Spanish-language versions of print student-facing materials are now available for middle school units. Spanish print add-on kits include:

One student Investigation Notebook with article compilations, all printed classroom materials (vocabulary wall cards, key concepts, unit and chapter questions, etc.), and all unit copymasters.



Optional family homework experiences

These homework experiences extend and reinforce classroom instruction by providing opportunities to support student learning through shared experiences with family and guardians.

Name: _____ Date: _____

**Family Homework Experience:
Asking Questions About Magnetic Forces**

You have been investigating questions about magnets, forces, and energy. Briefly share a few of these questions with a member of your household and discuss what you figured out. Then, work together to think of some new questions about these topics.

1. Record one new question. Choose one that you could investigate with science materials we have in the classroom or one where you could use the *Magnetic Fields* Simulation.

2. Make a plan for investigating your new question. Talk to the person you are working with about how you could get evidence that would answer your question. Record your ideas.

New student resources

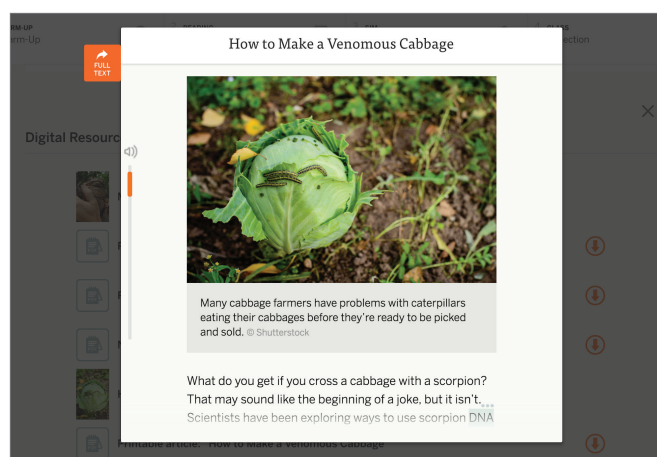
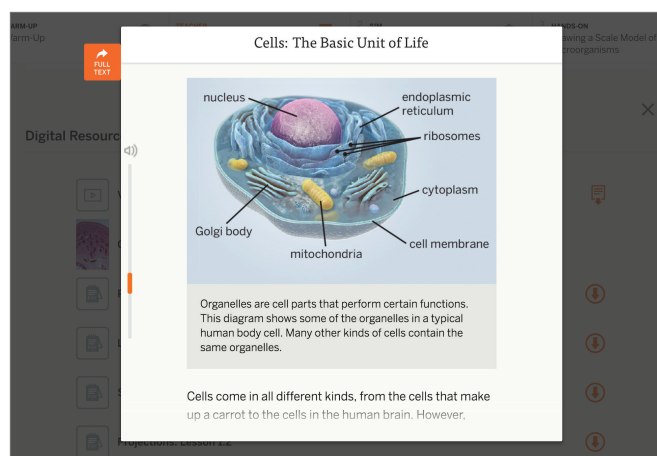
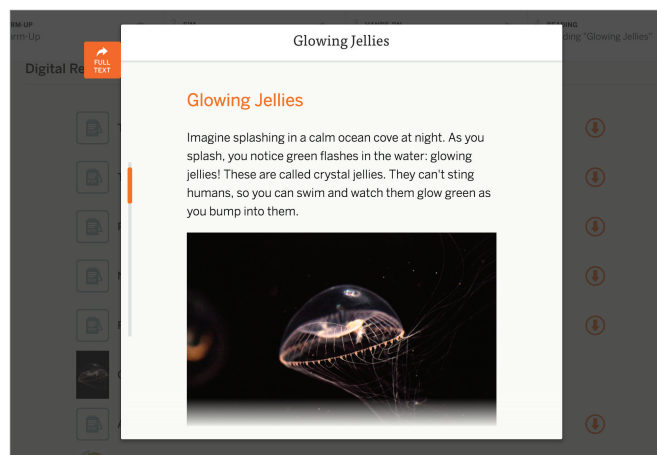
New/Revised articles

Three new articles were added:

- *Light Waves*: Lesson 3.2
“Making Waves at Swim Practice”
- *Natural Selection*: Lesson 2.1
“Glowing Jellies”
- *Rock Transformation*: Lesson 2.3
“Why Can’t I Find Gold in My Backyard?”

Five articles were revised based on user feedback:

- *Plate Motion*: Lesson 3.2
“Steno and the Shark”
- *Light Waves*: Lesson 3.1
“How Fiber-Optic Communication Works”
- *Microbiome*: Lesson 1.2
“Cells: The Basic Unit of Life”
- *Metabolism Engineering Internship*:
Days 1, 2, 3, 7, 8, & 9
“Food Engineer’s Dossier”
- *Natural Selection*: Lesson 3.2
“How to Make a Venomous Cabbage”



Detailed changes to content by unit

To take advantage of the most up-to-date version of the curriculum we suggest teaching directly from the curriculum website. If you plan to teach offline and have printed/saved versions of the curriculum from the previous year, we have provided recommendations for which materials you should re-download and print to ensure you benefit from changes that impact the content you are teaching.

This list does not include changes that do not directly impact your use of the curriculum in the classroom (i.e. typo fixes, font changes, etc.)

We suggest re-downloading the following new and revised projections, copymasters and investigation notebook pages for the units you teach. In addition, we suggest re-downloading all materials across the curriculum for the following three categories.

- Print Materials (8.5" x 11")
- Print Materials (11" x 17")
- all assessments and rubrics throughout the unit

These materials can be easily downloaded from the Unit Guide or the Digital Resources section in each lesson.

Earth science				
Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Launch: Geology on Mars</i>	None	• Lesson 1.2: Optional: Family Homework Experience: Exploring Geologic Processes at Home copymaster (NEW)	• Lesson 1.1: Scale in the Solar System	• Lesson 1.1
<i>Plate Motion</i>	• Lesson 1.3 • Lesson 4.2	• Lesson 2.5: Optional: Family Homework Experience: Explaining Convergent and Divergent Plate Boundaries at home copymaster (NEW)	• Lessons 2.2, 2.3: Listening to Earth • Lesson 3.2: Steno and the Shark • Lessons 3.2, 3.3: A Continental Puzzle • Lesson 4.1: How Baja Was Born	• Glossary • Lesson 2.2 • Lesson 3.2 • Lesson 3.4 • Lesson 4.2 • Lesson 4.3
<i>Plate Motion Engineering Internship</i>	None	• Day 4: Project Summary Form copymaster • Day 4: Optional: Printable Form: Exploring Tsunamis at Home (NEW)	Redownload to take advantage of revisions to a large number of pages in the dossier	Redownload to take advantage of revisions to a large number of pages in the notebook

Detailed changes to content by unit

Earth science (cont.)

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Rock Transformations</i>	- Lesson 2.1 - Lesson 2.3	- Lesson 1.3: Optional: Family Homework Experience: Exploring Rocks at Home copymaster (NEW) - Lesson 4.1: Venus Evidence Cards: Set 1 copymaster - Lesson 4.3: Writing a Scientific Argument copymaster	- Lesson 2.3: Why Can't I Find Gold in My Backyard? (NEW) - Lesson 2.6: Hawaii's Colorful Sand - Lessons 3.1, 3.2: The Oldest Rock Formations on Earth	- Lesson 1.4 - Lesson 1.5 - Chapter 2 Overview page - Lesson 2.3 - Lesson 2.6 - Chapter 3 Overview page - Lesson 3.4 - Lesson 4.3
<i>Earth, Moon and Sun</i>	- Lesson 3.3 - Lesson 3.4	Lesson 1.2: Optional: Family Homework Experience: Exploring the Moon at Home copymaster (NEW)	- Lesson 1.2: The Solar System is Huge - Lesson 1.3: Endless Summer of the Arctic Tern - Lessons 2.1, 2.2: Phases of the Moon - Lesson 2.4: Gravity in the Solar System	- Glossary - Lesson 3.2 - Lesson 4.1 - Lesson 4.3
<i>Ocean, Atmosphere, and Climate</i>	- Lesson 1.5 - Lesson 2.1	- Lesson 1.4: Optional: Optional: Family Homework Experience: Explaining Your Local Climate at Home copymaster (NEW) - Lesson 2.3: Planning and Conducting Investigations of Water and Air Temperature copymaster (NEW)	- Lesson 2.1, 2.2: The Ocean in Motion - Lesson 3.2: The Coriolis Effect - Lesson 3.2: What Causes Prevailing Winds? - Lesson 3.1, 3.2: The Gulf Stream	- Lesson 1.4 - Lesson 1.5 - Lesson 3.1 - Lesson 3.2

Detailed changes to content by unit

Earth science (cont.)

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Weather Patterns</i>	- Lesson 1.6 - Lesson 3.2 - Lesson 4.1 - Lesson 4.3	- Lesson 1.2: Optional: Family Homework Experience: Exploring Weather and Water at Home copymaster (NEW) - Lesson 3.2: Storm Evidence Cards copymaster - Lesson 4.1: Weather Patterns Critical Juncture Assessment copymaster - Lesson 4.1: Carson Wilderness Education Center Evidence Card Set 1 (Cards A-E) copymaster - Lesson 4.3: Argument Organizer copymaster - Lesson 4.3: Science Seminar Writing Prompt copymaster	- Lesson 1.4: Why Don't All Clouds Produce Rain? - Lesson 3.2: How We Predict the Weather - Lesson 1.3: What Makes Water Move - Lesson 3.1: Types of Rain - Lessons 1.4, 1.5: What Are Clouds?	Redownload to take advantage of revisions to a large number of pages in the notebook
<i>Earth's Changing Climate</i>	- Lesson 1.3 - Lesson 2.1 - Lesson 3.3 - Lesson 4.1 - Lesson 4.2	- Lesson 2.5: Optional: Family Homework Experience: Explaining Climate Change copymaster (NEW) - Lessons 4.1, 4.2, 4.3: Volcano Evidence Cards A-C copymaster	- Lesson 1.2: Effects of Climate Change - Lessons 2.2, 2.3, 2.4, 2.5: Past Climate Changes on Earth - Lesson 3.1: Global Warming: A History of a Hot Debate - Lessons 3.2, 3.3: Climate Change Solutions	- Lesson 1.3 - Lesson 1.5 - Lesson 2.2 - Lesson 2.6 - Lesson 3.3 - Lesson 4.2 - Lesson 4.3

Detailed changes to content by unit

Earth science (cont.)

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Earth's Changing Climate Engineering Internship</i>	- Day 1 - Day 3 - Day 8 - Day 10	- Day 4: Project Summary Form copymaster (NEW) - Day 4: Optional: Family After-Hours Experience: Exploring Rooftops copymaster (NEW) - Day 6: Trade-Offs Reflection copymaster (NEW) - Day 7: Printable Proposal Outline (NEW) - Day 8: Outlines to Paragraphs copymaster (NEW) - Day 8: Printable Final Proposal copymaster (NEW)	Redownload to take advantage of revisions to a large number of pages in the dossier	Redownload to take advantage of revisions to a large number of pages in the notebook

Life science

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Launch: Microbiome</i>	Lesson 2.6	Lesson 2.7: Optional: Family Homework Experience: Explaining the Human Microbiome at Home copymaster (NEW)	- Lesson 1.2: Cells: The Basic Unit of Life - Lesson 2.6: Bacteria: <i>L. reuteri</i>	Redownload to take advantage of revisions to a large number of pages in the notebook

Detailed changes to content by unit

Life science (cont.)

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Metabolism</i>	- Lesson 2.2 - Lesson 3.4 - Lesson 4.3	Lesson 2.4: Optional: Family Homework Experience: Explaining How Body Systems Use Food copymaster (NEW)	- Lessons 2.2, 2.3: Patient Stories: Problems with Body Systems article set - Lesson 2.6: Systems of the Human Body article set - Lesson 3.4: Odd Organisms	Redownload to take advantage of revisions to a large number of pages in the notebook
<i>Metabolism Engineering Internship</i>	Redownload to take advantage of revisions to a large number of the projections	Redownload to take advantage of revisions to a large number of copymasters	Redownload to take advantage of revisions to a large number of pages in the dossier	Redownload to take advantage of revisions to a large number of pages in the notebook
<i>Traits and Reproduction</i>	Lesson 1.4	Lesson 1.2: Optional: Family Homework Experience: Exploring Traits at Home copymaster (NEW)	Redownload to take advantage of revisions to most of the unit's articles	Redownload to take advantage of revisions to a large number of pages in the notebook
<i>Populations and Resources</i>	- Lesson 1.3 - Lesson 2.7 - Lesson 4.3	- Lesson 2.7: Glacier Sea Ecosystem Evidence Cards copymaster - Lesson 1.4: Optional: Family Homework Experience: Exploring Populations at Home copymaster (NEW)	Lessons 3.1, 3.2: Jelly Population Explosion	- Lesson 1.2 - Lesson 1.3 - Lesson 2.2 - Lesson 2.3 - Lesson 2.4 - Lesson 2.6 - Lesson 3.3 - Lesson 4.3

Detailed changes to content by unit

Life science (cont.)

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Matter and Energy in Ecosystems</i>	- Lesson 1.5 - Lesson 1.6 - Lesson 3.2	- Lesson 3.2: Carbon Game Instructions copymaster - Lesson 3.4: Optional: Family Homework Experience: Explaining Biodomes at Home (NEW)	Lesson 2.1: Feast for Decomposers	- Lesson 1.4 - Lesson 1.6 - Lesson 2.4 - Lesson 2.5 - Lesson 3.2 - Lesson 3.4
<i>Natural Selection</i>	- Lesson 1.5 - Lesson 1.6 - Lesson 2.1 - Lesson 3.2	- Lesson 1.5: Modeling Tool: Water Storage Prediction copymaster - Lesson 2.6: Optional: Family Homework Experience: Explaining Reproduction and Distribution of Traits copymaster (NEW) - Lesson 3.2: Extension: Considering Genetic Engineering copymaster - Lesson 3.2: Homework: Considering Artificial Selection copymaster - Lesson 3.3: Write and Share Routine #1, #2, and #3 copymaster	- Lesson 2.1: Glowing Jellies (NEW) - Lessons 2.3, 2.4: The Deadly Dare - Lesson 3.2: How to Make a Venomous Cabbage - Lesson 3.2, 3.2: Mutations: Not Just for Superheroes - Lesson 3.3: The Stickleback Fish in Its Environment	Redownload to take advantage of revisions to a large number of pages in the notebook
<i>Natural Selection Engineering Internship</i>	Day 10	- Day 4: Project Summary copymaster - Day 4: Optional: Printable Form: Explaining Natural Selection at Home (NEW) - Day 10: Solutions Sequence copymaster	Redownload to take advantage of revisions to a large number of pages in the dossier	Redownload to take advantage of revisions to a large number of pages in the notebook

Detailed changes to content by unit

Life science (cont.)

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Evolutionary History</i>	Lesson 2.3	- Lesson 2.7: Optional: Family Homework Experience: Explaining How Structures Change Over Time (NEW) - Lesson 3.3: Observing the Mystery Fossil Cards copymaster	- Lesson 1.2: The Cat That Wasn't a Cat At All (Previously Titled Jefferson's Big Mistake) - Lesson 1.3, 1.4: How You Are Like a Blue Whale - Lessons 2.2, 2.3: Where Do Species Come From?	Redownload to take advantage of revisions to a large number of pages in the notebook

Physical science

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Launch: Harnessing Human Energy</i>	Lesson 2.3	Lesson 1.2: Optional: Family Homework Experience: Exploring Energy at Home Copymaster (NEW)	Lesson 2.2: How We Store Energy	- Lesson 2.3 - Lesson 3.1 - Lesson 3.2 - Lesson 3.3
<i>Force and Motion</i>	- Lesson 1.6 - Lesson 4.2 - Lesson 4.3	- Lesson 1.2: Creating a Model to Explain What Happened to the Pod copymaster - Lesson 2.5: Optional: Family Homework Experience: Explaining Force, Mass, and Velocity at Home copymaster (NEW) - Lesson 4.1: Science Seminar Question and Claims copymaster - Lesson 4.3: Kinetic Energy and Mass copymaster (NEW) - Lesson 4.3: Kinetic Energy and Velocity copymaster (NEW)	- Lessons 2.2, 2.3: Designing Wheelchairs for All Shapes and Sizes - Lesson 3.1, 3.3: Crash! Forces in Collisions - Lesson 3.3: Wrecking Ball	Redownload to take advantage of revisions to a large number of pages in the notebook

Detailed changes to content by unit

Physical science (cont.)

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Force and Motion Engineering Internship</i>	Day 10	- Day 2: Optional: Printable Form: Exploring Forces and Motion at Home (NEW) - Day 4: Printable Project Summary form - Day 10: Solutions Sequence copymaster	Redownload to take advantage of revisions to a large number of pages in the dossier	Redownload to take advantage of revisions to a large number of pages in the notebook
<i>Magnetic Fields</i>	- Lesson 2.4 - Lesson 4.3	- Lesson 1.6: Launcher Alignment copymaster - Lesson 3.6: Optional: Family Homework Experience: Asking Questions About Magnetic Forces (NEW) - Lesson 4.1: Science Seminar Evidence Cards A-D copymaster - Lesson 4.3: Science Seminar Writing Prompt copymaster (NEW)	- Lesson 1.2: Meet a Scientist Who Studied Magnets - Lessons 1.2, 2.2: The Potential for Speed - Lesson 1.5: Painting with Static Electricity	- Lesson 1.5 - Lesson 1.6 - Lesson 3.1 - Lesson 3.2 - Lesson 4.2 - Lesson 4.3
<i>Thermal Energy</i>	- Lesson 2.3 - Lesson 2.4 - Lesson 2.7 - Lesson 3.3	- Lesson 2.4: Optional: Family Homework Experience: Exploring Energy Transfer at Home (NEW) - Lesson 2.6: Energy 3-in-a-Row Game: Setup - Lesson 2.7: Energy 3-in-a-Row Scorecard copymaster - Lesson 3.3: Planning and Conducting Investigations of Thermal Energy Transfer copymaster (NEW)	- Lessons 1.3, 1.4: Absolute Zero - Lesson 3.3: Dumping Dilemma	Redownload to take advantage of revisions to a large number of pages in the notebook

Detailed changes to content by unit

Physical science (cont.)

Unit	Projections	Copymasters	Articles	Investigation Notebook Lessons
<i>Phase Change</i>	- Lesson 1.2 - Lesson 2.2 - Lesson 3.3	- Lesson 1.2: Optional: Family Homework Experience: Exploring Phase Change at Home copymaster (NEW) - Lesson 1.3: Molecules and Phases copymaster	- Lesson 1.2: Air Pressure and Boyle's Law - Lessons 1.4, 1.5, 2.1: Weird Water Events	Redownload to take advantage of revisions to a large number of pages in the notebook
<i>Phase Change Engineering Internship</i>	Day 2	- Day 4: Printable Project Summary - Day 4: Optional: Printable Form: Explaining Portable Baby Incubators at Home (NEW)	Redownload to take advantage of revisions to a large number of pages in the dossier	Redownload to take advantage of revisions to a large number of pages in the notebook
<i>Chemical Reactions</i>	- Lesson 1.2 - Lesson 1.5 - Lesson 2.3	- Lesson 1.5: Optional: Family Homework Experience: Explaining Properties at Home (NEW) - Lesson 2.3: Modeling Tool: How the Rust Formed copymaster	- Lessons 1.4, 1.5: Atomic Zoom-In - Lessons 1.6, 2.1: Synthetic Materials - Lesson 3.3: What Happens to Your Food?	Redownload to take advantage of revisions to a large number of pages in the notebook
<i>Light Waves</i>	- Lesson 1.2 - Lesson 2.5 - Lesson 3.1	Lesson 3.5: Optional: Family Homework Experience: Explaining How Light Interacts with Materials at Home (NEW)	- Lesson 2.4: What Is Melanin? - Lesson 3.1: How Fiber-optic Communication Works - Lesson 3.2: Making Waves at Swim Practice (NEW)	Redownload to take advantage of revisions to a large number of pages in the notebook

For more information, please contact scihelp@amplify.com