AMPLIFY SCIENCE

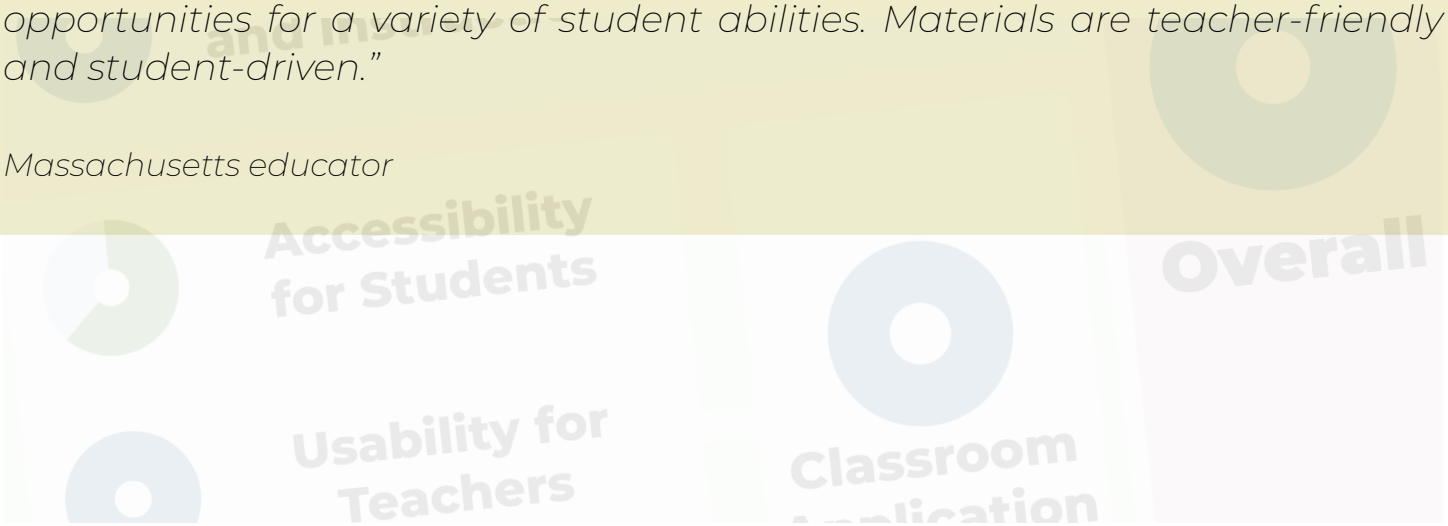
AMPLIFY, 2022

PUBLICATION DATE: OCTOBER 2024

Amplify Science is a digital and print resource for Grades K-5. Please see the Amplify Science website and the publisher-provided information later in this report for product specifications. Grades reviewed: K-5

"Overall, Amplify Science materials provide many opportunities to meet the Massachusetts standards. Lessons offer hands-on learning and different opportunities for a variety of student abilities. Materials are teacher-friendly and student-driven."

Massachusetts educator



Amplify Science

Amplify, 2022

Science, Grades K-5

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Scope and Progression

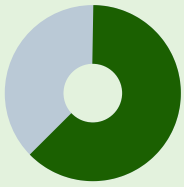
Approach to Instruction

Standards Alignment

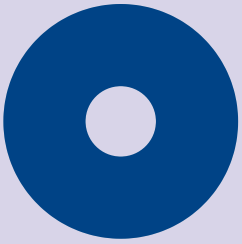
Accessibility for Students

Usability for Teachers

Impact on Learning



Classroom Application



Overall

Meets Expectations - Most or all evidence indicates high quality; little to none indicates low quality. Materials may not be perfect, but Massachusetts teachers and students would be well served and strongly supported by them.

Partially Meets Expectations - Some evidence indicates high quality, while some indicates low quality. Teachers in Massachusetts would benefit from having these materials but need to supplement or adapt them substantively to serve their students well.

Does Not Meet Expectations - Little to no evidence indicates high quality; most or all evidence indicates low quality. Materials would not substantively help Massachusetts teachers and students meet the state's expectations for teaching and learning.

No Rating - Evidence is insufficient to generate rating.

Overall

The Bottom Line

Amplify Science materials effectively integrate science and engineering, literacy, and math practices through coherent progressions of learning within and across grade levels. The majority of Massachusetts science standards are well addressed, though some are only addressed in supplementary "companion materials," and a few would require additional supplements by the teacher. Although anchoring phenomena are present throughout materials, opportunities to leverage student questions to drive learning are limited. Lessons include questions and tasks that affirm and value diverse identities, backgrounds, and perspectives. Resources are embedded to build teachers' science content knowledge but lack strategies for teachers to confront their own cultural biases. Teachers will need to supplement materials with further writing support, scaffolding, and varied assessment forms to meet the diverse needs of students.

Standards Alignment

Scope and Progression

Strengths

- Science and Engineering Practices (SEPs) are addressed at appropriate levels and integrated throughout the materials by providing students in all grades multiple opportunities to make observations, collect evidence, develop models, construct explanations, and revise their thinking throughout each unit. The materials for Grades K-5 "consistently include integration of the three dimensions in at least one learning opportunity per learning sequence and nearly all learning sequences are meaningfully designed for student opportunity to engage in sensemaking with the three dimensions" (EdReports, 1A-1C). While there are many prompts for teachers to solicit student questions and observations, there are few prompts or strategies shared to support students in designing their own investigations.

- Materials facilitate coherent progressions of learning within and across grade levels. Each unit provides teachers with a Progress Build in the Planning for the Unit section of the Teacher Guide. The Progress Build clearly outlines how concepts build on one another throughout the unit. For example, in Grade 4, Unit 3, "Earth's Features," the Progress Build begins by outlining what students are likely to already know in a section called Prior Knowledge (preconceptions). Following this section, there are three Progress Builds with narrative descriptions detailing how students' explanations of the anchor phenomenon should deepen over the course of a unit. Progress Build Level 1 focuses on how sedimentary rock forms when sediment piles up and hardens over time. Fossils can form in the rock if organisms are buried in the sediment. Progress Build Level 2 centers on how different sedimentary rock forms in different environments. Progress Build Level 3 concentrates on how the lowest layer of sedimentary rock formed first while the younger layers formed on top.

- The sequence of the materials allows students to take increasing responsibility for practices. The sequence of instruction in each unit follows a similar pattern. The unit begins with a question, followed by an investigation, and student tasks "related to explaining phenomena and/or solving problems [that] increase in sophistication within each unit and across the grade band" (EdReports, 2Aii). For example, in Grade K, Unit 2, "Pushes and Pulls," Lesson 1.1, students begin with visualization as they build content knowledge about contact forces. In later lessons, student knowledge builds as students experience the movement of a tennis ball with soft and gentle pushes, recall examples of forces that change direction of objects after reading a book and observe school happenings to apply their

understanding that objects move due to forces. This scaffolded observation and investigation culminates in an opportunity for students to construct explanations about how forces move objects when they use the engineering design process to design, test, and redesign a box pinball model.

Challenges

- While the materials align to a majority of the Next Generation Science Standards, some Massachusetts-specific standards are only addressed in companion materials that are located outside of the unit level Teacher Guide. The companion materials include slides, student worksheets, and guidance on unit level integration. In addition, there are some Massachusetts-specific Science and Technology/Engineering standards that may need to be supplemented. For example, 2-PS3-1 (MA) is not covered by the materials, while K-LS1-2 (MA) is only partially addressed. For example, in Grade K, Unit 1, Lesson 2.2, students watch a video of a seed growing into a plant and are then tasked with putting picture cards in sequential order to show the growth of a plant over time. This unit does not include lessons that provide students with opportunities to recognize that all animals grow and change over time. The Disciplinary Core Ideas (DCIs) are addressed at appropriate levels and most materials align to grade level standards, but teachers will need to use the companion materials, and work to adapt the materials using additional supplementation to fully align with Massachusetts standards.

The Bottom Line

Materials provide support for integrating Science and Engineering Practices and coherent progressions of learning within and across grade levels, but some Massachusetts-specific standards are only addressed in companion materials, while a few others are unaddressed.

Approach to Instruction

Strengths

- Materials purposefully and effectively integrate Science and Engineering Practices (SEPs) with Disciplinary Core Ideas (DCIs). Each unit focuses on a key practice of science or engineering. SEPs are used for specific, content-driven purposes. For example, Grade 2, Unit 2, "Properties of Materials," clearly shows how students use SEPs to access content. To develop a deep understanding of the properties of materials, students articulate a design problem, plan and analyze the results from an investigation, and conduct research around materials that can form glues. SEPs are also used for investigating, sense-making, and critiquing. The Unit Overview in the Teacher Guide for Grade 4, Unit 2, "Vision and Light," describes how investigating light can be challenging for students because it requires them to explain phenomena that are not directly visible. To address this challenge, materials provide students with access to digital applications to help students engage in SEPs. Students have multiple opportunities to interact with the Vision and Light Simulation by changing variables, asking questions, and answering their questions to create a flexible mental model. Students then use the provided Vision and Light Modeling Tool to create explanatory models which are shared, critiqued, and revised as students engage in scientific arguments that help them make sense of their ideas.

- Materials purposefully and effectively integrate literacy and math in service of science. Materials include standards correlation information, including connections to college- and career-ready English Language Arts (ELA) and mathematics standards, that explain the role of the standards in the context of the overall series (EdReports, 3C). Reading and writing science-specific texts are used to interpret and explain science concepts. In Grade 5, Unit 3, "The Earth System," Lesson 2.5, students read the book, Drinking Cleopatra's Tears, and use information from the text to synthesize ideas about the relationship between evaporation and condensation. Additionally, students are given multiple opportunities to develop their writing skills in their Investigation Notebook. In Grade 3, Unit 2, "Inheritance and Traits," Lesson 1.7, the class engages in shared writing to explain why wolves are different from one another even though they are all the same species. Later, in Grade 3, Unit 2, Lesson 2.6, the class works together to generate a topic sentence about why Wolf 44's color is similar to one pack but different from another before students split off to complete their written explanations independently. Notably, the writing prompts in the Investigation Notebook are text heavy and do not include additional scaffolding, such as visual prompts or word banks, to support students with diverse needs. Math is used as a tool to help students interpret and explain science concepts. In Grade K, Unit 3, "Sunlight & Weather," Lesson 1.2, students learn to use thermometers to measure the temperature of water in two different cups. The thermometers use colors to represent temperatures to allow students to use the mathematical practices of measuring and comparing data

in a grade appropriate way. A Crosscutting Concept Tracker is provided in the Printable Resources section of the Teacher Guide. The Crosscutting Concept Tracker provided for Grade 2, Unit 3,"Changing Landforms," outlines the twelve opportunities students are given to practice mathematics skills relating to "Scale, Proportion, and Quantity."

Challenges

- Although unit-level phenomena are present across multiple lessons, sections labeled as Chapter-Level or Investigative Phenomena focus on broader science topics or concepts, rather than a phenomena-based event that students can observe, ask questions about, or figure out (EdReports, 1F). For example in Grade 1, Unit 1, "Animal and Plant Defenses," Lesson 1.1, prompts students to brainstorm questions they wondered about Spruce the Sea Turtle's survival, but students are not afforded flexibility in exploring their curiosity. Instead, students are given a prescribed question to investigate: how Spruce will survive the transition from an aquarium back to the ocean, rather than following their initial curiosities. Materials do not effectively leverage students' prior knowledge and experience related to the phenomena and problems present (EdReports, 1H). Teachers will need to supplement materials to incorporate opportunities for students to reflect on investigations and use their questions to guide future learning.

Bottom Line

Anchoring phenomena are present throughout materials, but opportunities to leverage student questions to drive learning would require supplementation. Materials purposefully and effectively address Science and Engineering Practices and integrate literacy and math in meaningful ways. Writing materials could be improved with scaffolding to support English learners and students with diverse needs.

Classroom Application

Accessibility for Students

Strengths

- Materials provide for varied means of accessing content to help teachers meet the diverse needs of students with disabilities and those working above or below grade level. Available supports include sentence starters or frames for discussions, graphic organizers for writing, and strategies such as revisiting the text or strategically pairing students to ensure they can regularly and actively participate in learning grade level/grade band science and engineering (EdReports, 3M). In Grade 5, Unit 4, "Ecosystem Restoration," Lesson 1.7, materials provide a Science/Everyday Words Chart in the Digital Resources section and used over several lessons to encourage students to make connections between everyday and precise science vocabulary words. Teachers will need to supplement materials to add pictorial scaffolds and cues to resources such as the Multi-Language Glossary and the Investigation Notebooks at all grade levels to better support students with language, literacy, and visual-spatial needs. For example, the Structure-Function Language Frame provided in the Digital Resources for Grade 1, Unit 1, "Animal and Plant Defenses," Lesson 1.3, lacks pictorial cues for body parts such as toenails or shells, as well as movement cues to help students understand the actions of reaching up or stopping predators.

- Materials include questions and tasks that affirm and value diverse identities, backgrounds, and perspectives. Suggested texts and provided presentations include balanced representations of diverse individuals of different skin tones, genders, and ages. In Kindergarten, Unit 3, "Sunlight and Weather," Lesson 1.1, the slide presentation for the lesson features a balanced representation of individuals with diverse skin tones, genders, and age groups. The Printable Resource section also includes a resource entitled Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds which provides discussion prompts and Family Connections Homework to connect learning to students' personal experiences. However, assignments that incorporate students' backgrounds, such as the Family Connections Homework, can not be edited by teachers to affirm the diverse perspectives of their students. Additionally, examples do not always reflect the lived experiences of students. For example, in Grade 1, Unit 3,"Spinning Earth," the anchoring phenomenon revolves around the experience of Sai, a young child who "lives in a place near us" and sees the view of the sun setting over a grassy field before he goes to bed. This example does not consider the lived experience of urban students or students living in different environments.

Challenges

- Materials provide means for students to demonstrate learning but lack variety in assessment forms to meet the diverse needs of students with disabilities and those working above or below grade level. Materials lack a range of alternative strategies for students to express learning; many of the summative assessments center reading and writing tasks. Varied assessment options to demonstrate knowledge, such as creating a diorama or acting out a concept, are not available to support students working above or below grade level. Additionally, the lack of student exemplars, limited availability of professional development training for supporting assessment and differentiation, and time investment required for conducting personalized interviews further limits the effectiveness of suggested alternative assessment forms.

- Materials provide limited strategies for teachers to ensure students at various levels of English proficiency have access to grade level content, cognitively demanding tasks, and opportunities to develop academic language in English. Throughout units in Grade 1, there are visual representations and language supports that assist with anticipating and addressing potential language demands as well as supporting student agency (EdReports, 3Q). The Printable Resources section of the Teacher Guide contains a Multi-Language Glossary containing the definitions of academic vocabulary in 18 languages. However, translated or editable versions of these resources are not available to help teachers foster home-to-school connections for students and/or families who do not speak English as their native language. While suggestions for English learners appear consistently across lessons, they do not consistently provide the support necessary for English learners to regularly participate in learning grade level/grade-band science and engineering (EdReports, 3Q). In Grade K, Unit 2, “Pushes and Pulls,” Lesson 1.4, the Differentiation section in the Lesson Overview provides examples of helpful Spanish cognates in some cases, but materials do not consistently provide cognates for all vocabulary or in languages other than Spanish.

The Bottom Line

While materials do provide variety for students with diverse needs to access materials, there is limited variety in forms of assessment for students to demonstrate their learning. Writing-based tasks and assessments lack accommodations that support English learners, students with disabilities, and those working above or below grade level to display learning. Provided texts and materials contain images that affirm diverse backgrounds. Resources to connect learning to students’ backgrounds are included, but materials are not available in editable formats for teachers to adapt for diverse student populations.

Usability for Teachers

Strengths

- Lessons and tasks advance student learning with clear purpose. Resources embedded in materials provide teachers with a clear understanding of how to facilitate learning to provide students with opportunities to develop and deepen their explanations of the anchoring phenomena throughout each unit. For instance, the Teacher Guide includes resources such as Progress Builds in the Planning for the Unit section, as well as 3-D Assessment Objectives and Coherence Flowcharts in the Printable Resources section, that outline the sequence of instruction, provide guidance on possible student preconceptions, and define the focus of student tasks and assessments.

- Pacing is reasonable and flexible; materials can be implemented within the time recommendations provided by the MA STE Frameworks for a typical school year. The Lesson Overview Compilation in the Teacher References section of the Teacher Guide provides an outline with suggested timing for each lesson to help teachers make strategic decisions for pacing a specific unit or lesson based on the unique needs of their classroom. In Grade 3, Unit 3, "Environments and Survival," Lesson 2.2, the lesson's suggested time is 75 minutes but the timing breakdown shows that the lesson could be completed over two days, with 45 minutes spent reading Mystery Mouths with a partner and recording inferences on the first day, and 30 minutes spent discussing structure and function using evidence from the materials on the second day.

- Materials include informal and formal assessments that help teachers measure learning and adjust instruction. Formative assessments include Pre-Unit Assessments, On-the-Fly Assessments, Student Self-Assessments, and Critical Juncture Assessments. While the On-the-Fly Assessments do not include a rubric, Look For/Now What? notes support teachers in tailoring instruction to support student learning outcomes. In Grade 5, Unit 1, "Patterns of Earth and Sky," Lesson 1.2, the On-the-Fly Assessment focuses on students' conception and representation of the Earth's shape. The Look for/Now what? notes instruct teachers to see if students are understanding that the Earth is a sphere. If students are unsure about the Earth's shape, notes suggest teachers call attention to the shape of Earth as they use models, such as the Patterns of Earth and Sky Simulation app, the Classroom Model, and/or a globe, to guide discussion. Materials include Critical Juncture Assessments that are structured according to the levels of the Progress Build and are supported by a Clipboard Assessment Tool that provides teachers with targeted questions to assess all students' understanding of key concepts before moving to the next chapter in the unit. End-of-Unit Assessments provide three rubrics, one each for the DCI, SEP, and Cross Cutting Concepts (CCCs), as well as questions to support teachers in determining students' initial understanding of the standards identified for each assessment (EdReports, 3J).

- Materials include guidance and resources designed specifically to build teachers' knowledge. Materials include a teacher-facing Science Background section in the Planning for the Unit section of the Teacher Guide to inform teachers' understanding. For example, in Grade 4, Unit 3l, "Earth's Features," the Science Background section includes detailed information on sedimentary rock formation as well as notes on pedagogical considerations and preconceptions to help teachers better understand the rationale behind how and why concepts are presented to students. The Professional Learning Resources available to teachers include recorded webinars to increase pedagogical knowledge, as well as unit orientation videos that describe the unit phenomena and key activities in each chapter. There is a missed opportunity, however, for materials to support teachers in confronting and mitigating their own cultural biases.

Challenges

- While materials support teachers with suggested classroom routines and structures, the strategies provided are limited in scope. Think-Pair-Share and Partner Reading are commonly used routines across all grade levels. Select lessons include novel routines such as the Shared Listening Routine in Grade 1, Unit 3, "Spinning Earth," Lesson 2.2, or having students jot quick, phrasal notes as they work on a simulation in Grade 4, Unit 3, "Earth's Features," Lesson 1.4. Materials include limited opportunities for teachers to use a variety of grouping strategies and limited guidance for grouping students strategically (EdReports, 3P). Furthermore, materials provide generic guidelines for setup and clean up of specific materials during hands-on investigations, rather than clearly outlined best practices for classroom management for each lesson.

- Materials include rubrics, exemplars, or other resources to help teachers set clear and high expectations for students. However, rubrics are difficult for teachers to access within the Printable Resources or Teacher References sections of the Teacher Guide at the unit level. Rubrics for the summative End-of-Unit Assessments are found in the Assessment Guide in the Digital Resources section of the Teacher Guide for each lesson. Exemplars are primarily provided in the form of possible student responses for the End-Of-Unit Assessment in the Assessment Guide in the Digital Resources section; exemplars for the Investigation Notebook are available in the Possible Responses section of the Printable Resources. While these exemplars are available, materials lack examples of real student responses to help teachers calibrate their students' work.

The Bottom Line

Lessons are reasonably and flexibly paced and advance student learning with clear purpose. Materials include informal and formal assessments that help teachers measure learning and adjust instruction, but rubrics are difficult for teachers to access. Materials include guidance and resources designed specifically to build

teachers' science content knowledge but lack strategies to mitigate teachers' cultural biases.

Impact on Learning

The Bottom Line

A DESE-commissioned policy brief found in 2018 that "research has yet to catch up to recent developments in curriculum materials." As with many comprehensive curriculum products currently in use, high-quality studies of student learning impacts that meet a definition of evidence in tiers 1, 2, or 3 as defined by ESSA are not yet available for Amplify Science K-5. This is a promising and important area for further study.

Looking for more information? Read the full EdReports review or find a Massachusetts district using this product.

What the Publisher Says....

We asked publishers for information on product specifications and technological requirements, professional learning opportunities for Massachusetts educators, and diversity of representation in their materials. See what Amplify had to say about *Amplify Science* K-5 (2022).

Diversity Representation

Describe how you ensure that students of diverse races, ethnicities, nationalities, socioeconomic classes, family experiences, linguistic backgrounds, abilities, cultures, religions, genders, gender identities, sexual orientations, and other identities see themselves fully reflected and respected in your curriculum. For example, describe any bias or inclusivity review procedures you have in place and provide evidence of their efficacy. Describe also how your curriculum challenges existing narratives about historically marginalized and historically centered or normed cultures, including challenges rooted in systemic oppression. For example, describe any protocols or reviews for cultural responsiveness you have in place and provide evidence of their efficacy.

By leveraging an equitable approach, showing diverse representation in program media, and empowering students to use their own experiences to figure out phenomena, Amplify Science ensures that students of diverse identities see themselves fully reflected, respected, and valued during science class.

Amplify Science has been carefully and thoughtfully designed to ensure that the scientists, engineers, and other people students meet throughout the program represent the demographic diversity of our world. In fact, in order to ensure that the Amplify Science program authentically embraced the principle of diversity, the Amplify Science team partnered with Our Family Coalition (OFC), a California-based advocacy group that advances equity for lesbian, gay, bisexual, transgender, and queer (LGBTQ) families with children through support, education, and advocacy. After reviewing the Amplify Science materials, the Education Manager of OFC, Rick Oculto, wrote in a touching letter, “Thank you for your dedication to our youth. Thank you for ensuring that every family and every student can see themselves reflected in science, its achievements, and its growth. Thank you for all the work you put into both considering and articulating the rich diversity we find in our communities.”

Mr. Oculto was reacting to the fact that throughout the program, students regularly encounter ethnically diverse people in Amplify Science’s media and are inspired by scientists and engineers from a variety of cultural backgrounds who represent diversity with respect to gender and disability. For select examples of the curriculum’s diverse representation please see the student books: *Jelly Bean Engineer* (Food engineer Ambrose Lee), *Star Scientist* (Astronomer Dr. Gibor Basri), *What Does a Scientist Look Like* (Behavioral neuroscientist Dr. Wesley Moons), *A Walk in the Woods* (Dr. Asmeret Asefaw Berhe), *Space Explorers* (Astrophysicist Dr. Jane Rigby),

Scorpion Scientist (Arachnologist Dr. Lauren Esposito), *Who Thinks About Systems?* (Biochemist Dr. Jani Ingram).

In addition, the program features real-world phenomena in a variety of places around the world, including: Mexico, Costa Rica, the Philippines, and India, providing students from those countries with a natural connection to the activities they conduct in the curriculum. As students work to figure out the phenomena in these and other locales, they are regularly provided with opportunities to contribute and build upon their personal experiences. The "Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds" document, which is available in every unit, provides teachers with strategies for eliciting and building upon students' funds of knowledge using activities and tools such as the "Family and Community Connections Homework." Through these tools and through eliciting students' personal experience during suggested moments throughout every unit, teachers collect student ideas and questions and invite students to reflect upon how their prior knowledge contributes to their evolving understanding of unit phenomena.

Professional Learning

Describe any professional learning opportunities (materials or experiences, publisher-provided or otherwise) available for Massachusetts educators that are designed to support high-quality implementation of your curriculum.

Amplify professional development provides learning experiences that intentionally develop the knowledge and skills you need for effective and self-sustaining implementation. Learn and apply effective instructional techniques and develop a deeper understanding of your Amplify program(s) by investing in professional development.

Our PD features high-quality session design that sets all teachers up for success with Amplify – whether years into using them or just starting out. We offer a range of unique packages for each phase of an implementation, with sessions strategically bundled for multiple touch points throughout the year. You can further customize your package by adding enhancement sessions, such as training for leaders and biliteracy sessions to build capacity in teachers and leaders.

Professional Learning Offerings

I. Launch

Launch sessions are designed to familiarize teachers with Amplify Science, including its program features, instructional approach, and technical functionality. Attendees get hands-on experience with program materials and exemplar instructional sequences, preparing them to use the program effectively and begin the planning process for their own units.

Teachers:

- Initial Training for teachers
- Program Overview

Instructional Leaders:

- Program Overview for leaders

II. Strengthen

Strengthen sessions enhance teacher understanding and application of Amplify Science features, enabling them to take their science instruction (and their students' learning!) to the next level. Going beyond the Launch offerings. Strengthen sessions include: deep dives into teaching individual units, analyzing student assessment data to inform instruction, aiding students' ability to access complex texts, and engaging English learners in three-dimensional learning.

Teachers and Instructional Leaders:

- Enhancing Planning
- Enhancing Practice
- Planning an Amplify Science lesson
- Supporting diverse learners: Exploring the resources
- Supporting diverse learners: Teacher modeling and student discourse
- Unit Kit materials and prep
- Supporting all learners with complex texts
- Supporting English learners
- Science Seminar
- Supporting diverse learners: Teacher modeling and student discourse
- Analyzing student work
- Supporting diverse learners: multimodal learning and multiple at-bars
- Grading with Amplify Science
- Amplify Science classroom look-fors
- Enhancing the digital experience
- Planning with the Coherence Flowchart

Instructional Leaders:

- Enhancing observations for leaders

III. Coach

Coach sessions immerse educators in methods and classroom protocols that promote ongoing improvement in teaching and learning. Services include classroom observations, side-by-side modeling in the classroom, and coaching aligned to research-based strategies. By the end of each session, teachers and instructional leaders are equipped to reflect on their own practices and build an understanding that enables them to help students think critically and independently.

Product Specifications

Describe what a school or district needs to implement your curriculum successfully, including instructional hours and technological infrastructure. Provide basic information about what products are associated with the curriculum (e.g., what texts a typical purchase includes, what tools are openly available online).

Each course of Amplify Science K–5 consists of 3–4 units (depending on grade level), with each unit containing 20 lessons plus two full-session assessments (a Pre-Unit Assessment and an End-of-Unit Assessment). Lessons in kindergarten and grade 1 are written for 45-minute sessions, while those in grades 2–5 are written for 60-minute sessions. Teachers at all grade levels, however, can expand or contract that timing to fit their needs. Please see the following planning guides for more planning and pacing information. K Planning Guide; G1 Planning Guide; G2 Planning Guide; G3 Planning Guide; G4 Planning Guide; G5 Planning Guide.

As teachers and students move through each unit in their grade level, they engage with a blend of physical materials and digital tools (see here technical requirements). Components include:

- **Curriculum website and instructional materials:** All teacher instructional materials, including customizable slide decks, lesson plans, differentiation strategies, background materials, and much more, are accessed via the curriculum website. Printed Teacher's Guides are also available.
- **Student digital experience:** In this slides-based experience, students engage with digital lesson content in one cohesive experience. Students can digitally interact with slides, sims, modeling tools, videos, books, and more, from individual accounts.
- **Unit kits:** Each kit contains consumable and nonconsumable hands-on materials for unit investigations, as well as print items for the classroom. Kits for K–5 units include enough materials for two classes of thirty-six students,
- **Student Books:** A class set of five unique student books are included in each unit and can be accessed in hard copy or digitally.
- Robust digital simulations and modeling tools: Beginning in grade 2, students use digital tools that serve as venues for exploration and data collection, allowing them to explore scientific concepts that might otherwise be impossible to see with the naked eye.
- **Student Investigation Notebooks:** Investigation Notebooks contain instructions for student activities and space for students to record data, reflect on ideas from texts and investigations, and construct explanations and arguments. Students with digital licenses can interact with lesson content online or they can use these notebooks to access the same information offline.
- **Formative and summative assessments:** To support and guide instruction, a variety of NGSS-aligned formative and summative assessments are embedded into each unit.
- **Engaging media:** Each unit of Amplify Science presents students with a variety of different media, including short videos, detailed maps, vibrant images, and much

more.

- **Multilingual support:** Student-facing materials are available in Spanish, including all lesson instructions, science texts, printed materials, transcripts of videos, app guides, and assessments. Furthermore, each unit's glossary contains all content-area vocabulary words in Spanish, French, Portuguese, Russian, Mandarin, Vietnamese, Haitian-Creole, Tagalog, Arabic, and Urdu.

Please see the Program Components section of the Amplify Science Program Guide (including its subsections, listed on the left) for more details on each of these materials. Note the Teacher's Guide section in particular outlines the ample support documentation included to ensure a strong implementation for all teachers, especially when combined with the formal professional learning options detailed.

To ensure teachers' successful use of the materials and a strong implementation overall, Amplify Science also provides a range of professional development options, as well as multiple layers of embedded instructional support within the curriculum itself. Please see the Teacher's Guide section of the Program Guide to read about the ample support documentation the curriculum includes.

Response to Report

Note: For accurate information about the CURATE process, please see our CURATE page. To see how publishers submit their products for our consideration, please see our call for submissions.

Amplify Science is proud to receive a "Meets Expectations" rating from the state of Massachusetts. To provide a complete picture of the program we'd like to point out a few other items that may be helpful:

- **Scope and progression:** Massachusetts' 2016 STE standards mirror the NGSS and add several MA-specific standards. Amplify Science, along with its Massachusetts-specific companion lessons, fully cover the MA STE standards. These lessons are available on an easily accessible website, along with guidance on where to integrate them into instruction. 2-PS3-1 (MA) is one such standard for which there is an Amplify Science companion lesson available.
- **Approach to instruction:** Assessments within a unit include formal and informal opportunities for students to demonstrate understanding. These assessment opportunities encompass a range of modalities that, as a system, reflect current research on effective assessment strategies and the National Research Council's Framework for K–12 Science Education (2012). One-on-one, talk-based assessments are just one type of assessment included in grades K–1, when students cannot yet read and write independently. Read more about the variety of assessments offered throughout every grade of Amplify Science here.
- **Accessibility for students:** At Amplify, we believe every student deserves an engaging, inclusive science education that prepares them for the future. Amplify Science's embedded scaffolding and purposeful attention to disciplinary literacy serves to help all learners manage the language and content demands of science. Read more about the integration of science and literacy here, and more about how we embrace access and equity here.