Science (3-5) Evaluation Form

2025 Curricular Materials Review

PUBLISHER INFORMATION

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- Most Recently Published Edition and Website:

  1e, https://amplify.com/programs/amplify-science/
- Materials provided for evaluation:

  unit kits, student books, student investigation notebooks, teacher guides, hands-on materials, digital license & ancillaries
- Intended Teacher Audience(s): teachers responsible for teaching science in grades 3-5
- Intended Student Audience(s): students in grades 3-5
- Is this curriculum in a digital format, print format, or both? Both

INSTRUCTION

Publishing Company

- Complete the curriculum evaluation form below. Please provide written justification as to how the material meets the criterion along with location references. If a justification requires additional space, please submit a response on an additional document.

Review Team Member:

- Please use information and attachments to complete the curriculum evaluation form.
- Explain any discrepancies between your findings and the provided information.

- Findings, explanations, and comments should directly reflect the rubric.

SCORING FOR 3-5 ALIGNMENT TO SCIENCE STANDARDS

To evaluate each grade or course's materials for alignment to Idaho Content Standards, analyze the materials against the relevant criteria in the tables below. Instructional materials must meet most criteria and metrics to align with content standards.

0 Points No Alignment	1 Point Partial Alignment	2 Points High Alignment	NA Not Applicable
Standard for Science is not evident.	There is some evidence of the Standard for Science.	Materials explicitly align to and support the Standard for Science through regular and authentic engagement opportunities for students.	

Third Grade

Physical Science ***Students who demonstrate understanding can:***	Meets Criteria	Justification or Comments
Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. (1.1)	0 1 2 N/A	***Balancing Forces*** • Lesson 1.3 • Lesson 4.2 • Lesson 5.1
Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. (1.2)	0 1 2 N/A	***Balancing Forces*** • Lesson 5.1 • Lesson 5.3 ***Weather and Climate*** • Lesson 3.5 ***Inheritance and Traits*** • Lesson 1.3

Physical Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Ask questions to determine cause and effect relationships of static electricity or magnetic interactions between two objects not in contact with each other. (1.3)	0 1 2 N/A	***Balancing Forces*** • Lesson 2.3 • Lesson 2.4 • Lesson 5.3
Define a problem that can be solved by applying scientific ideas about magnets. (1.4)	0 1 2 N/A	***Balancing Forces*** • Lesson 2.3 • Lesson 2.4 • Lesson 5.3

Life Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Develop models to demonstrate that living things, although they have unique and diverse life cycles, all have birth, growth, reproduction, and death in common. (1.1)	0 1 2 N/A	***Inheritance and Traits*** • Lesson 1.1 • Lesson 2.1 • Lesson 2.2
Construct an argument that some animals form groups that help members survive. (2.1)	0 1 2 N/A	***Inheritance and Traits*** • Lesson 1.1 • Lesson 3.1 • Lesson 3.2
Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. (3.1)	0 1 2 N/A	***Inheritance and Traits*** • Lesson 2.3 • Lesson 2.4 • Lesson 2.6
Use evidence to support the explanation that traits can be influenced by the environment. (3.2)	0 1 2 N/A	***Inheritance and Traits*** • Lesson 2.6 • Lesson 3.4 • Lesson 3.6
Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. (3.3)	0 1 2 N/A	***Environments and Survival*** • Lesson 1.2 • Lesson 1.4 • Lesson 2.1

Earth and Space Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. (1.1)	0 1 2 N/A	***Weather and Climate*** • Lesson 3.2 • Lesson 3.3 • Lesson 4.2
Obtain and combine information to describe climates in different regions of the world. (1.2)	0 1 2 N/A	***Weather and Climate*** • Lesson 3.2 • Lesson 3.3 • Lesson 3.5
Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard. (2.1)	0 1 2 N/A	***Weather and Climate*** • Lesson 4.2 • Lesson 4.3 • Lesson 4.4

Fourth Grade

Physical Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Use evidence to construct an explanation relating the speed of an object to the energy of that object. (1.1)	0 1 2 N/A	***Energy Conversions*** • Lesson 3.4 • Lesson 4.2 ***Waves, Energy, and Information*** • Lesson 2.4
Make observations to provide evidence that energy can be transferred by heat, sound, light, and electric currents. (1.2)	0 1 2 N/A	***Energy Conversions*** • Lesson 1.5 • Lesson 4.2 ***Waves, Energy, and Information*** • Lesson 1.4 • Lesson 2.4

Physical Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Ask questions and predict outcomes about the changes in energy that occur when objects collide. (1.3)	0 1 2 N/A	***Energy Conversions*** • Lesson 1.5 • Lesson 4.2 ***Waves, Energy, and Information*** • Lesson 2.4 • Lesson 2.5
Apply scientific ideas to design, test, and refine a device that converts energy from one form to another. (1.4)	0 1 2 N/A	***Energy Conversions*** • Lesson 2.1 • Lesson 3.1 • Lesson 4.2
Develop a model of a simple mechanical wave to describe patterns of amplitude and wavelength and that waves can cause objects to move. (2.1)	0 1 2 N/A	***Waves, Energy, and Information*** • Lesson 1.4 • Lesson 3.1 • Lesson 3.4
Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen. (2.2)	0 1 2 N/A	***Vision and Light*** • Lesson 2.1 • Lesson 2.3 • Lesson 2.5
Generate and compare multiple solutions that use patterns to transfer information. (2.3)	0 1 2 N/A	***Waves, Energy, and Information*** • Lesson 3.4 • Lesson 3.5 • Lesson 4.1

Life Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. (1.1)	0 1 2 N/A	***Vision and Light*** • Lesson 1.4 • Lesson 3.3 • Lesson 3.5

Life Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Use a model to describe how animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. (1.2)	0 1 2 N/A	***Vision and Light*** • Lesson 2.1 • Lesson 3.3 • Lesson 3.4

Earth and Space Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Identify evidence from patterns in rock formations and fossils in rock layers for changes in a landscape over time to support an explanation for changes in a landscape over time. (1.1)	0 1 2 N/A	***Earth's Features*** • Lesson 2.6 • Lesson 3.2 • Lesson 3.4
Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. (2.1)	0 1 2 N/A	***Earth's Features*** • Lesson 2.2 • Lesson 4.1 • Lesson 4.4
Analyze and interpret data from maps to describe patterns of Earth's features. (2.2)	0 1 2 N/A	***Earth's Features*** • Lesson 1.6 • Lesson 4.2 • Lesson 4.5
Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment. (3.1)	0 1 2 N/A	***Energy Conversions*** • Lesson 3.1 • Lesson 3.3 • Lesson 4.5
Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans. (3.2)	0 1 2 N/A	***Waves, Energy, and Information*** • Lesson 1.3 ***Earth's Features*** • Lesson 4.3 ***Energy Conversions*** • Lesson 3.3 • Lesson 3.4

Fifth Grade

Physical Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Develop a model to describe that matter is made of particles too small to be seen. (1.1)	0 1 2 N/A	***Modeling Matter*** • Lesson 1.3 • Lesson 1.6 • Lesson 2.2
Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. (1.2)	0 1 2 N/A	***The Earth System*** • Lesson 2.5 • Lesson 5.3 ***Modeling Matter*** • Lesson 1.3 • Lesson 2.4
Make observations and measurements to identify materials based on their properties. (1.3)	0 1 2 N/A	***The Earth System*** • Lesson 5.1 • Lesson 5.2 ***Modeling Matter*** • Lesson 1.2 • Lesson 1.8
Conduct an investigation to determine whether the mixing of two or more substances results in new substances. (1.4)	0 1 2 N/A	***The Earth System*** • Lesson 5.2 • Lesson 5.4 ***Modeling Matter*** • Lesson 3.4
Support an argument that Earth's gravitational force exerted on objects is directed downward. (2.1)		***Patterns of Earth and Sky*** • Lesson 2.4 • Lesson 2.5 • Lesson 3.6
Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the Sun. (3.1)		***Ecosystem Restoration*** • Lesson 2.2 • Lesson 2.3 • Lesson 2.5

Life Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Support an argument that plants get what they need for growth chiefly from air, water, and energy from the Sun. (1.1)	0 1 2 N/A	***Ecosystem Restoration*** • Lesson 2.2 • Lesson 2.3 • Lesson 2.7
Analyze and interpret data from fossils to provide evidence of the types of organisms and the environments that existed long ago and compare those to living organisms and their environments. (2.1)	0 1 2 N/A	***Environments and Survival*** • Lesson 2.2 • Lesson 2.3 • Lesson 2.5
Construct an argument with evidence for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. (2.2)	0 1 2 N/A	***Environments and Survival*** • Lesson 2.1 • Lesson 2.4 • Lesson 3.2
Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals living there may change. (2.3)	0 1 2 N/A	***Environments and Survival*** • Lesson 1.2 • Lesson 1.4 • Lesson 2.1
Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. (2.4)	0 1 2 N/A	***Ecosystem Restoration*** • Lesson 1.7 • Lesson 3.2 • Lesson 3.4

Earth and Space Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Support an argument that differences in the apparent brightness of the Sun compared to other stars is due to their relative distances from the Earth. (1.1)	0 1 2 N/A	***Patterns of Earth and Sky*** • Lesson 1.3 • Lesson 1.6 • Lesson 1.7

Earth and Space Science *Students who demonstrate understanding can:*	Meets Criteria	Justification or Comments
Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. (1.2)	0 1 2 N/A	***Patterns of Earth and Sky*** • Lesson 2.2 • Lesson 2.3 • Lesson 3.3
Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. (2.1)	0 1 2 N/A	***The Earth System*** • Lesson 1.3 • Lesson 3.3 • Lesson 4.2
Describe and graph the relative amounts of fresh and salt water in various reservoirs, to interpret and analyze the distribution of water on Earth. (2.2)	0 1 2 N/A	***The Earth System*** • Lesson 1.1 • Lesson 3.2 ***Ecosystem Restoration*** • Lesson 2.1
Obtain and combine information about ways communities protect Earth's resources and environment using scientific ideas. (3.1)	0 1 2 N/A	***The Earth System*** • Lesson 1.2 • Lesson 1.3 ***Ecosystem Restoration*** • Lesson 1.8 • Lesson 2.6

CATEGORY 1: 3D DESIGN (LESSONS AND UNITS)

Lessons and units are designed so students make sense of phenomena and/or design solutions to problems by engaging in student performances that integrate the three dimensions.

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers.

Explaining Phenomena/Designing Solutions: Making sense of phenomena and/or designing solutions to a problem drive student learning. ☐ Student questions and prior experiences related to the phenomenon or problem motivate sense-making and/or problem solving. ☐ The focus of the lesson is to support students in making sense of phenomena and/or designing solutions to problems. ☐ When engineering is a learning focus, it is integrated with developing disciplinary core ideas from physical, life, and/or earth and space sciences.	0 1 2 N/A	In each Amplify Science unit, students are asked to inhabit the role of a scientist or engineer in order to figure out scientific phenomena through a 21st century, real-world problem context. Over the course of the unit, students collect and make sense of evidence from multiple sources and through a variety of modalities, ensuring that they have multiple vehicles through which to develop and articulate their understanding of each phenomenon. As the class progresses through lessons, students move back and forth from first-hand investigation to secondhand analysis and synthesis, formulating an increasingly complex explanation to help them solve the problem at hand. Each unit also provides students with opportunities to apply what they have learned to solve new problems and/or newly-learned practices in different contexts. Example: ● Grade 3, *Balancing Forces* unit, Unit Overview page: ○ **Unit Overview** ○ Planning for the Unit, **Unit Map** In addition to figuring out and explaining phenomena, each year of Amplify Science has a unit that is focused on engineering design in which students apply science ideas in order to design functional solutions, and iteratively test those solutions to determine how well they meet specific criteria. Students develop their understanding of science ideas from firsthand investigation and text, and apply them in designing a solution to an engineering problem. They then evaluate their

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers.
		solutions to see how well they meet a set of criteria for quality. Example: ● Grade 5, *The Earth System* unit, Unit Overview page: ○ **Unit Overview** ○ Planning for the Unit, **Unit Map** Please also see the response to **Category 2, "Relevance and Authenticity."**

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers.
Three Dimensions: Builds understanding of multiple grade-appropriate elements of the science and engineering practices (SEPs), disciplinary core ideas (DCIs), and crosscutting concepts (CCCs) that are deliberately selected to aid student sense-making of phenomena and/or designing of solutions.	**Three Dimensions (overall)** 0 1 2 N/A	As outlined in the standards alignment information, above, Amplify Science addresses 100% of the Idaho Science Standards, including all SEPs, DCIs, and CCCs. Additionally, Amplify Science has received all green ratings for EdReports Indicators 2D, 2E, and 2F, which evaluate instructional materials' incorporation of all grade-level NGSS DCIs, SEPs, and CCCs. EdReports Indicators 2D–2F: ● 3rd Grade ● 4th Grade ● 5th Grade
1. Provides opportunities to develop and use specific elements of the SEP(s).	0 1 2 N/A	Amplify Science has received **all green ratings** for EdReports Indicator 2E, which states: "Materials incorporate all grade-level Science and Engineering Practices." EdReports Indicator 2E: ● 3rd Grade ● 4th Grade ● 5th Grade
2. Provides opportunities to develop and use specific elements of the DCI(s).	0 1 2 N/A	Amplify Science has received **all green ratings** for EdReports Indicator 2D, which states: "Materials incorporate all grade-level Disciplinary Core Ideas." EdReports Indicator 2D:

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		• 3rd Grade: 3rd Grade • 4th Grade: 4th Grade • 5th Grade: 5th Grade
3. Provides opportunities to develop and use specific elements of the CCC(s).	0 1 2 N/A	Amplify Science has received **all green ratings** for EdReports Indicator 2F, which states: "Materials incorporate all grade-band Crosscutting Concepts." EdReports Indicator 2F: • 3rd Grade: 3rd Grade • 4th Grade: 4th Grade • 5th Grade: 5th Grade

Integrating the Three Dimensions: Student sense-making of phenomena and/or designing of solutions requires student performances that integrate elements of the SEPs, CCCs, and DCIs.	0 1 2 N/A	Amplify Science's real-world problems provide relevant, 21st-century contexts through which students will investigate different scientific phenomena and develop a deeper understanding of Disciplinary Core Ideas (DCIs), acquire more experience with Science and Engineering Practices (SEPs), and observe the interconnectedness of various science disciplines through the Cross-Cutting Concepts (CCCs). The Amplify Science curriculum developers at UC Berkeley's Lawrence Hall of Science crafted each unit, chapter, and lesson with the following questions in mind: *What do we want students to figure out?* (what DCI or part of a DCI)*;* H*ow do we want them to figure it out?* (what scientific and engineering practice will they engage in to figure it out); and *what crosscutting concept can scaffold students' understanding and connect it to other ideas about the natural world that they have learned*? This resulted in a curriculum that incorporates a strategic, well balanced integration of the three dimensions. In fact, Amplify Science has received **all green ratings** for EdReports Indicators 1A.i and 1A.ii, which state: ● 1A.i: "Materials consistently integrate the three dimensions in student learning opportunities." ● 1A.ii: "Materials consistently support meaningful student sensemaking with the three dimensions.

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers.
		EdReports Indicators 1A.i and 1A.ii: ● 3rd Grade: 1A.i; 1A.ii ● 4th Grade: 1A.i; 1A.ii ● 5th Grade: 1A.i; 1A.ii

Unit Coherence: Lessons fit together to target a set of standards. ☐ Each lesson builds on prior lessons by addressing questions raised in those lessons, cultivating new questions that build on what students figured out, or cultivating new questions from related phenomena, problems, and prior student experiences. ☐ The lessons help students develop toward proficiency in a targeted set of performance expectations.	0 1 2 N/A	Each individual unit of Amplify Science "bundles" a variety of performance expectations together. Students explore these standards meaningfully, coherently, and seamlessly through participation in the investigation of the unit's real world problem and overarching scientific phenomenon. Student learning experiences and assessments are grounded in a unit-specific learning progression called a Progress Build. The Progress Build clearly defines each level of students' increasingly sophisticated understanding of unit phenomena as they progress through the unit. Students build that understanding over the course of the unit's lessons through engagement with science and engineering practices and application of crosscutting concepts. Thus, as students investigate the anchor phenomenon for each unit, they construct new knowledge in the way scientists do: through engagement with a core set of professional practices and the application of prior knowledge. Students are thereby thoroughly prepared to meet the three-dimensional learning goals articulated in the performance expectations. Because the Progress Build describes the way in which students' explanations of the central phenomenon should develop and deepen over the course of a unit, it is an important tool in understanding the design of the unit and in supporting students' learning. Therefore, each unit's Progress Build is described in detail within the "Progress Build" section of the Teacher's Guide. "Coherence Flowcharts"— which help teachers visualize how all of the different parts of a unit (e.g.

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers.
		questions that drive students' experiences, the evidence they gather, the ideas they figure out, the new questions that those ideas generate, etc.) connect and flow into one another— are also included. <u>Example:</u> ● Grade 4, *Energy Conversions* unit, Unit Overview page: ○ Printable Resources, **Coherence Flowchart** ○ Planning for the Unit, **Unit Map** and **Progress Build**

Multiple Science Domains: *When appropriate*, links are made across the science domains of life science, physical science and Earth and space science. ☐ Disciplinary core ideas from different disciplines are used together to explain phenomena. ☐ The usefulness of crosscutting concepts to make sense of phenomena or design solutions to problems *across science domains* is highlighted.	0 1 2 N/A	Amplify Science organizes student learning around the exploration and explanation of real-world phenomena. Many real-world phenomena, by their very nature, cross the domain boundaries of life, physical, or earth and space science. Therefore, when appropriate, strong links are made across the science domains in Amplify Science units. For example, in the Grade 4 *Vision and Light* unit, students use their understanding of vision, light, and information processing to figure out why an increase in light in the geckos' habitat is affecting the population. Doing so requires students to engage with the life science concepts of information processing and structure and function, as well as the physical science idea that light reflecting from objects and entering the eye allows objects to be seen. In addition, because the geckos are affected by new highway lights, repercussions of human impact on the environment, a concept from Earth science, is also addressed. Students also make sense of phenomena and problems across domains by effectively employing crosscutting concepts throughout Amplify Science. For example, in the Grade 3 *Inheritance and Traits* unit the crosscutting concept emphasized is Patterns. In their role as wildlife biologists, students delve deeply into making observations of traits in a wide variety of organisms, observing both similarity and variation. As students begin to understand that patterns in particular traits can be evidence that organisms are more closely related or less closely related, students use more and different kinds of

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers.
		data to look for patterns to answer questions about traits. Later in the year, students act as meteorologists in the *Weather and Climate* unit. In this unit, students organize weather data and figure out that they can use the patterns they discover to make predictions about when and where weather events, such as natural hazards and seasonal temperature change, will occur. Specific questions are included at strategic points in the unit to help teachers guide students to reflect on how they used the crosscutting concept of Patterns in their investigations earlier in the year (or previous years). For example, see the Teacher Support notes linked on the Activity 1 divider slide in Lesson 2.2 of the *Weather and Climate* unit.

Math and ELA: Provides grade-appropriate connection(s) to the Idaho Content Standards in Mathematics and/or English Language Arts & Literacy in History/Social Studies, Science and Technical Subjects.	0 1 2 N/A	Amplify Science provides instructional support for literacy, and provides instructions on how to read scientific texts, write scientific explanations and arguments from evidence, and engage in scientific discourse. <u>Reading</u> In Amplify Science, students don't simply "read the text and answer the questions that follow." Rather, students are always approaching their readings with a purpose in mind, from looking for pieces of evidence to support their scientific argument, to asking and recording questions as they read through the text. For example: ● Grade 5, *Modeling Matter* unit: Lesson 2.3, **Activity 2** including **Teacher Support Notes** linked to on activity divider slide <u>Writing</u> In addition to vocabulary development, students will engage in a variety of writing activities, from quick reflection activities that start the class, to end of chapter scientific explanations, and finally, end of unit scientific arguments. For example: ● Grade 3, *Inheritance and Traits* unit: Lesson 1.7, **Activities 2–3**, including **Teacher Support Notes** linked to on activity divider slides <u>Vocabulary</u> Developing a robust scientific vocabulary is an important aspect of our approach to literacy development. For each unit, a carefully selected set of conceptually important words has been identified, and students get repeated exposure to

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions in addition to page numbers.
		these words through multiple modalities: reading, writing, listening, and student-to-student talk. For example: ● Grade 5, *Ecosystem Restoration* unit, Lesson 1.3, **Activity 3** <u>Discourse</u> Students in Amplify Science have numerous opportunities for structured student-to-student discourse, with low-stakes and high-stakes opportunities to share ideas, use newly acquired vocabulary, and craft oral scientific arguments. For example: ● Grade 4, *Earth's Features* unit: Lesson 1.5, **Activity 4**, including **Teacher Support Notes** linked to on activity divider slide <u>Mathematics</u> Math connections are also incorporated into the curriculum. Teacher Support Notes within activities that provide especially fruitful opportunities for math extensions offer instructional suggestions that help to emphasize math further. For example: ● Grade 3, *Inheritance and Traits* unit, Lesson 1.5, **Activity 3**, including **Teacher Support Notes** linked to on activity divider slide

CATEGORY 2: INSTRUCTIONAL SUPPORTS (LESSONS AND UNITS)

Lessons and units support three-dimensional teaching and learning for ALL students by placing the lesson in a sequence of learning for all three dimensions and providing support for teachers to engage all students.

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments

Relevance and Authenticity: Engages students in authentic and meaningful scenarios that reflect the practice of science and engineering as experienced in the real world. ☐ Students experience phenomena or design problems as directly as possible (firsthand or through media representations). ☐ Includes suggestion for how to connect instruction to the students' home, neighborhood, community and/or culture as appropriate. ☐ Provides opportunities for students to connect their explanation of a phenomenon and/or their design solution to a problem—to questions from their own experience.	0 1 2 N/A	Every unit of Amplify Science has students inhabiting the role of a scientist or engineer in order to investigate a real-world problem. These real-world problems provide relevant, developmentally appropriate contexts through which students will investigate different scientific phenomena. Contexts like floating trains, dolphin communication, and food science resonate with students, sparking their interest and making science applicable to their own world. Amplify Science has received all green ratings for EdReports Indicator 1E, which states, "Phenomena and/or problems are presented to students as directly as possible." EdReports Indicator 1E: ● 3rd Grade ● 4th Grade ● 5th Grade The lessons within Amplify Science include numerous opportunities to elicit and build upon students' personal experiences and family and community funds of knowledge. Each unit includes a document that provides additional strategies and tools to augment these opportunities. This document is titled *Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds* and is located within Printable Resources on the Unit Overview page, as well as in the Digital Resources area of many lessons.

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
		Every unit also includes optional "Home Investigations" and "Family Connections Homework" activities. These activities can encourage interaction and discussion between students and their families around science concepts and provide teachers with opportunities to elicit student ideas and connections that arise as well as to invite students to reflect upon how their home experiences contribute to their evolving understanding of unit phenomena. Examples: ● Grade 3, *Balancing Forces* unit: ○ Unit Overview page, Printable Resources, "**Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds"** ○ Lesson 1.1, Digital Resources, "**Balancing Forces Family Connections Homework"**

Student Ideas: Provides opportunities for students to express, clarify, justify, interpret, and represent their ideas and respond to peer and teacher feedback orally and/or in written form as appropriate.	0 1 2 N/A	Amplify Science is rooted in the research-based Do, Talk, Read, Write, Visualize approach. This approach presents students with multiple modalities through which they can express, clarify, justify, interpret, and represent their ideas. ● Student-to-student **discourse** is a key indicator of a productive learning environment, and talking is a key modality for instruction in an Amplify Science class. This is more than just partner activities or group work. Reading activities, for instance, include student-to-student discussion where students share their insights and questions with each other and with the whole class. Through talking and developing a collaborative environment, students feel comfortable asking questions of each other, challenging assumptions, and learning from each other. For example: ○ Grade 5, *Ecosystem Restoration* unit: Lesson 1.8, **Activity 2**, including **Teacher Support Notes** linked to on activity divider slide ● Students in Amplify Science have frequent opportunities to **write** in order to help them reflect and make sense of what they are learning. Across the program students learn how to express their scientific thinking by leveraging evidence and using relevant vocabulary as they apply their thinking to writing. Frequent reflective writing helps students to gain a deepening understanding of the genres of scientific arguments and explanations, both of which embody the

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
		foundation of scientific understanding and expression. For example: ○ Grade 3, *Environments and Survival* unit: Lesson 1.5, **Activities 1–2**, including **Teacher Support Notes** linked to on activity divider slides ● Digital and paper "modeling tools" empower students to **create, and later revise, visualizations** of their understandings of key scientific phenomena at critical points in the curriculum. For example: ○ Grade 5, *Modeling Matter* unit: Lesson 1.6, **Activities 1–5**

Building Progressions: Identifies and builds on students' prior learning <u>in all three dimensions</u>, including providing the following support to teachers: ☐ Explicitly identifying prior student learning expected for all three dimensions. ☐ Clearly explaining how the prior learning will be built upon.	0 1 2 N/A	Each Amplify Science unit provides repeated opportunities to leverage and build upon students' prior knowledge as they explore guiding questions. In fact, each unit's Progress Build (i.e. learning progression, described in **Category 1, "Unit Coherence"**) was designed to build off of likely prior knowledge. This information is summarized for teachers in "preconception" call outs within the Progress Build section of each Unit Overview page. When used alongside the unit's Coherence Flowcharts (located under Printable Resources), the Progress Build resource makes clear how prior learning will be built upon over the course of the unit. In addition, within each unit's Pre-Unit Assessment Guide, guidance is provided to help the teacher gain insight into students' initial thinking about the content. It includes examples of students' experiences that the teacher can connect to activities in the unit, ideas students may have about the unit's content, and preconceptions to address or watch out for. <u>Examples</u>: ● Grade 3, *Weather and Climate* unit: ○ Unit Overview page: ■ Planning for the Unit, **Progress Build** ■ Printable Resources, **Coherence Flowchart** ○ Lesson 1.1, Digital Resources, **"Assessment Guide: Interpreting Students' Pre-Unit Explanations About the Floating Train"**
Scientific Accuracy:	0 1 2 N/A	Authored by the scientists and science education experts at the University of California, Berkeley's

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
Uses scientifically accurate and grade-appropriate scientific information, phenomena, and representations to support students' three-dimensional learning.		Lawrence Hall of Science, Amplify Science presents students with the most up-to-date scientific content. The content and learning goals for each unit were developed to be age appropriate for the grade level in which they are taught. Content within Amplify Science underwent extensive field tests in schools across the United States, with more than 400 teachers and 34,000 students participating. Furthermore, the Lawrence Hall of Science has incomparable access to scientists working in the fields of study included in the curriculum. Each unit has been reviewed and approved by this outside network of scientists. In addition, Amplify Science received **green ratings** ("meets the expectations") on EdReports Indicator 2B, which states: "Materials present Disciplinary Core Ideas (DCIs), Science and Engineering Practices (SEPs), and Crosscutting Concepts (CCCs) in a way that is scientifically accurate." EdReports Indicator 2B: ● 3rd Grade ● 4th Grade ● 5th Grade

Teacher support for unit coherence: Supports teachers in facilitating coherent student learning experiences over time by: ☐ Providing strategies for linking student engagement across lessons (e.g. cultivating new student questions at the end of a lesson in a way that leads to future lessons, helping students connect related problems and phenomena across lessons, etc.). ☐ Providing strategies for ensuring student sense-making and/or problem-solving is linked to learning in all three dimensions.	0 1 2 N/A	A unit-long storyline anchors students' explorations from chapter-to-chapter within each Amplify Science unit. The clear instructions and embedded supports included in each lesson provide teachers with information and suggestions on making these connections visible to students. Example: ● Grade 4, *Vision and Light* unit, Lesson 1.4, **Activity 2**, including **Teacher Support Notes** linked to on activity divider slide Other examples of Teacher resources that make clear how the materials connect the dimensions from chapter-to-chapter for students can be found on the **Unit Overview page** of each unit in the following sections: ● **Science Background**: Gives valuable science content information and calls out common student misconceptions and preconceptions. ● **Unit Overview:** A few paragraphs outlining the unit, including what the unit is about, why it was written this particular way, and how students experience the unit. ● **Unit Map**: Summary of the unit, showing what students 'figure out' at each stage and how their investigations grow increasingly sophisticated over the course of the unit. ● **Coherence Flowcharts**: A visual explanation of how all the different parts of the unit connect and flow into one another, including the unit question, chapter questions, investigation questions, key concepts, application of key concepts to the problem, and chapter explanations.

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
		Example: ● *Balancing Forces* unit, **Unit Overview page**

CATEGORY 3: MONITORING STUDENT PROGRESS (LESSONS AND UNITS)

Lessons and units support monitoring student progress in all three dimensions as students make sense of phenomena and/or design solutions to problems.

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments

Monitoring student performances: Elicits direct, observable evidence of three-dimensional learning; students are using practices with core ideas and crosscutting concepts to make sense of phenomena and/or to design solutions.	0 1 2 N/A	Amplify Science assessments work together as a system (see **Category 3, "Coherent assessment system"** below) that is grounded in the principle that students benefit from regular and varied opportunities to demonstrate understanding through performance. In practice, this means that for the overwhelming majority of assessment opportunities in each unit, student conceptual understanding is revealed through engagement in the science and engineering practices. This commitment to multidimensional, standards-aligned performance is clear in the embedded assessment opportunities that occur in nearly every lesson: Students investigate phenomena, construct scientific explanations, develop and use models, and engage in argumentation as a core part of the problem-based deep dives in each unit. Careful consideration is given to ensure that each unit includes multiple opportunities to provide evidence of understanding of the focal concepts and practices in a given unit, as well as instructional suggestions for taking action based on that evidence. Examples: ● Grade 3, *Weather and Climate* unit: ○ Unit Overview page, Printable Resources, ***3-D Statements - Lesson Level*** **(Lesson 2.5)** ○ Lesson 2.5, **Activity 1** (**slide 11**, **On-the-Fly Assessment 6: Revising Claims Based on New Evidence**) ● Grade 5, *Patterns of Earth and Sky* unit, Lesson 4.3**,** Digital Resources, "**Assessment**

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
		Guide: Assessing Students' Investigations of a Constellation or Star" Additionally, Amplify Science has received **all green ratings** for EdReports Indicators 1B and 1C, which state: ● **1B:** "Materials are designed to elicit direct, observable evidence for three-dimensional learning." ● **1C: "**Materials are designed to elicit direct, observable evidence of three-dimensional learning." EdReports Indicators 1B and 1C: ● 3rd Grade: 1B; 1C ● 4th Grade: 1B; 1C ● 5th Grade: 1B; 1C

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
Formative: Embeds formative assessment processes throughout that evaluate student learning to inform instruction.	0 1 2 N/A	Each Amplify Science unit includes a range of assessments embedded in instruction. By leveraging the formative opportunities in the learning experiences that students are already engaged in, these assessments are designed to provide regular information to the teacher with minimal impact on instructional time. Please see **"Coherent Assessment System"** below for more information on the variety of formative assessments found in Amplify Science. Example: ● Grade 4, *Energy Conversions* unit, Unit Overview page, Teacher References, **Embedded Formative Assessments**

Scoring guidance: Includes aligned rubrics and scoring guidelines that provide guidance for interpreting student performance along the three dimensions to support teachers in (a) planning instruction and (b) providing ongoing feedback to students.	0 1 2 N/A	Guidance on interpreting student performance along the three dimensions is included throughout Amplify Science units. Categories of evaluation guidance found throughout the program include: ● **Assessment guides/rubrics:** Guidance is provided to gauge the level of student performance on the assessment task, with suggestions for student feedback and questioning strategies to advance learning, revise performance, or elicit and clarify student thinking. Assessment guides/rubrics are available as a digital resource in the Digital Resources for the lesson in which the task occurs. ● **Assess understanding/Tailor instruction notes:** Each Critical Juncture Assessment includes a two-part description of how the expected level of student understanding may be demonstrated in the task (Assess understanding) and how instruction may be adjusted in response (Tailor instruction) at the class, group, and student level. These are accessible by pressing the orange hummingbird icon for the activity in which they appear. ● **Possible student responses:** Possible student responses are provided to model how evidence of understanding, or partial understanding, may be demonstrated by the student for the specific task. Possible student responses are provided in the Possible Responses tab in the activity where there is an applicable notebook page. Possible student responses also appear in

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
		the Assessment Guide for the End-of-Unit Assessment (in Digital Resources). ● **Look for/Now what? notes:** Each On-the-Fly Assessment includes a two-part description of what evidence of understanding would look like for the task (Look for) and how instruction may be adjusted in response (Now what?). These are accessible by pressing the orange hummingbird icon in the activity in which they appear. Example: ● Grade 3, *Balancing Forces* unit, Lesson 5.5, Digital Resources, **"Assessment Guide: Assessing Students' End-of-Unit Explanations About the Floating Train"**

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
Unbiased tasks/items: Assesses student proficiency using methods, vocabulary, representations, and examples that are accessible and unbiased for all students.	0 1 2 N/A	Amplify Science's multiple measure approach to assessment is designed to minimize bias by providing a wide variety of opportunities for students to demonstrate understanding—not just text, but also talk, diagramming and modeling, and hands-on modalities. All assessments are carefully reviewed by psychometricians, assessment experts, science educators, and literacy experts to improve accessibility and eliminate bias. As a part of this process to create unbiased assessments, language in assessment items is carefully chosen to be grade-level appropriate and to avoid common pitfalls of assessment design, like false cognates and complex grammatical structure or tense. As an important element of construct validity, contexts used for assessment items and performance tasks are carefully chosen to avoid advantaging or disadvantaging students from different backgrounds—we want student performance to be a function of the understanding and practices being learned and assessed, not the set of experiences they are familiar with. Examples: ● Grade 5, *Ecosystem Restoration* unit, Unit Overview page,Teacher References, **Assessment System** and **Embedded Formative Assessments**

Coherent assessment system: Includes pre-, formative, summative, and self-assessment measures that assess three-dimensional learning.	0 1 2 N/A	The assessment system for each Amplify Science unit is designed to provide teachers with actionable diagnostic information about student progress toward the learning goals for the unit. Assessment of unit learning goals is grounded in the unit's Progress Build, which describes how student understanding is likely to develop and deepen through engagement with the unit's learning experiences. The assessment system includes formal and informal opportunities for students to demonstrate understanding and for teachers to gather information throughout the unit — all while giving teachers flexibility in deciding what to score and what to simply review. Built largely around instructionally embedded performances, these opportunities encompass a range of modalities that, as a system, attend to research on effective assessment strategies and the NRC *Framework for K–12 Science Education*. The variety of assessment options for Amplify Science include: ● **Pre-Unit Assessment (Formative)**: Designed to give students an opportunity to articulate their initial ideas through written responses. ● **On-the-Fly Assessments (Formative)**: Embedded assessments that leverage the formative opportunities in the learning experience students are already engaged in. ● **Self-assessments (Formative)**: One per chapter; brief opportunities for students to reflect on their own learning, ask questions, and reveal ongoing thoughts

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
		about unit content. ● **Critical Juncture Assessments (Formative)**: Usually occurring at the end of each chapter, these assessments are often end-of-chapter explanations or arguments. ● **End-of-Unit Assessments (Summative)**: Similar in format to the Pre-unit assessment, these assessments are an opportunity to assess students' progress toward the core learning goals of the unit as specified in the Progress Build and to provide evidence of students' growth over time when compared with their responses from the pre-unit assessment. ● **3-D Investigation Assessments (Summative)**: Embedded in one unit at each grade level, these three-dimensional performance tasks provide students with an open-ended opportunity to show what they've learned by planning and conducting their own scientific investigation of a scientific phenomenon. ● **Benchmark Assessments***: Delivered four times per year, benchmark assessments report on students' facility with each of the grade-level appropriate DCIs, SEPs, CCCs, and performance expectations. ● **Portfolio Assessment (Summative)**: Through the optional portfolio assessment, information on which is found in the Amplify Science Program Guide, students

Lessons and units include clear and compelling evidence of the following:	Meets Criteria	Justification or Comments
		have an opportunity to reflect on their goals and growth throughout the school year as they compile and reflect on work products from each unit. A document called **Assessment System** (located within Teacher References on the Unit Overview page) includes a table that summarizes the range of assessment opportunities in that specific unit, noting the lesson in which each occurs, the form each takes, and the nature of guidance for reviewing and adjusting instruction in response to assessment information. <u>Example:</u> ● Grade 4, *Earth's Features* unit, Unit Overview page, Teacher References, **Assessment System** *To ensure the assessments measure progress towards Performance expectations and not the progress within the program itself, the Benchmark Assessments were developed by Amplify outside of development efforts involving the Lawrence Hall of Science and Amplify Science.

SCORING FOR BEST PRACTICES

0 Points No Alignment	1 Point Partial Alignment	2 Points High Alignment	NA Not Applicable
There is no evidence of the teaching practice.	The teaching practice is embedded in some lessons.	Materials regularly embed supports for teachers to implement best practices.	

ALIGNMENT TO BEST PRACTICES

Best Practices	Meets Criteria	Justification or Comments
• Materials contain clear statements and explanations of science and engineering practices (SEPs), disciplinary core ideas (DCIs), and crosscutting concepts (CCCs).	0 1 2 N/A	In order to help teachers recognize the three dimensional structure of every unit, chapter, and lesson, each unit contains "3-D Statements." The "3-D Statements" clearly define the 3-D integration of the unit, chapter, or lesson, and is made all the more effective by color-coding the three dimensions for easy recognition (blue = SEP, green = CCC, orange = DCI). Examples: • Grade 5, *The Earth System* unit, Unit Overview page: ○ Printable Resources, "**3-D Statements - Lesson Level"** ○ Teacher References, **3-D Statements** Teachers also have access to explanations and background information about each of a unit's focal DCIs, SEPs, and CCCs. In fact, in grades K–5, Amplify Science has received **all green ratings** for EdReports Indicator 3B, which states: "Materials contain adult-

Best Practices	Meets Criteria	Justification or Comments
		level explanations and examples of the more complex grade/course-level concepts and concepts beyond the current course so that teachers can improve their own knowledge of the subject." EdReports Indicators: ● 3rd Grade: 3rd Grade ● 4th Grade: 4th Grade ● 5th Grade: 5th Grade
● Materials provide questioning and discussion techniques that promote learning through thinking, discussion, and reflection.	0 1 2 N/A	As described in **Category 2, "Teacher support for unit coherence,"** every lesson includes clear, step-by-step instructions as well as targeted Teacher Support Notes that often feature techniques for encouraging student questioning and discussion. Example: ● Grade 3, *Environments and Survival* unit, Lesson 1.2, **Activities 1–3**, including **Teacher Support Notes** linked to on activity divider slides
● Digital materials and assessments are easy to edit and revise and access to distribute and/or print.	0 1 2 N/A	All of the print materials and copymasters in Amplify Science (including assessments and Investigation Notebooks) can be downloaded and printed from within the digital Teacher's Guide. Work can also be assigned to students digitally from the Teacher's Guide when students have Digital Experience licenses. A set of slides comprise each lesson in the program. Teachers can customize all of these slides (and the embedded Interactive Notebook pages) at any time using the MyAmplify browser add-on.

Best Practices	Meets Criteria	Justification or Comments
		Examples: ● Help Article: MyAmplify for Google Slides Add-on ● Grade 4, *Energy Conversions* unit: ○ Unit Overview page, **Printable Resources** ○ Lesson 2.3: ■ **Lesson at a Glance** ■ **"Get Lesson Slides" button** ■ Digital Resources, **"Classroom Slides 2.3 | Powerpoint"**
● Materials contain teacher-specific instructions and explanations for expanding content knowledge and lesson planning development.	0 1 2 N/A	Every unit of Amplify Science has a robust Teacher's Guide containing all of the unit's lesson plans, differentiation strategies, and a vast assortment of instructional supports and resources at the unit, lesson, and activity level. In addition to employing a unit-long, phenomena-based storyline to drive focused instruction, the Teacher's Guide includes a wealth of resources through which Amplify Science teachers can develop and extend their knowledge and effectively guide students through their scientific development, including: ● **Unit-level documentation**: Every unit contains a suite of documents that provides teachers support in facilitating coherent learning experiences. These documents include an overview of the unit's guiding questions, lesson summaries, instructions on using the digital apps, science background information, definitions of the unit's learning

Best Practices	Meets Criteria	Justification or Comments
		progressions, and more. ● **Clear lesson instructions**: Every lesson has quick summaries, clear step-by-step instructions, slides, model language to use in class, answer keys with sample student responses, recommendations for classroom set up, and rubrics for scoring written assessments, when applicable. ● **Embedded teacher supports**: Each lesson comes with strategies to scaffold the lesson for different populations of students, including those needing additional challenge, those needing extra support, and English Learners. Additionally, individual activities often have "Teacher Support" notes, which provide classroom management tips, background information, supports for three-dimensional instruction, and more. ● **Program Guide**: A free website containing information on the program pedagogy (Do, Talk, Read, Write, Visualize), the structure of the courses, how English Learners were considered in the curriculum's development, tutorial videos, FAQs, and more, is available to all teachers. ● **Program Hub**: This additional space offers programmatic information such as remote learning supports, unit extensions, and quick access to the robust PD Library featuring on-demand videos. ● **Help Desk**: Available live by phone, email,

Best Practices	Meets Criteria	Justification or Comments
		or online chat, the Help Desk can answer any technology questions, adjust student rosters as needed, and consult teachers on pedagogical and content queries. Examples: ● **Amplify Science Program Hub** ● **Amplify PD Library** ● **Amplify Science Program Guide** ● Grade 3, *Environments and Survival* unit, **Unit Overview page**

SCORING FOR MULTI-TIERED SYSTEMS OF SUPPORT

0 Points No Alignment	1 Point Partial Alignment	2 Points High Alignment	NA Not Applicable
There is no evidence of the feature.	The feature is included and partially aligned to Tier II instruction.	The feature is included and fully aligned to Tier II instruction.	

IDAHO MULTI-TIERED SYSTEMS OF SUPPORT

Multi-tiered Instruction	Meets Criteria	Justification or Comments
● **Interventions:** Materials provide interventions aligned to core instruction. Interventions are more frequent and varied to support acquisition of identified skills.	0 1 2 N/A	As described in the below metric, **"Differentiated Instruction,"** Amplify Science provides a differentiated path for all students to thrive in the science and engineering classroom. Following the principles of Universal Design for Learning, lessons were written to ensure equitable access, and the Differentiation section of the Teacher's Guide (see "Differentiated Instruction" below), was designed to provide teachers with detailed guidance on supporting students with diverse learning strengths and needs. Examples: ● Grade 5, *Ecosystem Restoration* unit, Lesson 1.7: ○ **Differentiation** ○ **Activity 1** including **Teacher Support Notes** linked on activity divider slide
● **Differentiated Instruction:** Provides guidance for teachers to support differentiated instruction by including: ☐ Materials provide a variety of resources and strategies for small group instruction that can be used for differentiation in the general education classroom. ☐ Supportive ways to access instruction, including appropriate linguistic, visual, and kinesthetic engagement opportunities that are essential for effective science and engineering learning and particularly beneficial for multilingual learners and students with disabilities.	0 1 2 N/A	Amplify Science units provide many varied learning opportunities as well as timely supports to ensure that diverse learners can be successful with the language and content demands of science, ultimately becoming more independent learners and thinkers. First, Amplify Science is rooted in the research-based, multimodal approach of Do, Talk, Read, Write, Visualize. This approach provides diverse learners multiple entry points to rich science content. The Do, Talk, Read, Write approach has been extensively assessed by outside evaluators

Multi-tiered Instruction	Meets Criteria	Justification or Comments
☐ Extra support (e.g. phenomena, representations, tasks) for students who are struggling to meet the targeted expectations. ☐ Extensions for students with high interest or who have already met the performance expectations to develop deeper understanding of the practices, disciplinary core ideas, and crosscutting concepts.		from the National Center for Research on Evaluation, Standards, and Student Testing (CRESST) at the University of California, Los Angeles (UCLA), 2005; by Mark Girod at Western Oregon University, 2005; and by David Hanauer at Indiana University of Pennsylvania, 2005. These gold standard studies showed that students who received instruction based on this multimodal learning approach instruction saw the following benefits: ● English Language Learners (ELLs) significantly outperformed other ELLs in reading comprehension, science vocabulary, and science content knowledge. ● Students significantly outperformed other students receiving their usual science instruction in Science Vocabulary, and Science Content Knowledge. Beyond the Do, Talk, Read, Write, Visualize approach, which serves to provide repeated opportunities for students to access content, every lesson of Amplify Science includes a Differentiation section in the Lesson Overview page. The Differentiation Brief describes what is built into the lesson to support diverse learning needs; highlights potential challenges teachers should be aware of; and provides specific strategies for differentiating instruction. The Differentiation Brief contains the following sections: ● **Embedded Supports for Diverse Learners:** Every unit is designed with diverse learners in mind, with the goal of providing rigorous

Multi-tiered Instruction	Meets Criteria	Justification or Comments
		yet accessible science instruction. Each lesson is intentionally planned to provide multiple entry points for students, and to enable all students to be successful with all of the activities. This section of the Differentiation Brief highlights the scaffolds already embedded within the lesson so that teachers can take advantage of the power of these carefully designed activities. ● **Potential Challenges in This Lesson:** This section of the Differentiation Brief highlights aspects of the lesson that may present particular cognitive, linguistic, or social challenges for students. ● **Specific differentiation strategies for English Learners (ELs)**: This section of the Differentiation Brief points out activities that could pose linguistic challenges for ELs or reduce their access to science content, and suggests supports and modifications accordingly. Suggestions include linguistic supports to bolster students' understanding of science content, supports for engaging with science texts, ideas for helping students participate in discussions, multiple ways students can express their ideas in writing, and more. ● **Specific differentiation strategies for students who need more support:** Every lesson includes ways for teachers to support those students who are struggling or who have special needs. These additional

Multi-tiered Instruction	Meets Criteria	Justification or Comments
		scaffolds are to be used entirely at the discretion of the teacher, and provide targeted suggestions tailored for the activities in that particular lesson. ● **Specific differentiation strategies for students who need more challenge**: Every lesson has ways for a teacher to expand upon the lesson, or go beyond the scope of what is expected in that lesson. This section of the Differentiation Brief provides suggestions that allow students to engage with content more deeply, explore the material with a new purpose, pursue more independent research on a topic, and more. In addition to these lesson-specific differentiation strategies, language support is included throughout the program in two fundamental ways: 1. **Embedded instructional design**: Many scaffolds such as gradual release, graphic organizers, argumentation instruction, language practice, and creating and using models, are embedded within the instructional plan and are presented to teachers through the teacher materials and to all students as activities within the unit. 2. **Additional support**: Additional activities and specific methods for supporting English learners are provided for use as needed, especially in the Teacher Support notes within the lessons. Additional supports include but are not limited to word banks,

Multi-tiered Instruction	Meets Criteria	Justification or Comments
		use of multiple-meaning words, leveraging students' native languages, and cognates. Example: ● Grade 5, *The Earth System* unit, Lesson 2.3, **Differentiation**
● **Scaffolded differentiation over time:** Provides supports to help students engage in the practices as needed and gradually adjusts supports over time so that students are increasingly responsible for making sense of phenomena and/or designing solutions to problems.	0 1 2 N/A	Amplify Science supports diverse learners by embedding scaffolding throughout the curriculum, including the use of the Gradual Release of Responsibility model. With the Gradual Release of Responsibility there is an emphasis on teacher modeling and direction at the beginning of the unit, but much of the scaffolds that existed earlier in the unit are thoughtfully and meaningfully removed as the unit progresses. This enables students to become more independent and confident in their own abilities over time. Examples: ● Grade 4, *Waves, Energy, and Information* unit, Lesson 2.6: ○ **Differentiation** ○ **Activities 2–3**, including **Teacher Support Notes** linked on activity divider slides
● **Opportunity to learn:** Provides multiple opportunities for students to demonstrate performance of practices connected with their understanding of disciplinary core ideas and crosscutting concepts and to receive feedback.	0 1 2 N/A	Amplify Science assessments work as a system. Careful consideration is given to ensure that each unit includes multiple opportunities for students to provide evidence of understanding of the focal concepts and practices in a given unit, as well as instructional suggestions for taking action based on that evidence. The Lawrence Hall of Science

Multi-tiered Instruction	Meets Criteria	Justification or Comments
		specifically designed the assessment system to provide teachers with credible, actionable, and timely diagnostic information about student progress toward each unit's learning goals and their mastery of the grade-level appropriate disciplinary core ideas, science and engineering practices, and crosscutting concepts. Assessments within a unit include formal and informal opportunities for students to demonstrate understanding, and for teachers to gather information while still allowing them the flexibility to decide what to score and what to simply review. Please see **Category 3, "Coherent assessment system,"** for a detailed description of the variety of assessment options in Amplify Science, and **"Scoring guidance,"** for information on the ways in which Amplify Science provides teachers with guidance on providing effective feedback. Example: ● Grade 3, *Balancing Forces* unit, Unit Overview page, Teacher References, **Assessment System**

SCORING FOR ADDITIONAL INDICATORS OF QUALITY MATERIALS

0 Points No Alignment	1 Point Partial Alignment	2 Points High Alignment	NA Not Applicable
There is no evidence of scaffolding, differentiation elements, or engaging tools.	There is some evidence of scaffolding, differentiation elements, or engaging tools.	Materials include scaffolding and differentiation elements as well as engaging tools.	

ADDITIONAL INDICATORS OF QUALITY MATERIALS

Indicators of Quality Materials	Meets Criteria	Justification or Comments
• Materials provide examples of scaffolding and guided practice.	0 1 2 N/A	Many scaffolds are embedded within Amplify Science and are presented to teachers through the teacher materials and to **all** students as activities within the unit. Throughout the process of designing the curriculum, these scaffolds and supports were planned, tested, and refined to provide rigorous yet accessible science instruction. Scaffolds you'll find include but are not limited to: discourse routines (e.g. Word Relationships), warm-up activities, Active Reading instruction and modeling, Anticipation Guides, sentence starters, word banks, graphic organizers, a gradual release of responsibility, language practice, visual representations, and more. In addition, as described above in the Idaho Multi-Tiered Systems of Support section ("**Differentiated Instruction**"), every lesson of Amplify Science includes a Differentiation Brief with descriptions of the lesson's embedded support as well as suggestions on how teachers can

Indicators of Quality Materials	Meets Criteria	Justification or Comments
		differentiate its content for a variety of special populations. Example: ● Grade 5, *Modeling Matter* unit, Lesson 1.9, **Differentiation**
● Materials include supports for differentiation, pacing, remediation and extension activities, and alternative teaching approaches.	0 1 2 N/A	See response to **"Differentiated Instruction"** within the Idaho Multi-tiered Systems of Support section.
● Materials provide instructional strategies to accommodate the learning differences of all students.	0 1 2 N/A	See response to **"Differentiated Instruction"** within the Idaho Multi-tiered Systems of Support section.
● Materials are relevant and interesting for grade level with authentic contexts and tools that allow students to make connections.	0 1 2 N/A	See response to **"Relevance and Authenticity"** within Category 2.
● Materials integrate technology and interactive tools, visuals, videos, or dynamic software to engage students.	0 1 2 N/A	Amplify Science includes high-quality, innovative use of technology to support the learning goals laid out for each unit. Each unit includes custom-designed digital tools, including SImulations beginning in grade 3, that were developed exclusively for the Amplify Science program. These serve as venues of exploration and data collection, allowing students to explore scientific concepts that might otherwise be invisible or impossible to see with the naked eye. Much like real scientists do, students of Amplify Science will use technology to gain insight into processes that occur on the microscopic scale or, alternately, to speed up processes that might otherwise take thousands or millions of years to observe. Example:

Indicators of Quality Materials	Meets Criteria	Justification or Comments
		● Grade 5, *The Earth System* unit, Unit Overview page, Teacher References, **Apps in this Unit**
● Materials are available in language(s) other than English.	Yes N/A	All print student-facing materials are available in both English and Spanish. Note that all Spanish materials have parity with their English counterparts and are of the highest quality.

For Questions Contact

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