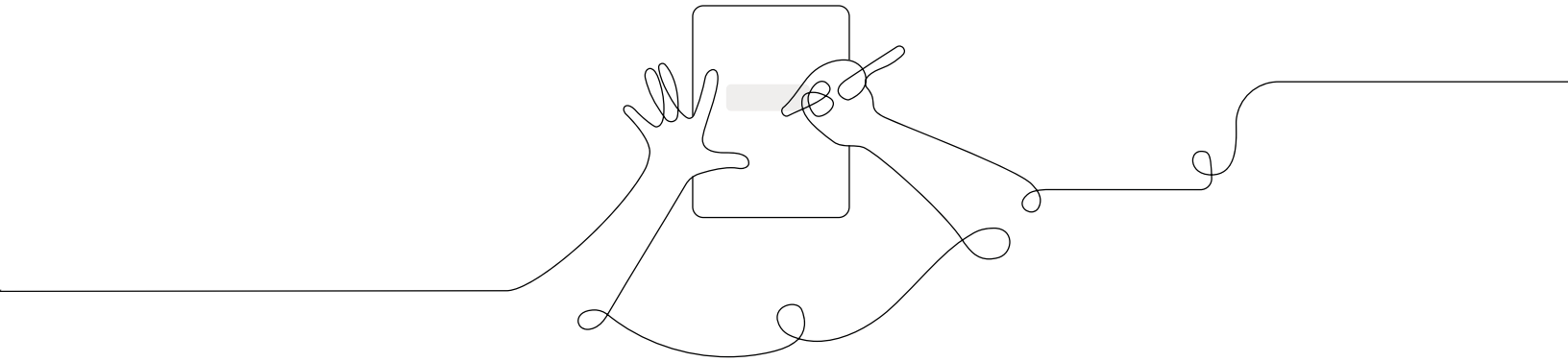
AmplifyScience

Participant Notebook

Writing in Science



Writing in Science

Agenda

Introduction and framing

Writing in Amplify Science

- Writing as part of a multimodal experience
- Supporting students with writing
- Writing a culminating argument
- Additional supports

Model Lesson

Planning

Closing

Demo account for your workshop:

URL: **learning.amplify.com** (Log in with Amplify)

Temporary account: _____ **@pd.tryamplify.net**

Password: _____

Reflection

Use the provided spaces as a place for reflection throughout the session.

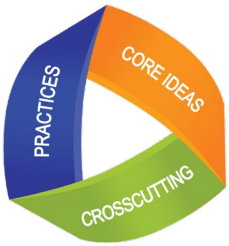
Session goals and student outcomes

What Connect the workshop goal(s) to an outcome you envision for your students.	Why Reflect on why you want this outcome for your students.	How How will your students achieve the outcome? Reflect on what you learned during the workshop that will impact student outcomes.

Triangle – Circle – Square reflection

△	
○	
□	

Three dimensional learning reference



3-D learning engages students in using scientific and engineering practices and applying crosscutting concepts as tools to develop understanding of and solve challenging problems related to disciplinary core ideas.

Science and Engineering Practices

1. **Asking Questions and Defining Problems**
2. **Developing and Using Models**
3. **Planning and Carrying Out Investigations**
4. **Analyzing and Interpreting Data**
5. **Using Mathematics and Computational Thinking**
6. **Constructing Explanations and Designing Solutions**
7. **Engaging in Argument from Evidence**
8. **Obtaining, Evaluating, and Communicating Information**

Disciplinary Core Ideas

Earth and Space Sciences:
- Earth's Place in the Universe
- Earth's Systems
- Earth and Human Activity

Life Sciences:
- From Molecules to Organisms
- Ecosystems
- Heredity
- Biological Evolution

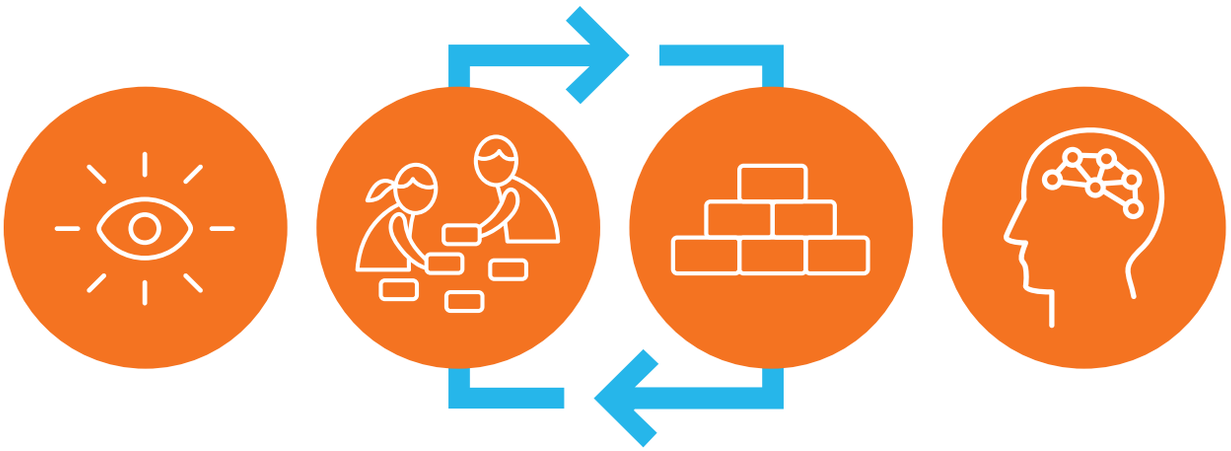
Physical Sciences:
- Matter and its Interactions
- Motion and Stability
- Energy and their Applications

Engineering, Technology and the Applications of Science:
- Engineering Design
- Links among Engineering Technology, Science and Society

Crosscutting Concepts

1. **Patterns**
2. **Cause and Effect**
3. **Scale, Proportion, and Quantity**
4. **Systems and System Models**
5. **Energy and Matter**
6. **Structure and Function**
7. **Stability and Change**

Amplify Science approach



Introduce a **phenomenon** and a related problem

Collect **evidence** from multiple sources

Build increasingly complex **explanations**

Apply knowledge to a different context

Writing in science: Note catcher and reference sheet

Table 1: Writing as part of the multimodal experience

Reference: Why do students write in Amplify Science? ● To activate background knowledge ● To reflect on understanding ● To engage in sense-making ● To record data / observations ● To organize ideas ● To communicate ideas ○ To explain ○ To persuade	
Sample instructional sequence: Use the space below to make notes about the role of small writes as we talk through the sequence	
Small write #__ :	
Small write #___:	
Small write #___:	
End-of-sequence reflection: How did the small writes support students as they worked toward writing the more formal end-of-chapter explanation?	
Reference: Embedded supports for writing in Amplify Science ● Smaller pieces of writing build to larger pieces of writing ● Informal talk opportunities: partners and small groups ● Sentence starters and/or language frames ● Classroom wall and other environmental print ● Word banks ● Discourse routines ● Multimodal instruction ● Gradual release of responsibility	

Writing in science: Additional Work Sheet

Table 1: Writing as part of the multimodal experience

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In your planning, review a writing activity and answer the prompts below. If you have extra time, choose a second small write to analyze.

Table 2: Work time: Analyze the purpose of a small write in your unit

Lesson and activity	
What's the **purpose** of the small write?	
What **writing supports** are embedded into the activity? How is the activity designed to support students' writing?	
How could you **further support** students who need it? What additional support strategies might you use?	

Navigate to your End-of-Unit Assessment and download the Assessment Guide from digital resources.
Note: If your unit has a two-part End-of-Unit Assessment, focus on Part 1.

Table 3: Work time: End-of-Unit Assessment Guide

What is the prompt for students?	
Make notes about what each rubric assesses	
Reflection: How could the End-of-Unit Assessment Guide help your planning and instruction throughout the whole unit?	

Amplify Science unit essentials reference

Grade	Unit	Student role	Unit type	Focal crosscutting concept	Sense-making strategy	Writing genre
K	Needs of Plants and Animals	scientist	investigation	systems	setting a purpose	explanation
	Pushes and Pulls	pinball engineer	design	cause and effect	visualizing	explanation
	Sunlight and Weather	weather scientist	modeling	cause and effect	making predictions	explanation
1	Animal and Plant Defenses	aquarium scientist	modeling	structure and function	visualizing	explanation
	Light and Sound	light and sound engineer	design	cause and effect	asking questions	explanation
	Spinning Earth	sky scientist	investigation	systems	making predictions	explanation
2	Plant and Animal Relationships	plant scientist	investigation	systems	setting a purpose	explanation
	Properties of Materials	glue engineer	design	cause and effect	making predictions	design argument
	Changing Landforms	geologist	modeling	scale	visualizing	explanation
3	Balancing Forces	scientist	modeling	stability and change	setting a purpose	explanation
	Inheritance and Traits	wildlife biologist	investigation	patterns	asking questions	explanation
	Environments and Survival	biomimicry engineer	design	stability and change	making inferences	scientific argument
	Weather and Climate	meteorologist	argumentation	patterns	visualizing	scientific argument
4	Energy Conversions	systems engineer	design	systems	synthesizing	design argument
	Vision and Light	conservation biologist	investigation	structure and function	asking questions	explanation
	Earth's Features	geologist	argumentation	stability and change	making inferences	scientific argument
	Waves, Energy, and Information	marine scientist	modeling	patterns	visualizing	explanation
5	Patterns of Earth and Sky	astronomer	investigation	patterns	visualizing	explanation
	Modeling Matter	food scientist	modeling	scale	making inferences	explanation
	The Earth System	water resource engineer	design	systems	synthesizing	explanation
	Ecosystem Restoration	ecologist	argumentation	energy and matter	synthesizing	scientific argument

Notes

Additional Amplify resources

Program Guide

Additional insight into the program's structure, intent, philosophies, supports, and flexibility.

You can find your Program Guide through the Program and Apps menu, which is located in the top right corner of your screen. The Program Guide icon can be found under the "Other Resources" section.

Amplify Help

Frequently updated compilation of articles with advice and answers from the Amplify team.

my.amplify.com/help

Caregivers Site

https://amplify.com/science-caregivers

Amplify Support

Contact the Amplify support team for information specific to enrollment and rosters, technical support, materials and kits, and teaching support.

Email: help@amplify.com

Email: edsupport@amplify.com (pedagogical questions)

Phone: 800-823-1969

Or, reach Amplify Chat by clicking the  icon at the bottom right of the digital Teacher's Guide.

When contacting the support team:

- Identify yourself as an Amplify Science user.
- Note the unit you are teaching.
- Note the type of device you are using (Chromebook, iPad, Windows, laptop).
- Note the web browser you are using (Chrome or Safari).
- Include a screenshot of the problem, if possible. Copy your district or site IT contact on emails.

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