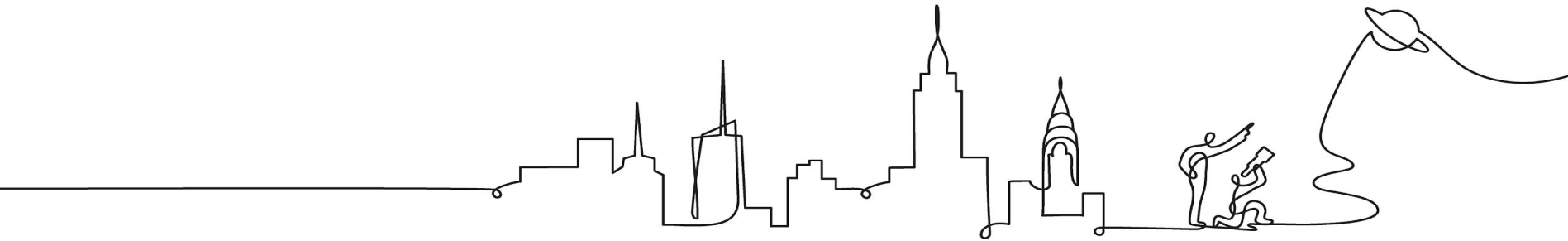# Amplify Science

New York City

K-5 Returning Administrators
Planning for the year ahead

Remote Professional Learning Norms

Take some time to orient yourself to the platform
- *"Where's the chat box? What are these squares at the top of my screen?, where's the mute button?"*

Mute your microphone to reduce background noise unless sharing with the group

The chat box is available for posting questions or responses to during the training
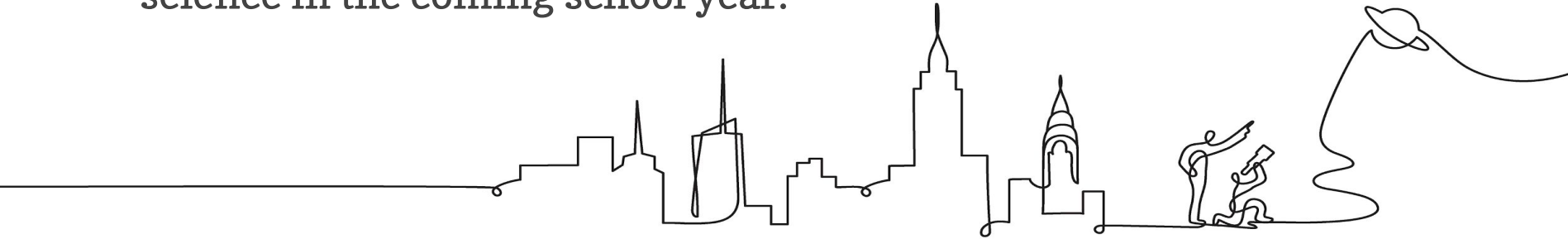
Make sure you have a note-catcher present

Engage at your comfort level - chat, ask questions, discuss, share!

Amplify.

Objectives

By the end of this workshop, you will be able to…

- Make an informed decision about which of the Amplify Science Hybrid Learning Resources will best support your teachers.

- Become familiar with "look fors" that administrators should see in an effective three dimensional science instruction.
- Discuss ways in which administrators can support the teaching of science in the coming school year.

Plan for the day

- **Framing the day**
  - **Welcome and introductions**
  - **Reflection and vision setting**
  - **Back-to-school program updates**
  - **Revisiting the Amplify Approach**

- @Home Resources Introduction
  - @Home Videos
  - @Home Units

- Collaborative Work Time
  - Resource selection
  - Supporting science instuction

- Reflection and closing

Amplify.

Reflection and Setting a Vision

Amplify.
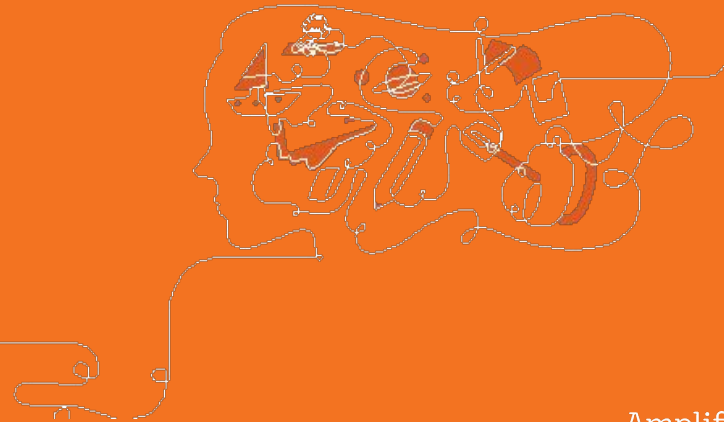
Remote Learning Reflection

1-2-3 Stop and jot: Last year, during remote learning...

Note catcher

Reflection: Teaching remotely last year

One challenge, problem, or roadblock you or your students experienced

Two successes in your teaching

Three things you learned or new insights

Setting a vision

What are you hoping students get out of science this year?

Cultivate a ... of

Problem solve

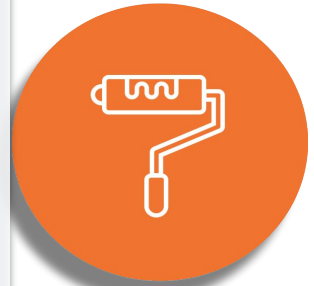Develop flexible scientific und...
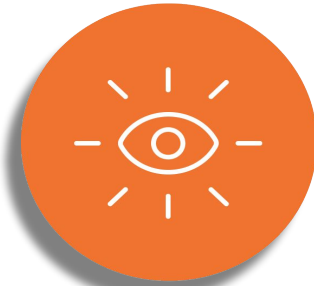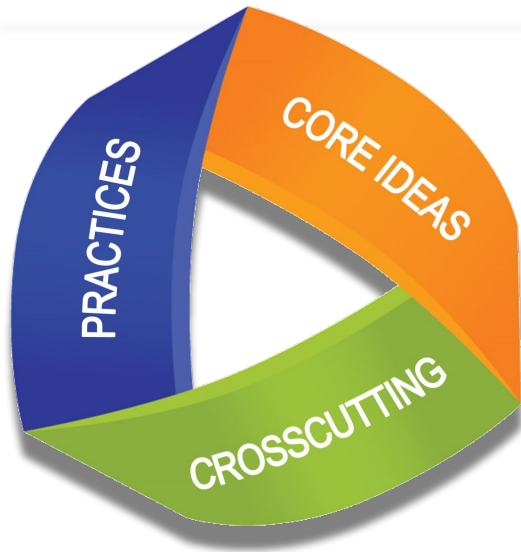
Vision setting

Beginning of the session: Based on your reflection, set a vision for science this year. What do you hope your students will get out of science time?

work like real scientists

...demic confidence

communicate

Using three dimensions to figure out

PRACTICES

CORE IDEAS

CROSSCUTTING
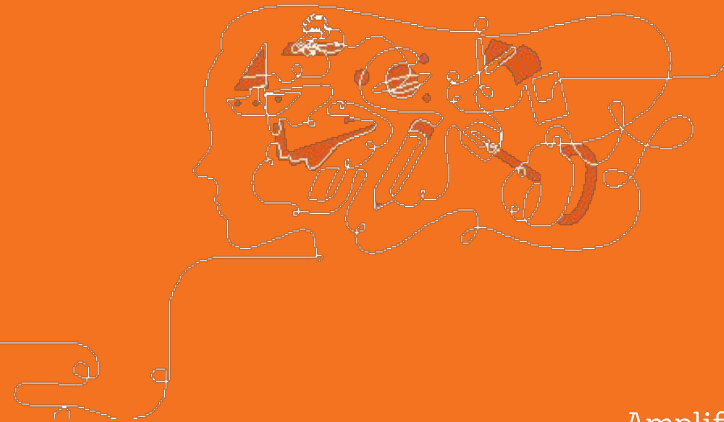
Do,
Talk,
Read,
Write,
Visualize

In each Amplify Science unit, students embody the role of a scientist or engineer to figure out phenomena.

They gather evidence from multiple sources, using multiple modalities.

Amplify.

Back-to-school updates

Amplify.

Elementary school course curriculum structure

Kindergarten and first grade lessons are 45 minutes

Grade K
- Needs of Plants and Animals
- Pushes and Pulls
- Sunlight and Weather

Grade 1
- Animal and Plant Defenses
- Light and Sound
- Spinning Earth

Grade 2
- Plant and Animal Relationships
- Properties of Materials
- Changing Landforms

Second - fifth grade lessons are 60 minutes

Grade 3
- Balancing Forces
- Inheritance and Traits
- Environments and Survival
- Weather and Climate

Grade 4
- Energy Conversions
- Vision and Light
- Earth's Features
- Waves, Energy, and Information

Grade 5
- Patterns of Earth and Sky
- Modeling Matter
- The Earth System
- Ecosystem Restoration

Except The Earth System- All other units have 22 lessons

Amplify.

PRIMARILY LIFE SCIENCE **PRIMARILY PHYSICAL SCIENCE** **PRIMARILY EARTH SCIENCE**

	SEPT–NOV	DEC–MAR	APR–JUN	Minutes per lesson
K	Needs of Plants and Animals	Pushes and Pulls	Sunlight and Weather	45
1	Animal and Plant Defenses	Light and Sound	Spinning Earth	45
2	Plant and Animal Relationships	Properties of Materials	Changing Landforms	60
3	Balancing Forces	Inheritance and Traits	Environments and Survival	Weather and Climate — 60
4	Energy Conversions	Vision and Light	Earth's Features	Waves, Energy and Information — 60
5	Patterns of Earth and Sky	Modeling Matter	The Earth System (26 lessons)	Ecosystem Restoration — 60

All units have 22 lessons except Grade 5: The Earth System, which has 26 lessons.

Improved Lesson Brief

The improved lesson brief makes it easy for **all K-8 teachers** to access planning content and lesson resources on one smooth, scrollable, page.

Release Date: July 1, 2020

Amplify.

Shared Teacher Login

License owners and managers (principals, APs) can generate Shared Teacher Logins in My Account and distribute to their teachers ahead of data share from district, so that teachers can start planning for 2020-2021. **Also great for paras, ICT teachers, or other support staff not scheduled in STARS.**

Amplify.

Classroom Slides
(PPT & Google Slides!)

Classroom Slides

Amplify.

More Spanish: science apps (2–8)

Spanish translations of science apps began last year, and by this back-to-school the project will be complete.

All Sims, Modeling Tools, and Science Practice Tools will display fully translated text for those **with Spanish add-on licenses**

15
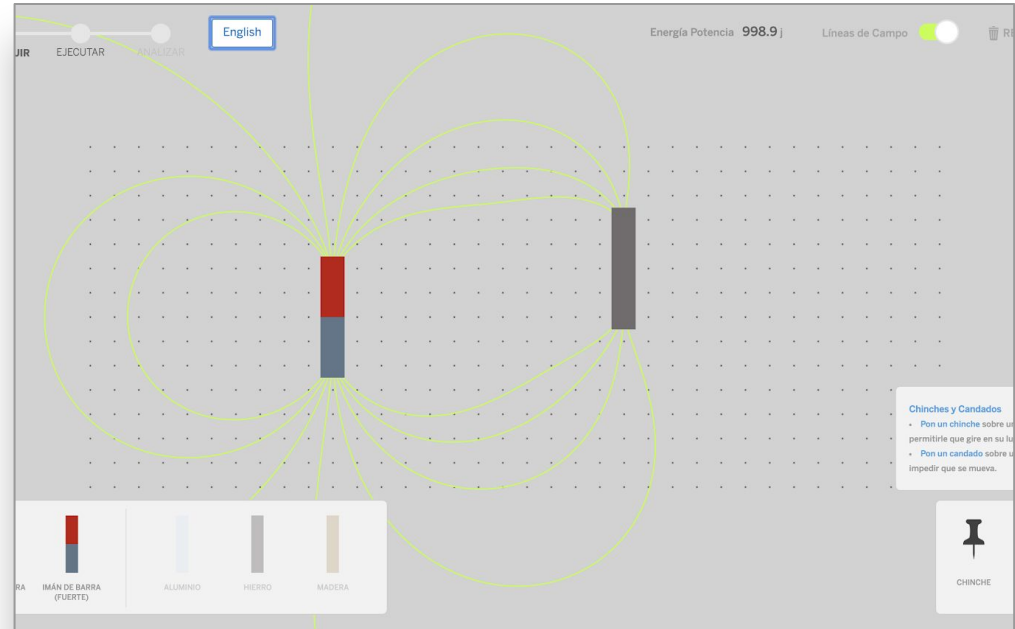
Amplify.

Read-Aloud Functionality in Amplify Science Student Books

In spring, we see the **sunrise** when we walk the dog before breakfast. He barks at noisy birds.

After dinner in spring, we see the **sunset**. We watch the sky change colors as we walk.

6

7

Amplify.

Student Books

Read-Aloud

Videos

Read-Aloud videos

Click below to access a playlist of this unit's Student Books being read aloud. Individual read-aloud videos can also be found within lesson playlists that use the book, and as shortened links in the @Home Unit student materials for those lessons. Find the Spanish playlist here.

Hands On Learning Materials
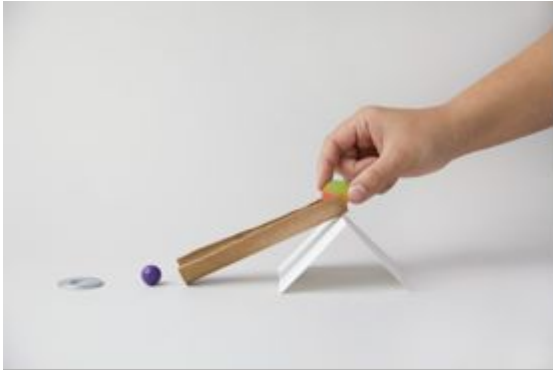
Lesson 1.2
Making Blocks Move
Unit: Balancing Forces

Shareable **Resources**
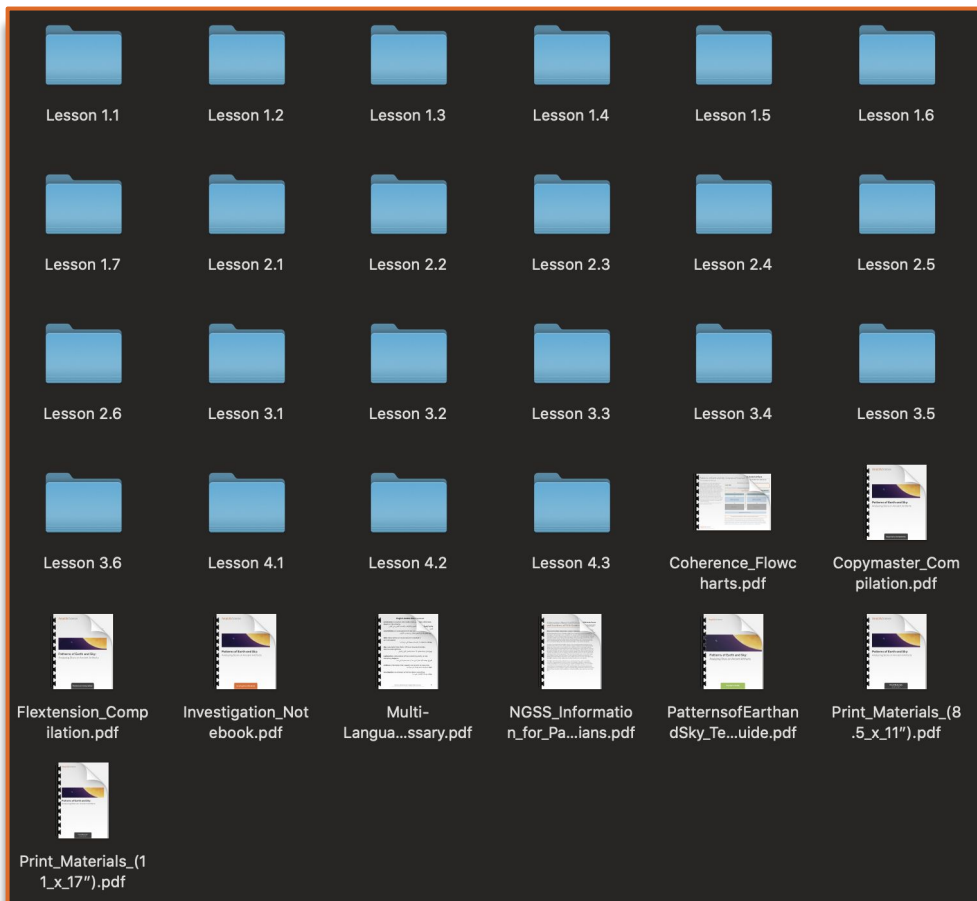
Offline Preparation

Teaching without reliable classroom internet? Prepare unit and lesson materials for offline access.

Offline Guide
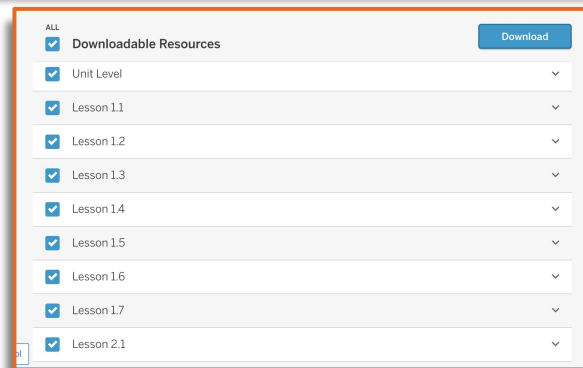
ALL		
☑ Downloadable Resources		Download
☑ Unit Level		⌄
☑ Lesson 1.1		⌄
☑ Lesson 1.2		⌄
☑ Lesson 1.3		⌄
☑ Lesson 1.4		⌄
☑ Lesson 1.5		⌄
☑ Lesson 1.6		⌄
☑ Lesson 1.7		⌄
☑ Lesson 2.1		⌄

Amplify.

Plan for the day

- Framing the day
  - Welcome and introductions
  - Reflection and vision setting
  - Back-to-school program updates
  - Revisiting the Amplify Approach

- @Home Resources Introduction
  - @Home Videos
  - @Home Units

- Collaborative Work Time
  - Resource selection
  - Supporting science instruction

- Reflection and closing

Amplify.

Remote and hybrid

Remote learning

ONLINE
Students learn at home **and** have access to some level of technology

OFFLINE
Students learn at home **and do not** have access to technology other than potentially smartphones

Hybrid learning

IN-PERSON/ONLINE AT HOME
Students spend some time in school and some at home **and** have access to technology

IN-PERSON/OFFLINE AT HOME
Students spend some time in school and some at home **and do not** have access to technology

authored by **THE LAWRENCE HALL OF SCIENCE**
UNIVERSITY OF CALIFORNIA, BERKELEY

Amplify Science Program Hub

I am a Leader

Welcome, Amplify Science Educators!

The Amplify Science Program Hub consists of resources, tools, and advice to help you make the most of getting started with your program. We've also provided tips and guidance on how to use Amplify Science in a remote and hybrid learning model.

We're excited to partner with you on this journey and can't wait to get started! Please select the button below that best describes your role:

I am a Teacher   I am a Leader

science.amplify.com/programhub

Amplify Science @Home resources

Overview: Amplify Science@Home		
	Amplify Science@Home Videos	Amplify Science@Home Units
Notes from resource overview		
Notes from exploration		
How could this resource help you achieve the vision you set for this school year?		

Amplify.

Amplify Science@Home

A suite of new resources designed to make extended remote and hybrid learning easier for teachers and students.

Amplify.
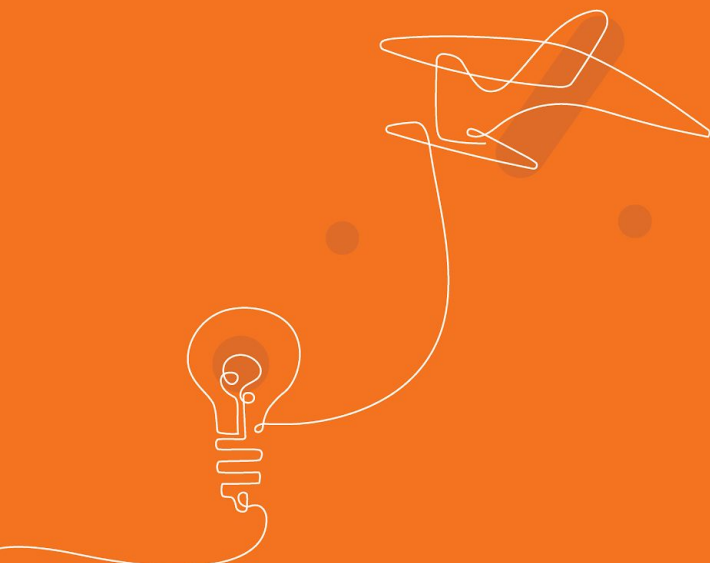
Stop and Jot

Ask...

- How much **time** do teachers have to teach science in the upcoming school year?

- How often do you anticipate students will be engaged in **synchronous instruction** (either online or in-person)?

- Do students have **access to technology** at home, or do you need a **print-only solution** for remote learning?

AmplifyScience@Home

- Built for a variety of instructional formats
- Digital and print-based options
- No materials required
- Available in English and Spanish (student and family materials)
- Accessible on the Amplify Science Program Hub

Amplify Science@Home

Two different options:

@Home Units
- Packet or slide deck versions of Amplify Science units condensed by about 50%

@Home Videos
- Video playlists of Amplify Science lessons, taught by real Amplify Science teachers

AmplifyScience@Home

Two different options:

@Home Units

- Packet or slide deck versions of Amplify Science units condensed by about 50%

@Home Videos

- Video playlists of Amplify Science lessons, taught by real Amplify Science teachers

Amplify Science Program Hub

Welcome, Amplify Science Educators!

The Amplify Science Program Hub consists of resources, tools, and advice to help you make the most of getting started with your program. We've also provided tips and guidance on how to use Amplify Science in a remote and hybrid learning model.

We're excited to partner with you on this journey and can't wait to get started! Please select the button below that best describes your role:

I am a Teacher   I am a Leader

science.amplify.com/programhub

@Home Videos

	Amplify Science@Home Videos	
Notes from resource overview		
Notes from exploration		
How could this resource help you achieve the vision you set for this school year?		

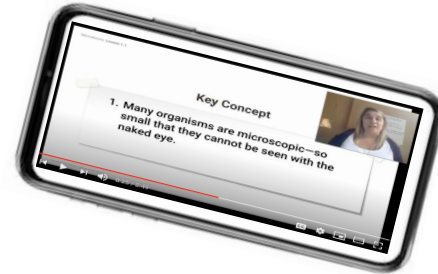Versions of original Amplify Science lessons adapted for remote learning and recorded by real Amplify Science teachers
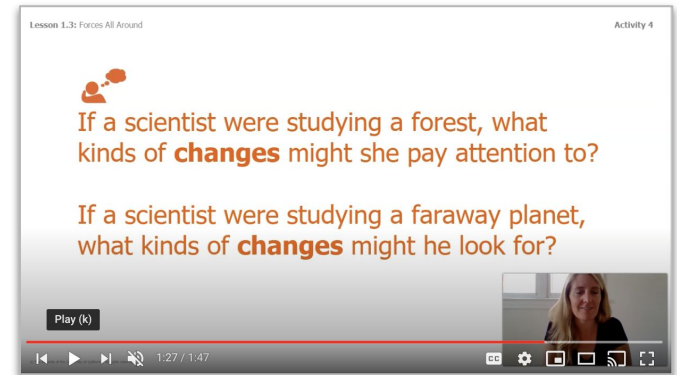
Amplify.
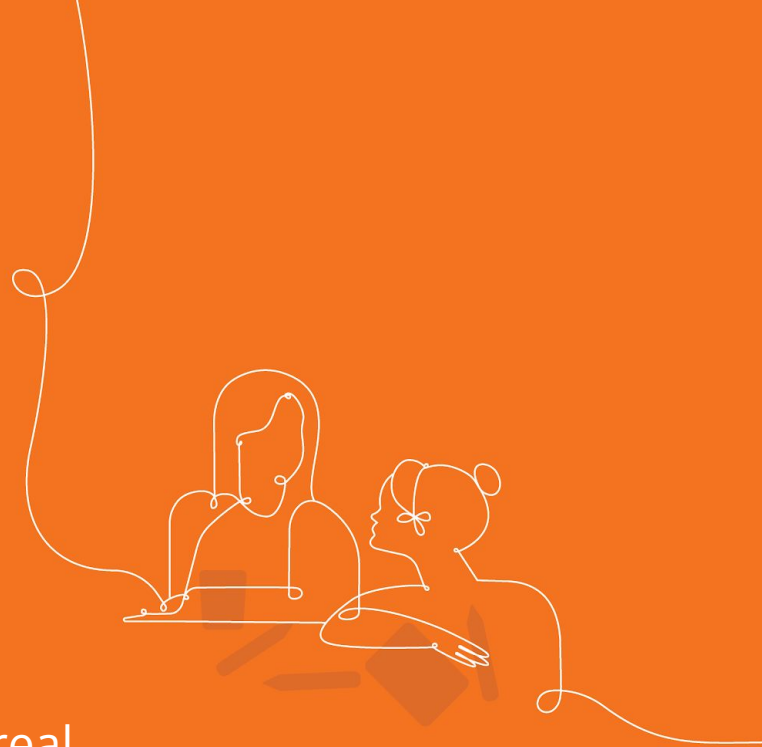
@Home Videos

- Lesson playlists include **all activities** from original units

- Great option if have the **same amount of instructional time** as you typically would for science

- Requires **tech access** at home

- Use videos as **models for making your own lesson videos** or leading **online science class**

Grade 3 | Balancing Forces
Lesson 1.1: Pre-Unit Assessment

Key Concept
1. Many organisms are microscopic—so small that they cannot be seen with the naked eye.

Interactive video experience

- **Calls to action**
  - Think prompts, pause and take notes, stand up and try it, talk to someone
- **Stand-alone videos within lesson playlists**
  - Read-alouds, digital tool uses, hands-on
- **Options** to use notebooks and/or materials if available
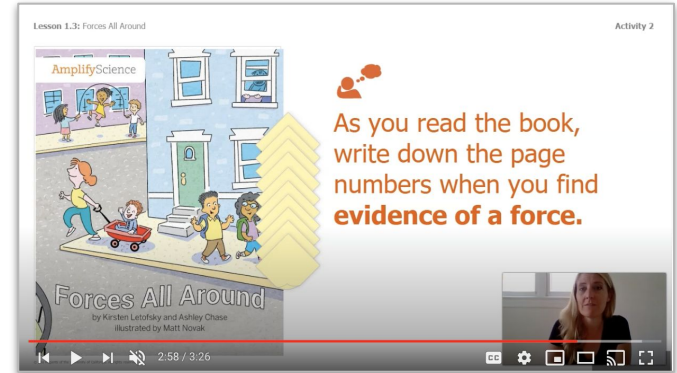
33

Example lesson: *Balancing Forces* 2.2

Example lesson: *Balancing Forces* 2.2

Example lesson: *Balancing Forces* 2.2

1 HANDS-ON
Investigating What Objects Magnetic Forces Act On

1 Grade 3 Balancing Forces Chapter 2 Lesson 2.2 Activity 1 Part A
9:45 Amplify

2 Grade 3 Balancing Forces Chapter 2 Lesson 2.2 Activity 1 Part B
1:59 Amplify

2 TEACHER-LED DISCUSSION
Discussing What Objects Magnetic Forces Act On

3 Grade 3 Balancing Forces Chapter 2 Lesson 2.2 Activity 2
4:21 Amplify

3 READING
Reading: Handbook of Forces
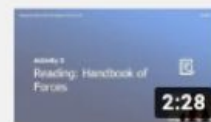
4 Grade 3 Balancing Forces Chapter 2 Lesson 2.2 Activity 3
2:28 Amplify

@Home Videos

Using the resources

- Assign videos for students to watch during remote, asynchronous time

- Leverage synchronous time for live teaching

  - Lots of time? Teach full lessons

  - Less time? Revisit and preview (see table)

Synchronous time
Online discussions   **Hands-on investigations (option for teacher demo)**   **Sim demonstrations**   **Interactive read-alouds**   **Shared Writing**   **Co-constructed class charts**

Planning suggestions: @Home Videos

The Teacher's Guide is the best planning tool for @Home videos.

- Use the **Lesson Overview Compilation** in the Unit Guide as a pacing and planning tool.

- Refer to the lessons themselves to plan for synchronous instruction.

Try **adjusting the playback speed** of videos to preview them.

Amplify.
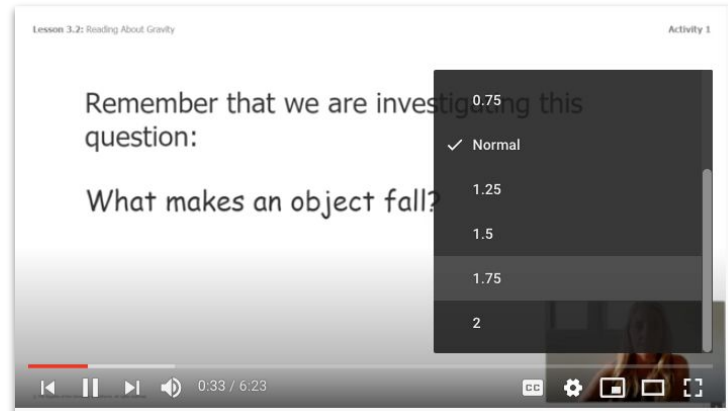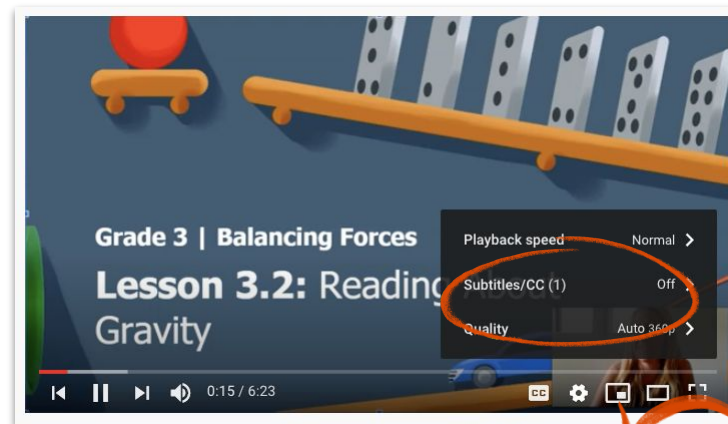
Explore your @Home Videos

Navigate to the Program Hub and explore a video lesson. You may want to compare the video lesson to the lesson in the Teacher's Guide.

During your work time, consider how this resource can help you reach the vision you set for science this year.

	Amplify Science@Home Videos	
Notes from resource overview		
Notes from exploration		
How could this resource help you achieve the vision you set for this school year?		
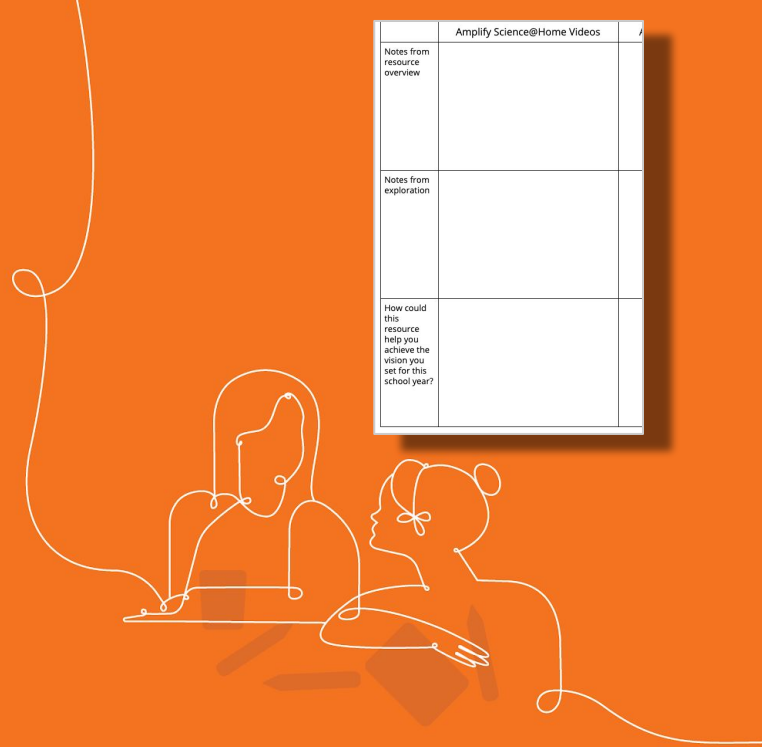
Amplify.

Reflect and Share

How could @Home Videos help you and your teachers achieve the vision you set for science this school year?
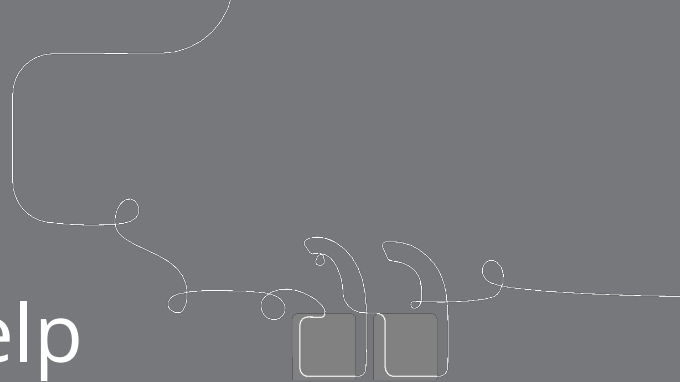
Questions?

Amplify.

@Home Units

Strategically modified versions of Amplify Science units, highlighting key activities from the program

Amplify.
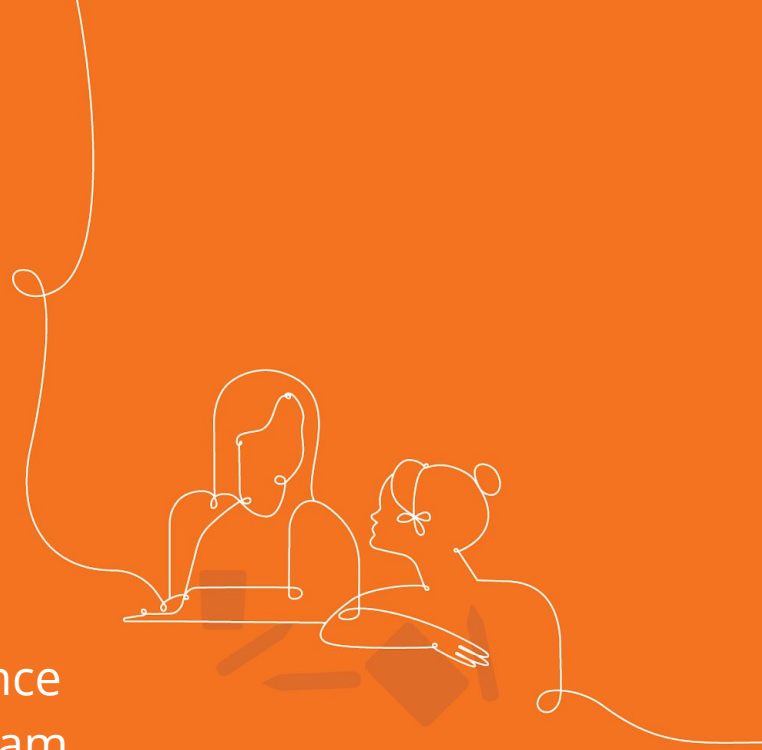
@Home Units

- Solution for **reduced instructional time**
- **Two** options for student access
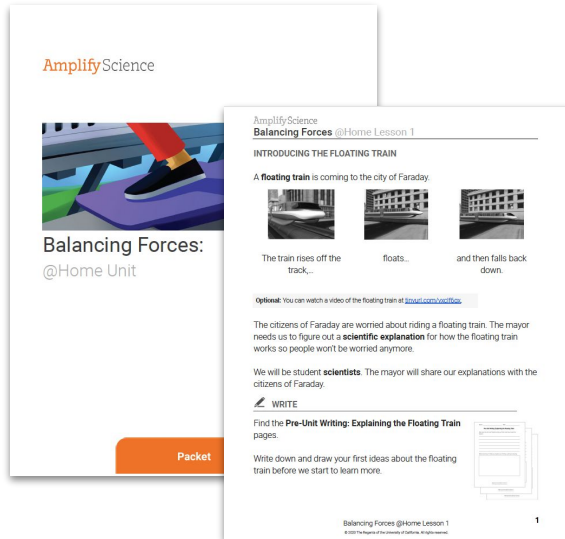
@Home Packets:
print-based
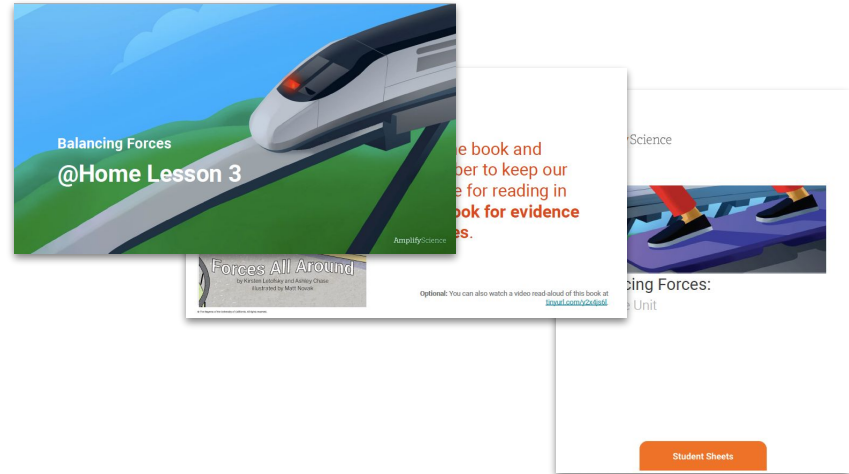
@Home Slides and Student Sheets: tech-based

Options for student access

Embedded links to videos:

- Hands-on demonstrations
- Digital tool activities
- Read-alouds

43

Options for student access

Alternative to embedded video links

Access via curriculum:

- Digital tools (Grades 2-8)
- Digital books (Grades K-5)

Hands-on demos accessible only via embedded YouTube links

apps.learning.amplify.com/elementary

2. Select **Log In with Amplify**

A. | Log In with Amplify
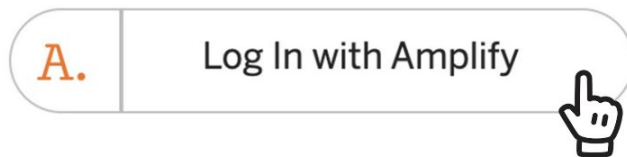
3. Enter the shared **username** and **password** in the fields provided.

Shared usernames based on grade:

- Grade K: nycK
- Grade 1: nyc1
- Grade 2: nyc2
- Grade 3: nyc3
- Grade 4: nyc4
- Grade 5: nyc5

Shared password: **science1** (New in 20/21)

Welcome to **Amplify**

Username

Enter your username

Password   Forgot Password?

Enter your password

Go Back   Log In

@Home Unit resources

All resources are fully editable and customizable

- **Family Overview**
  - Provides context for families
- **Teacher Overview**
  - Outlines the unit and summarizes each lesson
  - Suggestions for adapting for different scenarios
- **Student materials**
  - ~30-minute lessons (slide decks or packets) featuring prioritized activities from Amplify Science curriculum

Example lesson: *Balancing Forces* 2.2

@Home Lesson 5: Combines 2.1 and 2.2

@Home Lesson 5

Adapted from: Amplify Science *Balancing Forces* Lessons 2.1 and 2.2

Key Activities

- **Introducing the Chapter 2 Question:** Students review what they have figured out about the floating train, and are introduced to the Chapter 2 Question.

- **Do:** Students investigate non-touching forces, using any magnets they have on hand and other everyday materials.

- **Talk:** Students discuss evidence of non-touching forces and patterns in what objects are moved by magnets.

Ideas for synchronous or in-person instruction

Before meeting, have students complete the hands-on investigation. When meeting, have students share their observations and ideas. If meeting in person, you might also have students extend their hands-on exploration with materials from the *Balancing Forces* kit (as in *Balancing Forces* Lesson 2.1, Activity 1) before discussing findings.

Teacher Overview

Unit-level

- Overview of resources
- Pacing
- Planning for instructional routines
- Assessment considerations

Lesson-level

- Chapters at a glance
- Lesson outlines

Amplify Science

Balancing Forces:
@Home Unit

Teacher Overview
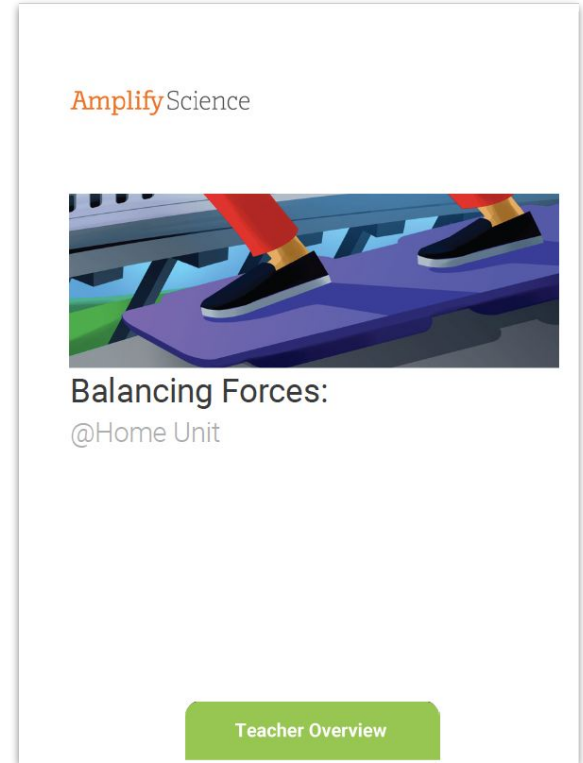
*Appendix provides the student investigation notebook pages that go with each lesson.

Explore your @Home Unit

Navigate to Harnessing to the Program Hub and explore. You may choose to start with the **Family Overview.**

During your work time, consider how this resource can help you reach the vision you set for science this year.

Amplify Science@Home Units
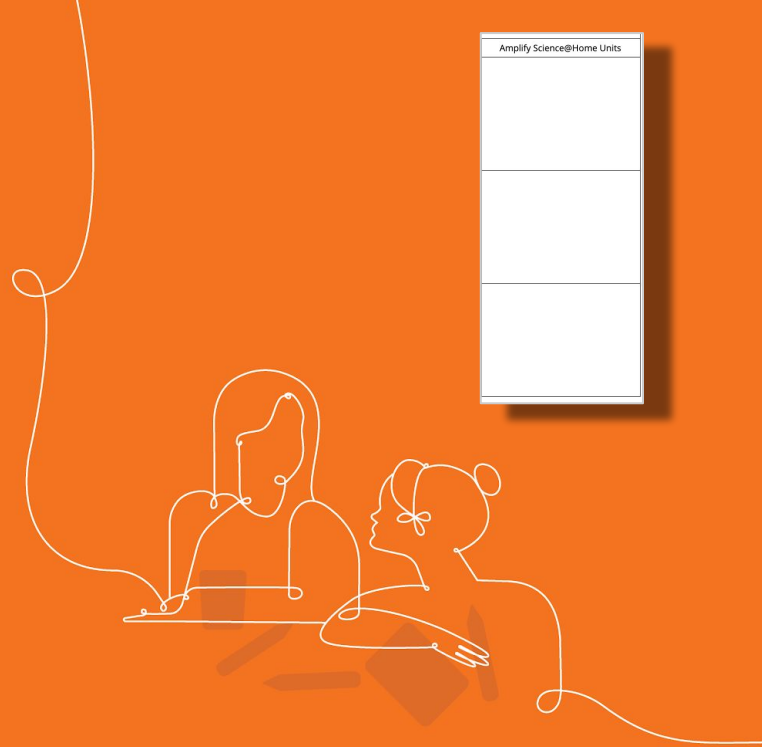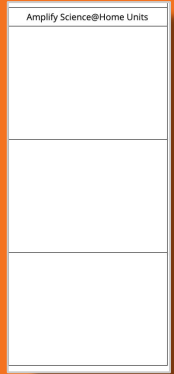
Amplify.

Share insights

How could @Home Units help you and your teachers reach the vision you set for science this school year?

Amplify Science @Home resources

Overview: Amplify Science@Home		
	Amplify Science@Home Videos	Amplify Science@Home Units
Notes from resource overview		
Notes from exploration		
How could this resource help you achieve the vision you set for this school year?		

Questions?

Amplify.

Plan for the day

- Framing the day
  - Welcome and introductions
  - Back-to-school program updates
  - Reflection and vision setting
  - Revisiting the Amplify Approach

- @Home Resources Introduction
  - @Home Videos
  - @Home Units

- Collaborative Work Time
  - Resource selection
  - Supporting science instruction

- Reflection and closing

Amplify.

Overview: Amplify Science@Home		
	Amplify Science@Home Videos	Amplify Science@Home Units
Notes from resource overview		
Notes from exploration		
How could this resource help you achieve the vision you set for this school year?		

Using the resources

Sample instructional scenarios

Amplify.

Sample instructional scenario

Hybrid pod model

	M-T	W	Th-F
Pod 1	In class	Remote online class	Remote
Pod 2	Remote		In class

Sample instructional scenario

Hybrid pod model

Select 1-2 lessons for the week and decide the best instructional format for the different parts of the lesson		
In class	**Remote online class**	**Remote**
• Hands-on investigations (option for teacher demo) • Discourse routines • Class discussions • Physical modeling activities	• Sim demonstrations • Read-alouds • Shared Writing • Co-constructed class charts	• @Home video lessons • @Home Unit activities • Reflective writing • Independently review

@Home Resources example use case

Hybrid Model: Teach live during in-person/synchronous time

Day 1	Day 2	Day 3	Day 4	Day 5
Remote	*In-person*	*Synchronous*	*Remote*	*In-person*
Assign: Lesson 1.1 @Home Video	Teach: Lesson 1.2 live	Teach: Lesson 1.3 using clips from @Home Video	Assign: Lesson 1.4 @Home Packet/Slides	Revisit: hands-on or discourse-based activities the week's lessons

@Home Resources example use case

Remote Model: with synchronous & asynchronous learning

Days 1 & 2

Asynchronous

Assign: Lesson 1.1 @Home Video and sheets for students to work through on their own
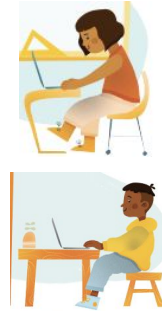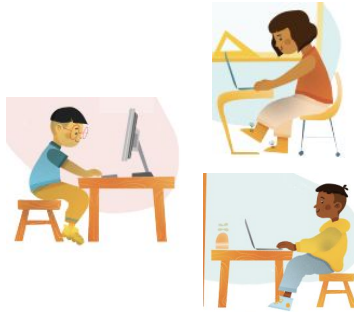
Day 3

Synchronous

Teach: Lesson 1.2 using clips from the @Home Video

Day 4

Asynchronous

Assign: Lesson 1.3 @Home Packet or @Home Slides for students to work through on their own

Day 5

Synchronous

Revisit: hands-on or discourse-based activities from the week's lessons

57

Sample instructional scenario

Remote Asynchronous Model: Students work flexibly through content

Monday-Thursday

Assign 1-2 @Home Lessons (packet or slides) or @Home videos

Friday

Students submit work product through email, Google Classroom, or by writing on paper and texting the teacher a photo of their work

Let's Discuss

How might you suggest teachers use these resources to teach students during remote/hybrid learning?

Administrator resources for supporting science instruction
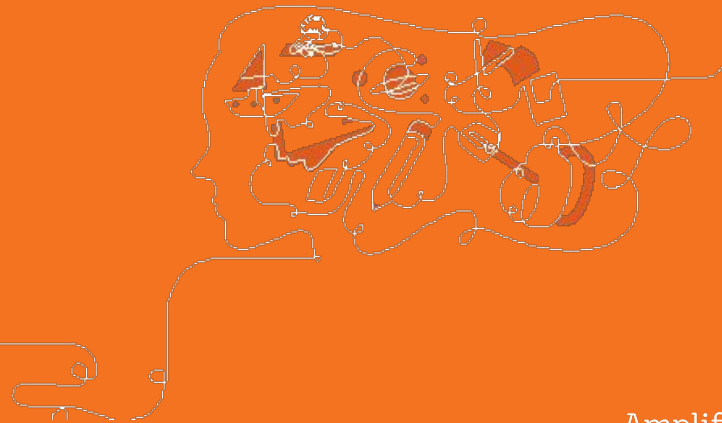
Amplify.

Getting Started Look-For Tool

Amplify Science: Getting started look-for tool

Look for #1: Students are accessing the resources: *This category is intended to highlight visible signs of using the Amplify Science curriculum. These observations can be made over 5-10 minutes or longer.*

Sample evidence through observations and questions	Notes and observations
Classroom environment look-fors: • Classroom wall • Co-constructed charts • Established routines for ease of access to resources • Projections and posters are clear **Student look-fors:** • Referencing classroom wall resources as appropriate • Accessing digital tools, print, and physical resources with ease	

...tiple sources to Investigate Phenomena. This category is intended to ...ree-dimensional learning. These look-fors need at least 15 minutes to a full

...fic lesson you are observing for the specific core ideas, crosscutting concepts and

...figuring out phenomena like a scientist, engaged in 3-D learning. You will ...visualize), during which they use academic language and unit words to ...portunities to construct understanding.

Notes and observations

• modeling
• Students reading
• Students discussing

Student Questions to ask:
• What are you figuring out today?
• What can you tell me about the chapter question?
• How did you figure that out? What is your evidence?

...Progress Build. This category is intended to highlight how students are ...me, across multiple class periods within a unit.

...ow students constructing increasingly complex explanations over time. You ...n response to assessment. Over time, students working towards meeting

Notes and observations

Amplify.

Questions?

Amplify.
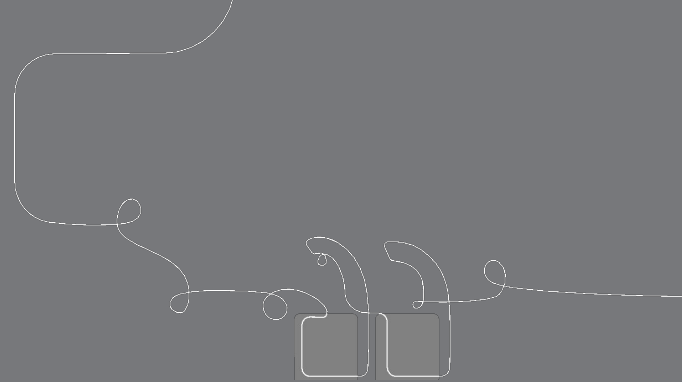
Look-For Tool Reflection

- What do you find most helpful about this tool?

- What might you adjust to make it work better for you?

Amplify.

Questions?

Amplify.

Plan for the day

- Framing the day
  - Welcome and introductions
  - Back-to-school program updates
  - Reflection and vision setting
  - Revisiting the Amplify Approach

- @Home Resources Introduction
  - @Home Videos
  - @Home Units

- Collaborative Work Time
  - Resource selection
  - Supporting science instruction

- Reflection and closing

Amplify.

Closing
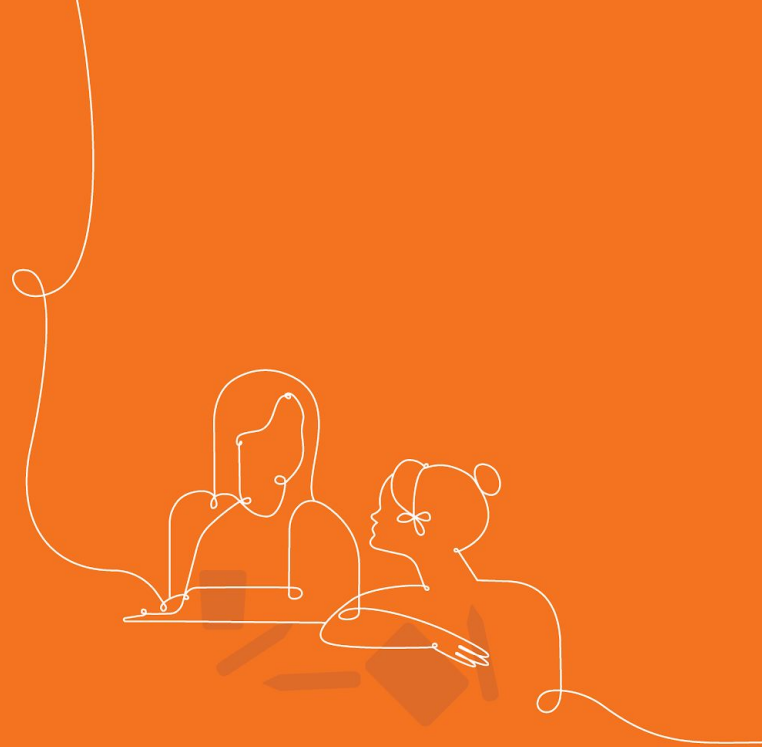
Amplify.

Vision Reflection

Revisit the vision you set at the beginning of this session.

How will the Amplify Science@Home help you reach that goal?
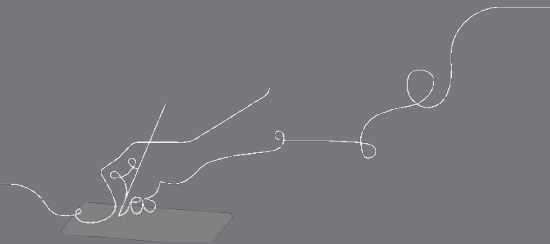
Amplify.

Revisiting our objectives

Are you able to…

- Make an informed decision about which of the Amplify Science Hybrid Learning Resources will best support your teachers?

- Become familiar with "look fors" that administrators should see in an effective three dimensional science instruction?

- Discuss ways in which administrators can support the teaching of science in the coming school year?

1- I'm not sure how I'm going to do this!

3- I have some good ideas but still have some questions.

5- I have a solid plan for how to make this work!
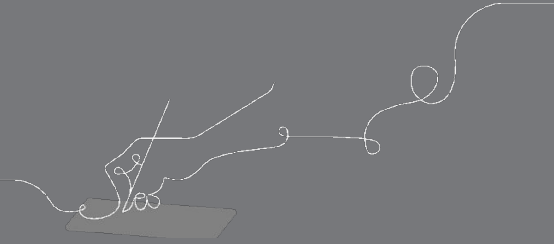
Amplify.

New York City Resources Site

https://amplify.com/amplify-science-nyc-doe-resources/

Amplify.

Amplify Science Resources for NYC (K-5)

—

Welcome! This site contains supporting resources designed for the New York City Department of Education Amplify Science adoption for grades K–5.

UPDATE: Summer 2020

Introduction

Getting started resources

Planning and implementation resources

Admin resources

Parent resources

COVID-19 Remote learning resources 2020

Professional learning resources

Questions

UPDATE: Summer 2020

Account Access: It's an exciting time for Amplify Sc... have access to the many updates and upgrades in ou... your regular credentials to login and begin your su... curriculum until late August/early September whe... rosters from STARS.

Any schools or teachers new to Amplify Science in 20/21 are encouraged to contact our Help Desk (1-800-823-1969) for access to your temporary login for summer planning.

Upcoming PL Webinars: Join us for our Summer 2020 Professional Learning opportunities in July for NEW teachers and administrators and August for RETURNING teachers and administrators. Links to register coming soon!

Site Resources

- Login information
- Pacing guides
- Getting started guide
- NYC Companion Lessons
- Resources from PD sessions
- And much more!

Amplify.

Additional Amplify resources
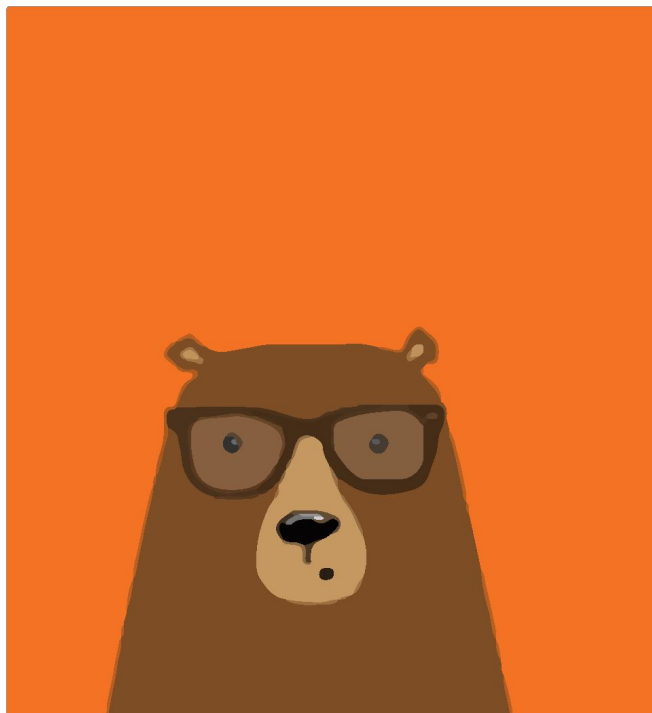
Program Guide

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

https://my.amplify.com/programguide/content/national/welcome/science/

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help

Additional Amplify Support

Customer Care

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support, weekdays 7AM-7PM EST.

scihelp@amplify.com

800-823-1969

Amplify Chat

When contacting the customer care 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.

Please provide us feedback!

URL: https://tinyurl.com/AmplifyPD20-21

Presenter name: XXX

Workshop title: Navigating Program Essentials (K-5)

Modality: Remote

Amplify.

Reference and Guidance

Amplify.
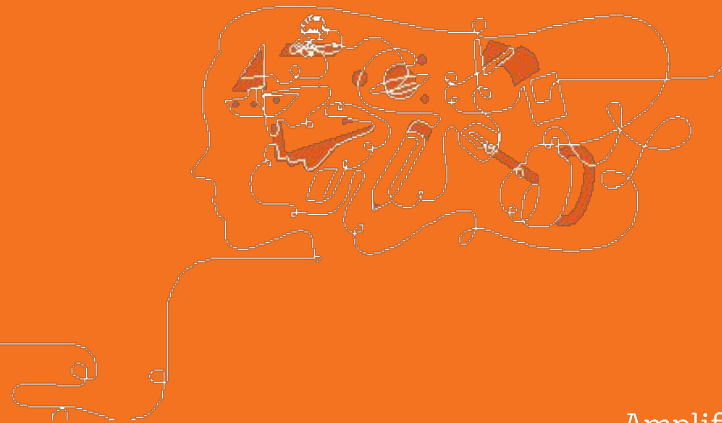
Addressing Hands-on

For both @Home Slides and @Home Packets, activities which require specific physical materials have been modified or made **optional**. *Note: student resources include information about how to access videos (links are provided in packets and slides) of these activities, which can be viewed on any digital device, including smart phones.*

Additional Suggestions
- Do the activity with simple materials students are likely to have at home (for activities where this is feasible, instructions are provided.)
- Watch a video. (For many hands-on activities in the @Home Units, a video / images of the investigation is provided.)
- Do the activity using kit materials if available. For example,
  - If possible, send home materials to students who need them.
  - If you have access to your Amplify Science kit, and have opportunities to teach synchronously, demonstrate some hands-on activities with student input.

Amplify.

Addressing Student Talk

Suggestions

- Talk to someone in their household about their ideas
- Talk to a stuffed animal or pet about their ideas
- Call a friend and discuss their ideas
- Talk in breakout groups in a video class meeting

Amplify.

Addressing Student Writing

Suggestions

- Write in a designated science notebook
- Photograph writing and submit digitally
- Complete prompts in another format (Teachers can convert prompts so they are completed in an on-line survey or a writable sheet so students can submit digitally.)
- Submit audio or video responses digitally, rather than submit a written response.
- Share a response orally with a family member or friend with no submission required.

- 6-8, For students with technology access, complete written work in the Amplify Science app (links to corresponding student activities are provided in the @Home Slides).

Amplify.

Addressing Student Reading

Suggestions

- Read physical books/printed articles (Teacher would provide copies for some or for all students)
- Read books/articles in a digital format via the Elementary Apps page/library
- Listen to the digital book/articles being read aloud
- Watch videos of a book/article read aloud using a digital device (phone, tablet, or computer)
- Read with a family member, partner, or classmate.
- Grades 2-5, Use the optional Getting Ready to Read pages, Reading Reflection pages, and Multiple Meaning Words pages from the *Balancing Forces* Investigation notebook. (Note that some of these have been included in @Home reading lessons, but you may consider adding others for a more robust experience with the student books.)

Amplify.

Addressing the Classroom Wall

A complete list of chapter questions, key concepts, and vocabulary that have been introduced so far are provided in the last lesson of each chapter; these are on student sheets in the @Home Packet and on slides in the @Home Slides. To enhance students' experience of the @Home Science Wall, you could have them:

- Draw a picture or write their ideas on their @Home Science Wall pages.
- Highlight or color in each question, key concept, or word that is introduced.
- Cut out each question, key concept, or word. These can be then posted on a wall, large sheet of paper, or refrigerator at home.
- Have students illustrate each word that is introduced to create a picture glossary.

Additionally, if you are meeting with your class remotely, you could create a virtual @Home Science Wall.

Addressing Assessment

Each chapter outline contains considerations for assessment and feedback in the Amplify Science units, and in some cases, the pre-unit and end-of-unit assessments. Generally, we recommend the following:

- You may need to adapt the format in which you collect student work. See the "Student writing options" above.
- When providing feedback to students, you may wish to focus on how students are attending to the investigation and/or chapter questions, if they are using evidence they have gathered to support their responses to questions, and if they are using appropriate unit vocabulary in their responses.

Guidance for Synchronous and In-Person Learning

- Ideas are provided for each lesson.
- If you are able to choose particular lessons to conduct together with students, we recommend:
  - Holding **discussions** to engage students in figuring out the unit phenomenon.
    - At the **beginning of each chapter** so students can share their <u>initial ideas</u> or evolving ideas about the unit phenomenon.
    - At the **end of the chapter** so students can talk as they <u>make sense of evidence</u>, and/or <u>synthesize</u> various sources of information, and make an <u>explanation</u> or <u>argument</u> about the phenomenon.
  - If you have access to kit materials, you can conduct **hands-on demonstrations** when hands-on materials are unavailable to students. Solicit student input as you demonstrate.
  - If students do not have access to technology at home, when in-person, you can provide time for them to make observations and discuss ideas related to the simulations and digital tools.

@Home Unit Pacing

Example

Chapter	Number of @Home Lessons
Chapter 1: How does Spruce the Sea Turtle do what she needs to do to survive?	5
Chapter 2: How can Spruce the Sea Turtle survive where there are sharks?	5
Chapter 3: How can Spruce the Sea Turtle's offspring survive where there are sharks?	4
Chapter 4: How can aquarium scientists explain animal defenses to visitors?	1
Total: 15 lessons @ approx. 30 minutes each.	

Amplify.

@Home Unit Pacing

Condensing Units

- Lessons are approximately 30 minutes, but do not need to be completed in one sitting. Each lesson has suggested breaking points.
- Complete one chapter at a time - each chapter is a complete and coherent step in figuring out the anchor phenomenon and developing an understanding of the DCIs. Each chapter also engages students in the SEPs.

@Home Unit Pacing

Expanding Units

- Suggestions specific to each unit are included in the Teacher Overview Document.

For Animal and Plant Defences here are some examples:

- Include additional lessons or activities from the *Animal and Plant Defenses* unit. Specific suggestions are provided with each Chapter Outline.
- Suggest related everyday phenomena for students to explore, for example investigating how a local plant or animal survives and then creating a model to explain how it survives. Various websites offer at-home explorations, phenomena ideas, and videos.
- Include having students reread books for a new purpose. For example, reading *Spikes, Spines and Shells* to learn about living things that defend themselves with venom.
- Include writing sentences on paper as a follow-up to using the language frames or completing the writing planners.
- Include relevant and feasible extensions from the *Animal and Plant Defenses* Opportunities for Unit Extensions document: https://my.amplify.com/programguide/wp

Amplify.