

# Amplify Science

## New York City

### Guided Unit Internalization With @Home Resources



# Year at a glance

## Units per year

K-2 **3** 3-5 **4**

## Unit types

Although every Amplify Science unit provides a three-dimensional learning experience, each unit emphasizes one of the following specific science and engineering practices.

### Investigation

Investigation units focus on the process of strategically developing investigations and gathering data to answer questions. Students are first asked to consider questions about what happens in the natural world and why, and are then involved in designing and conducting investigations that produce data to help answer those questions.

### Modeling

These Amplify Science units provide extra support to students engaging in the practice of modeling. Students use physical models, investigate with computer models, and create their own diagrams to help them visualize what might be happening on the nanoscale.

### Engineering design

Engineering design solves complex problems by applying science principles to the design of functional solutions, and iteratively testing those solutions to determine how well they meet pre-set criteria. All Amplify Science engineering design units are structured to make the development of such solutions the central focus.

### Argumentation (grades 3–5)

These Amplify Science units provide extra support to students engaging in the practice of argumentation. As students move up the K–5 grades, they focus on important aspects of argumentation in an intentional sequence.

## Course structure

### Key

- |                        |                             |
|------------------------|-----------------------------|
| <b>A</b> Argumentation | <b>E</b> Engineering design |
| <b>I</b> Investigation | <b>M</b> Modeling           |

### Kindergarten (66 lessons)

*Needs of Plants and Animals* 22 lessons **I**

*Pushes and Pulls* 22 lessons **E**

*Sunlight and Weather* 22 lessons **M**

### Grade 1 (66 lessons)

*Animal and Plant Defenses* 22 lessons **M**

*Light and Sound* 22 lessons **E**

*Spinning Earth* 22 lessons **I**

### Grade 2 (66 lessons)

*Plant and Animal Relationships* 22 lessons **I**

*Properties of Materials* 22 lessons **E**

*Changing Landforms* 22 lessons **M**

### Grade 3 (88 lessons)

*Balancing Forces* 22 lessons **M**

*Inheritance and Traits* 22 lessons **I**

*Environments and Survival* 22 lessons **E**

*Weather and Climate* 22 lessons **A**

### Grade 4 (88 lessons)

*Energy Conversions* 22 lessons **E**

*Vision and Light* 22 lessons **I**

*Earth's Features* 22 lessons **A**

*Waves, Energy, and Information* 22 lessons **M**

### Grade 5 (88 lessons)

*Patterns of Earth and Sky* 22 lessons **I**

*Modeling Matter* 22 lessons **M**

*The Earth System* 26 lessons **E**

*Ecosystem Restoration* 22 lessons **A**

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	patterns	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, proportion, and quantity	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	structure and function	making inferences	explanation
	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, proportion, and quantity	making inferences	explanation
	The Earth System	water resource engineer	design	systems	synthesizing	explanation
	Ecosystem Restoration	ecologist	argumentation	energy and matter	making inference and synthesizing	scientific argument

# Unit Guide resources

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Once a unit is selected, select **JUMP DOWN TO UNIT GUIDE** in order to access all unit-level resources in an Amplify Science unit.

## Planning for the unit

<b>Unit Overview</b>	Describes what's in each unit, the rationale, and how students learn across chapters
<b>Unit Map</b>	Provides an overview of what students figure out in each chapter, and how they figure it out
<b>Progress Build</b>	Explains the learning progression of ideas students figure out in the unit
<b>Getting Ready To Teach</b>	Provides tips for effectively preparing to teach and teaching the unit in your classroom
<b>Materials and Preparation</b>	Lists materials included in the unit's kit, items to be provided by the teacher, and briefly outlines preparation requirements for each lesson
<b>Science Background</b>	Adult-level primer on the science content students figure out in the unit
<b>Standards at a Glance</b>	Lists NGSS Standards (Performance Expectations, Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts), Common Core State Standards for English Language Arts, and Common Core State Standards for Mathematics

## Teacher references

<b>Lesson Overview Compilation</b>	Lesson Overview of each lesson in the unit, including lesson summary, activity purposes, and timing
<b>Standards and Goals</b>	Lists NGSS (Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts) and CCSS (English Language Arts and Mathematics) standards in the unit, explains how the standards are reached
<b>3-D Statements</b>	Describes 3-D learning across the unit, chapters, and in individual lessons
<b>Assessment System</b>	Describes components of the Amplify Science assessment system, identifies each 3-D assessment opportunity in the unit
<b>Embedded Formative Assessments</b>	Includes full text of formative assessments in the unit
<b>Books in This Unit</b>	Summarizes each unit text and explains how the text supports instruction
<b>Apps in This Unit</b>	Outlines functionality of digital tools and how students use them (in grades 2-5)
<b>Flextensions in This Unit</b>	Summarizes information about the Hands-On Flextension lesson(s) in the unit

## Printable resources

<b>Coherence Flowcharts</b>	Visual representation of the storyline of the unit
<b>Copymaster Compilation</b>	Compilation of all copymasters for the teacher to print and copy throughout the unit
<b>Flextension Compilation</b>	Compilation of all copymasters for Hands-on Flextension lessons throughout the unit
<b>Investigation Notebook</b>	Digital version of the Investigation Notebook, for copying and projecting
<b>Multi-Language Glossary</b>	Glossary of unit vocabulary in multiple languages
<b>NGSS Information for Parents and Guardians</b>	Information for parents about the NGSS and the shifts for teaching and learning
<b>Print Materials (8.5" x 11")</b>	Digital compilation of printed cards (i.e. vocabulary cards, student card sets) provided in the kit
<b>Print Materials (11" x 17")</b>	Digital compilation of printed Chapter Questions and Key Concepts provided in the kit

# Guided Unit Internalization Planner

## Unit-level internalization

Unit title:

What is the phenomenon students are investigating in your unit?

Unit Question:

Student role:

By the end of the unit, students figure out ...

What science ideas do students need to figure out in order to explain the phenomenon?

# AmplifyScience@Lesson Adaptation Tool (Remote/Hybrid)

Lesson:	Date:
<b>Lesson purpose:</b> [Lesson Brief: Overview]	<b>3-D connections and formative assessment opportunities:</b>
<b>What the students will learn in this lesson and potential challenges.</b>	<b>How will the students be practicing the multiple modalities during this lesson?</b>

# Amplify Science sample lesson planning template cont.

## Part 2: Getting ready to teach

Look at the Classroom Slides, digital tools, and books, as well as the Step-by-Step, Teacher Supports, and Possible Responses tabs in the Instructional Guide.

<b>Teaching notes</b>		<b>Remote/Hybrid Adaptation notes</b>
Consider:	<ul style="list-style-type: none"><li>• What will the students experience in each activity?</li><li>• How does each activity support students in achieving the purpose of the lesson?</li><li>• What do you feel comfortable with?</li><li>• What challenges might you encounter in teaching this lesson, and how might you address these challenges?</li></ul>	Consider: <ul style="list-style-type: none"><li>• Materials will you need to prepare</li><li>• Differentiate</li><li>• Time for lesson</li><li>• Your classroom instructional model</li><li>• Student's access to technology</li><li>• 3rd party applications</li><li>• Add a hands on component? (model via video Or complete during in person synchronous instruction)</li></ul>
Activity 1		
Time:		
Activity 2		
Time:		
Activity 3		
Time:		
Activity 4		
Time:		
Activity 5		
Time:		

## Suggestions for synchronous time

The following are some ideas for making the most of synchronous time with your students. As a general rule, the best way to use your synchronous time is to provide students opportunities to talk to one another, or to observe or visualize things they could not do independently.

<b>Online synchronous time</b>	<b>Notes</b>
<p><b>Online discussions:</b> It's worthwhile to establish norms and routines for online discussions in science to ensure equity of voice, turn-taking, etc.</p> <p><b>Digital tool demonstrations:</b> You can share your screen and demonstrate, or invite your students to share their screen and think-aloud as they use a Simulation or other digital tool.</p> <p><b>Interactive read-alouds:</b> Screen share a digital book or article, and pause to ask questions and invite discussion as you would in the classroom.</p> <p><b>Shared Writing:</b> This is a great opportunity for a collaborative document that all your students can contribute to.</p> <p><b>Co-constructed class charts:</b> You can create digital charts, or create physical charts in your home with student input.</p>	



## Amplify Science: New York City Resources

**Amplify's New York City Resources Site:** This live website was created for New York City educators, administrators and staff. Resources have been organized by grade bands: K-5 and 6-8. A menu of resources found on the New York City Site are below. Remember to check back for frequent updates!

**Main Site:** <https://amplify.com/amplify-science-nyc-doe-resources>

**K-5 direct link:** <https://amplify.com/resources-page-for-nyc-K-5/>

**6-8 direct link:** <https://amplify.com/resources-page-for-nyc-6-8/>

Resource	Description	Link / Information
Amplify Science Pedagogical Support team	Support provided by Amplify Science pedagogical support team available Monday-Friday from 7AM-7PM EST.	<p><b>Email:</b> <a href="mailto:help@amplify.com">help@amplify.com</a></p> <p><b>Phone:</b> 800-823-1969</p> <p><b>Chat icon:</b> lower right- hand corner of your screen when logged in to Amplify Science.</p>
Login and Account Access 2020-2021 Update	For all inquiries around the status of your account please contact the Core Curriculum office at curriculum@schools.nyc.gov or via phone at (718) 935-3334. (Updated 9/21/20)	<a href="#">NYC Resource Site direct link for BTS 20-21 Login and Account Access Update</a>
K-5 Login Instruction	Amplify Science one pagers for login steps to the platform located on the NYC Resource Site.	<ul style="list-style-type: none"> <li>Classroom teachers: Login with <a href="#">Amplify</a> or <a href="#">TeachHub</a></li> <li>Cluster teachers: Login with <a href="#">Amplify</a></li> <li>K-5 administrators: Login with <a href="#">Amplify</a> or <a href="#">TeachHub</a></li> <li>K-5 students: Shared student logins <a href="#">login with Amplify</a></li> <li>Other staff (co-teachers, ICT, etc.): Administrator instructions</li> </ul>

		for creating a <a href="#">Shared Teacher Login</a>
6-8 Login Instruction	Amplify Science one pagers for login steps to the platform located on the NYC Resource Site.	<ul style="list-style-type: none"> <li>• 6-8 science teacher: Login with <a href="#">Amplify</a> or <a href="#">TeachHub</a></li> <li>• 6-8 administrator: Login with <a href="#">Amplify</a> or <a href="#">TeachHub</a></li> <li>• 6-8 students: Login with <a href="#">Amplify</a> or <a href="#">TeachHub</a></li> <li>• Other staff (co-teachers, ICT, etc.): Administrator instructions for creating a <a href="#">Shared Teacher Login</a></li> <li>• How to <a href="#">reset student(s) password</a></li> <li>• How to <a href="#">log my class out of a shared device</a></li> <li>• <a href="#">Clever class logout instructions</a></li> </ul>
Amplify Science: Program hub information	The Program Hub features remote learning resources, training videos, and hands-on investigation videos.	<a href="#">NYC Resource Site direct link for Amplify Science: Program hub help article</a>
Amplify Science new @Home Units information	New @Home Units are available as both digital and print resources. These units are condensed versions of the core Amplify Science units, feature key activities optimized for remote learning, and take significantly less instructional time. (15-18 lessons per unit @ 30 minutes per lesson).	<a href="#">NYC Resource Site direct link for Amplify Science @Home Units help article</a>

<p>K-5 Amplify Science Webinar Registration and Recordings</p>	<p>Registration for live Amplify Science webinars covering new @Home features, navigating the digital Teacher's Guide, and so much more. Each session will be recorded and shared here.</p>	<p><a href="#">NYC Resource Site direct link for Amplify Science K-5 Webinars Registration and Recordings</a></p>
<p>6-8 Amplify Science Professional training videos and Office hours Registration</p>	<p>Sessions and office hours held for teachers and administrators. Asynchronous webinars will be followed by live office hours on the respective dates (10/7 and 10/8).</p>	<p><a href="#">NYC Resource Site direct link for MS Professional training videos and Office hours</a></p>
<p>Amplify Science K-5 Scope and Sequence for NYC DOE Amplify Schools</p>	<p>Recommended Amplify Science K-5 Scope and Sequence for NYC DOE</p>	<p><a href="#">NYC Resource Site direct link to K-5 Course Structure</a></p>
<p>6-8 Middle School Unit Updated Sequence for the 2020-2021 School Year</p>	<p>NYC Middle School Unit Updated Sequence for the 2020-2021 School Year</p>	<p><a href="#">NYC Resource Site direct link for Middle School Updated Sequence for the 2020-2021 School Year</a></p>
<p>Program Hub Initial K-8 Orientation Video Series</p>	<p>This part of the site contains a suite of training videos and other resources that will help teachers get to know the Amplify Science program through self study.</p>	<p><a href="#">Program Hub direct link to Orientation Video Series</a>  *login using your Amplify Science credentials</p>
<p>Amplify Science @Home Resources at-a-glance deck PDF</p>	<p>PDF Resource for more support navigating the @Home resources.</p>	<p><a href="#">Program Hub direct link for Amplify Science @Home Resources at-a-glance</a>  *login using your Amplify Science credentials</p>
<p>Amplify Science @Home Slides + Student Sheets: K-5 teacher tutorial video</p>	<p>Teacher and Administrator facing YouTube video tutorial on how to use</p>	<p><a href="#">Program Hub direct link for Amplify Science @Home Slides + Student Sheets: K-5 Teacher Tutorial video</a></p>

	@Home Slides + Student sheets for grades K-5	*login using your Amplify Science credentials
Amplify Science K-5 teacher tutorial video: How to Access Student Books Digitally	Teacher and Administrator facing YouTube video tutorial on how to access K-5 books digitally.	<a href="#">Program Hub direct link to Amplify Science K-5 : How to Access Student Books Digitally teacher tutorial video</a>  *login using your Amplify Science credentials
Amplify Science K-5 teacher tutorial video: How to Access Student Applications	Teacher and Administrator facing YouTube video tutorial on how teachers and students can access K-5 students applications.	<a href="#">Program Hub direct link to Amplify Science K-5: Student Apps Access teacher tutorial video</a>  *login using your Amplify Science credentials
Amplify Science @Home Units student tutorial videos	Student facing YouTube video tutorial on how to use @Home Unit resources. Teachers can share this with their remote classrooms to help support students.	<a href="#">Direct link from Program Hub to @Home Units student tutorial video</a>  *login using your Amplify Science credentials
Amplify Science @Home Videos student tutorial videos	Student facing YouTube video tutorial on how to use @Home Video resources. Teachers can share this with their remote classrooms to help support students.	<a href="#">Direct link from Program Hub to @Home Videos student tutorial video</a>  *login using your Amplify Science credentials
Caregiver Site	Amplify Science elementary school families resource and information site.	<a href="#">NYC Resource Site direct link for Caregiver Site</a>
Caregiver @Home Resources YouTube tutorial videos	Youtube videos for families to learn more about the Amplify Science@Home Resources.	<ul style="list-style-type: none"> <li>• <a href="#">Caregiver direct link to Amplify Science @Home Videos: K-5 Caregiver Tutorial</a></li> </ul>

		<ul style="list-style-type: none"> <li>• <a href="#">Caregiver direct link to Amplify Science @Home Slides: K-5 Caregiver Tutorial</a></li> <li>• <a href="#">Caregiver direct link to Amplify Science @Home Packets: K-5 Caregiver Tutorial</a></li> </ul>
K-5 2019 FAQ	FAQ including responses to the most frequently asked K-5 questions for 2019.	<a href="#">NYC Resource Site direct link for K-5 FAQ</a>
6-8 2019 FAQ	FAQ including responses to the most frequently asked 6-8 questions for 2019.	<a href="#">NYC Resource Site direct link for 6-8 FAQ</a>
Amplify Science program updates	Site describing updates for Amplify Science	<a href="#">NYC Resource Site direct link for Amplify Science updates</a>
Admin Dashboard Overview	Overview guide for principals and APs on how to access 6-8 admin reports and what's included.	<a href="#">NYC Resource Site direct link to Admin Dashboard Overview</a>

# NYC Program Guide

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

<https://my.amplify.com/programguide/content/national/welcome/nyc/>

# Amplify Help

Advice and answers from the Amplify team.

[my.amplify.com/help](https://my.amplify.com/help)



# Customer Care

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



[scihelp@amplify.com](mailto:scihelp@amplify.com)



800-823-1969



Amplify Chat

