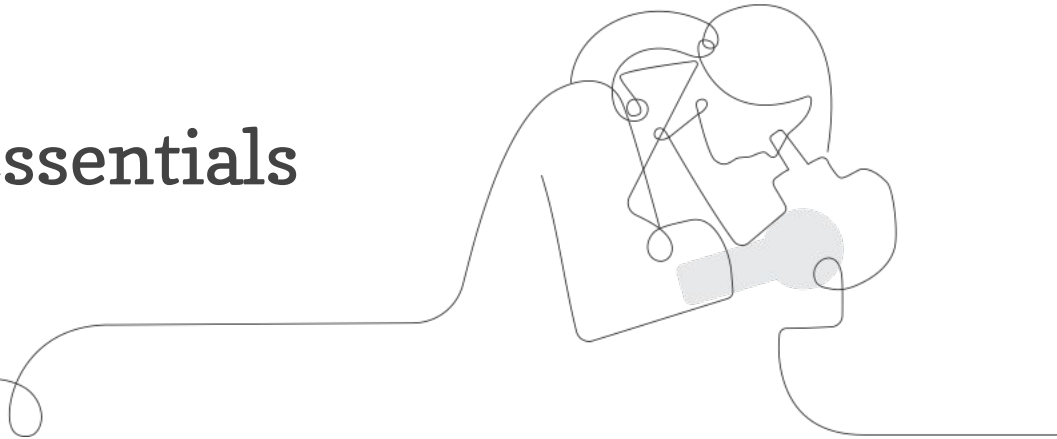
Do now: Please login to your Amplify Science account. Let me know if you need support!

Amplify Science



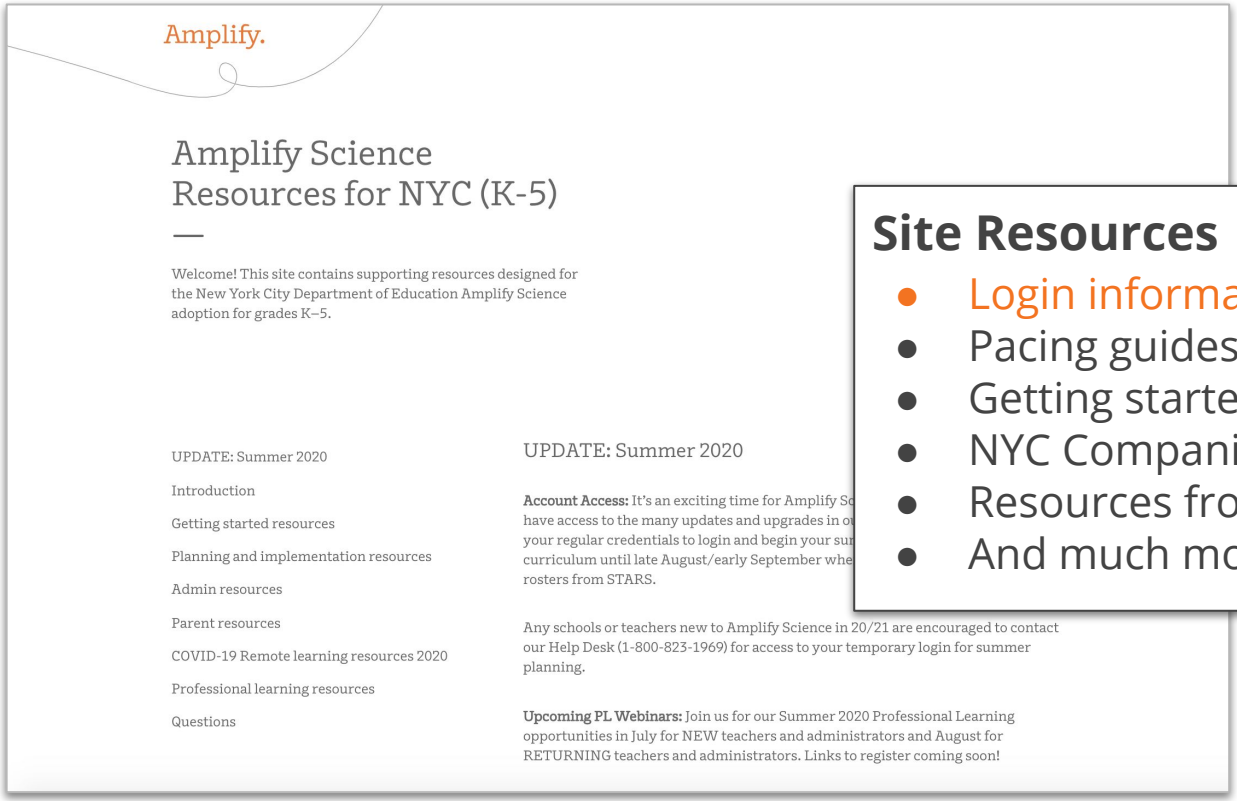
Navigating Program Essentials

Grades 6-8

NYC DOE
October 14 & October 15
Presented by

New York City Resources Site

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



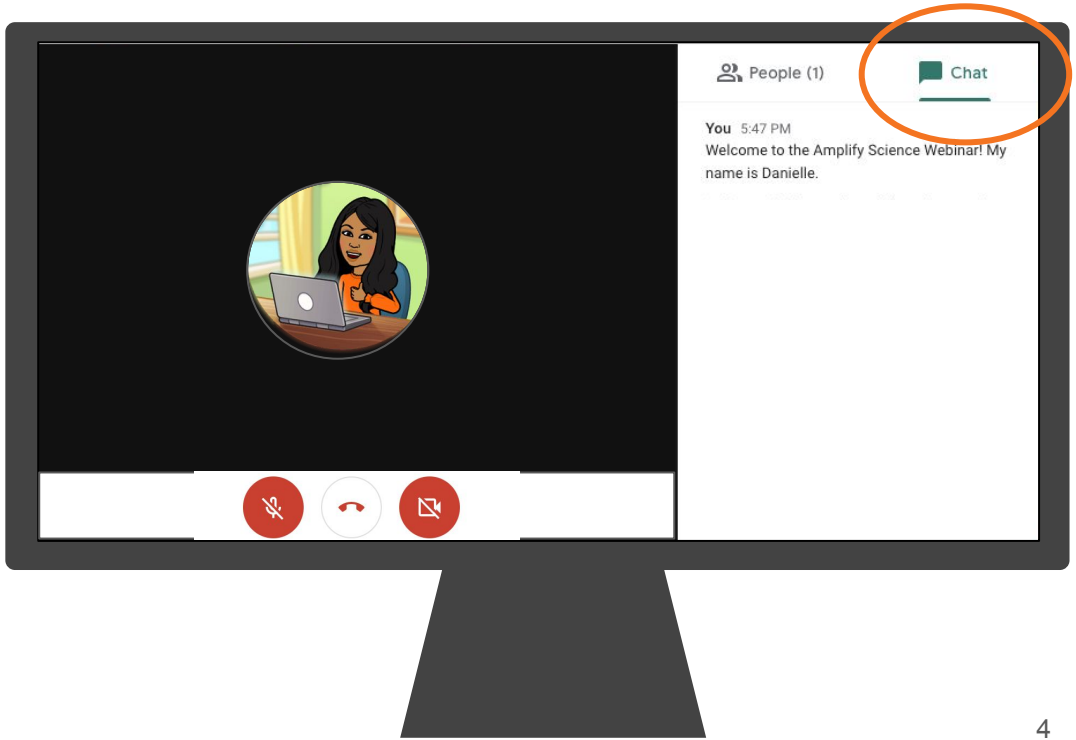
Site Resources

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

Introductions!

Who do we have in the room today?

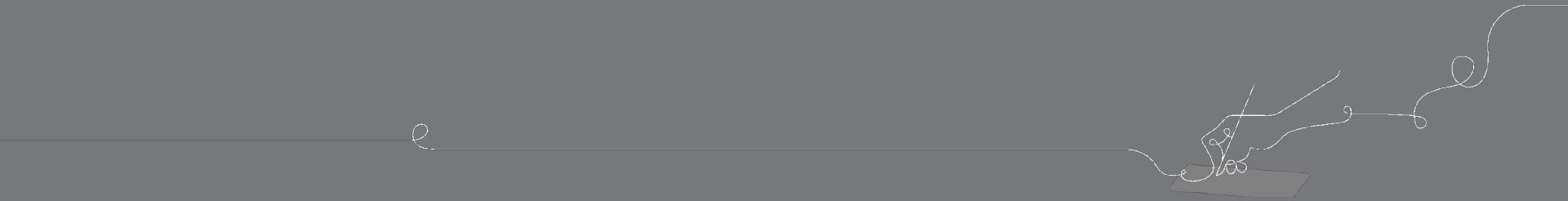
- **Question 1:** Which aspects of adopting a new science curriculum are you most excited or hopeful about?
- **Question 2:** What about adopting a new science curriculum to do you feel most hesitant about?

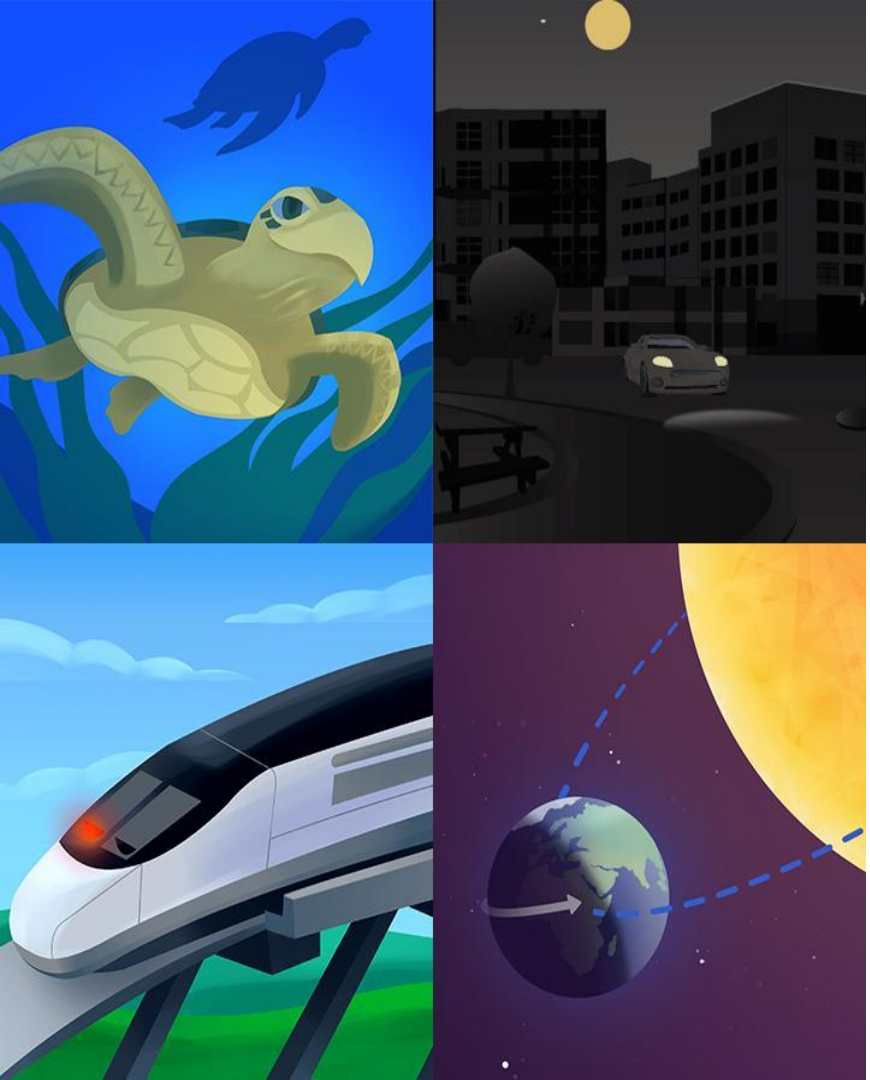


Overarching goals

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

- Navigate the Amplify Science curriculum.
- Understand the program's phenomenon-based approach.
- Apply the program essentials to prepare to teach.





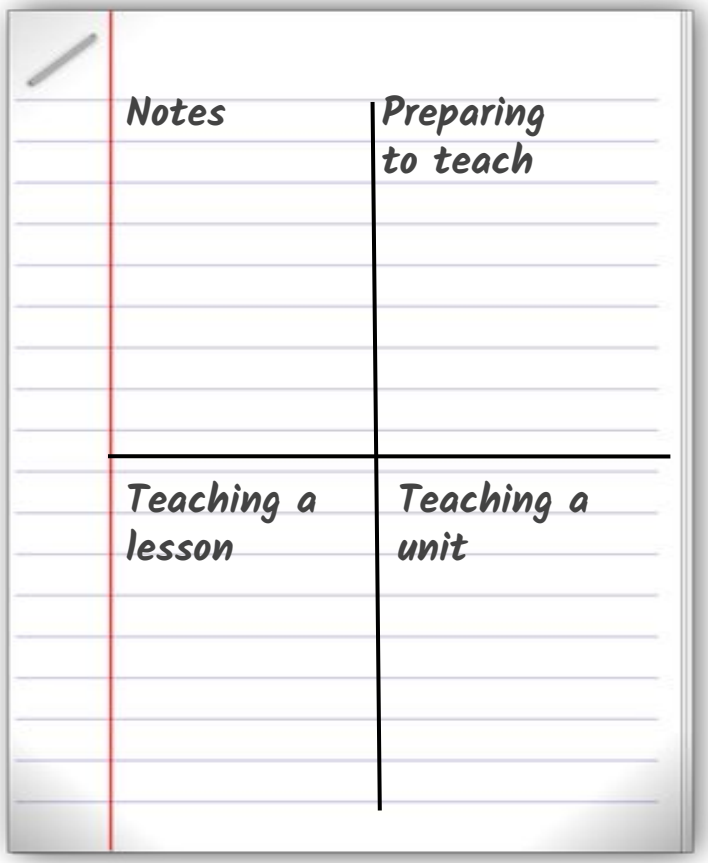
Plan for the day

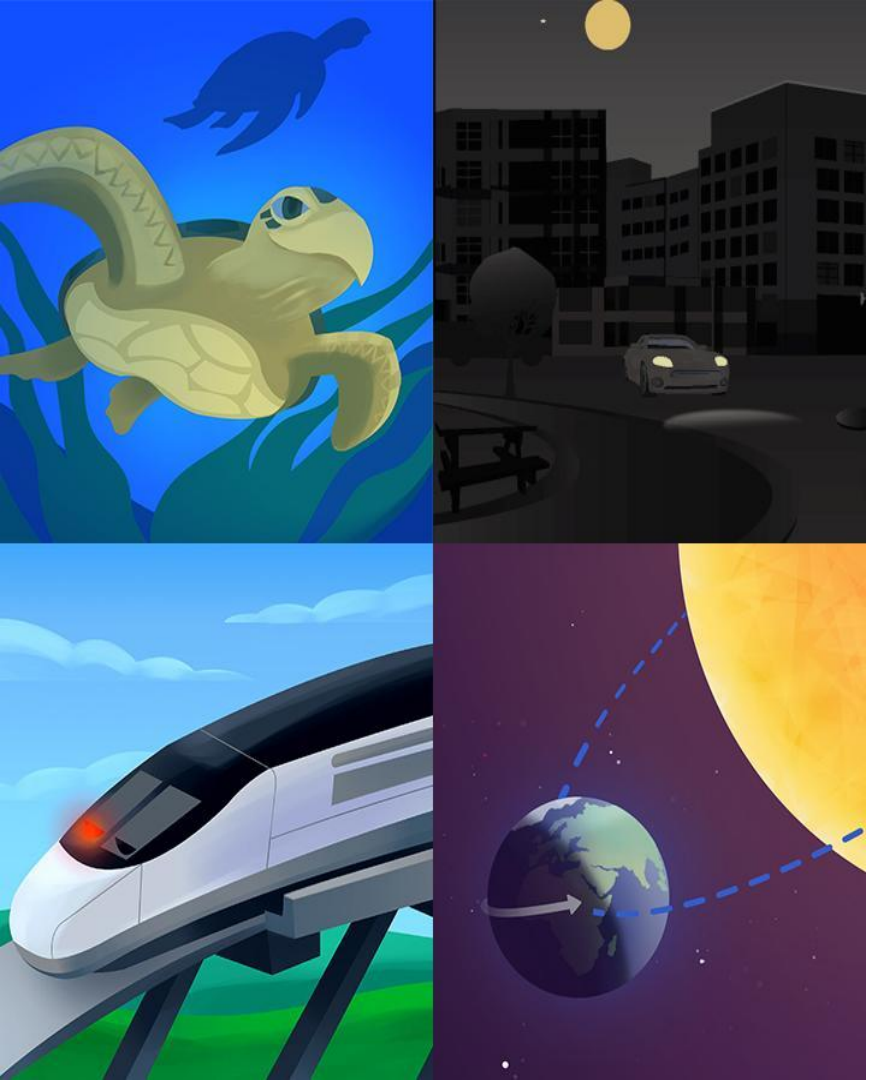
- Framing the day
  - What is Amplify Science?
- Preparing to teach
  - Phenomenon-based instruction
  - Navigation
  - 3-step method
- Teaching a lesson
  - Example lesson
  - Reflection
- Teaching a unit
  - Coherence
  - Unit Guide resources
- Reflection and closing

Norms: Establishing a culture of learners

- **Take risks:** Ask any questions, provide any answers.
- **Participate:** Share your thinking, participate in discussion and reflection.
- **Be fully present:** Unplug and immerse yourself in the moment.
- **Physical needs:** Stand up, get water, take breaks.

Capturing key takeaways!





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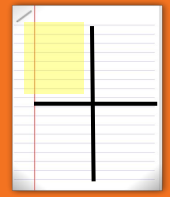
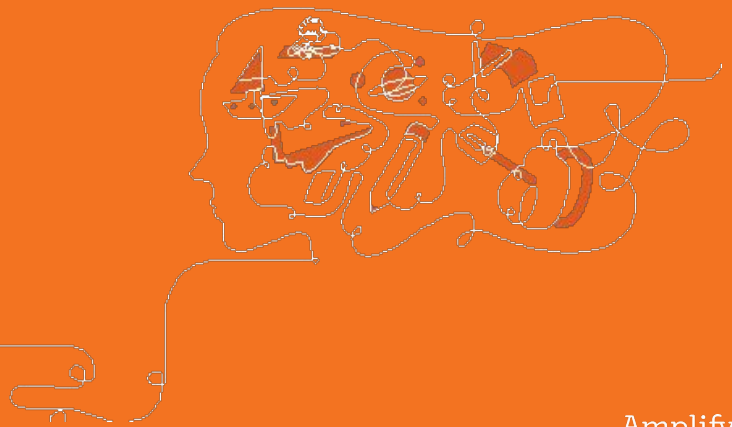


What is Amplify Science?



THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

+ Amplify.

Amplify Science

NYC Companions

AmplifyScience

AmplifyScience NYC Edition

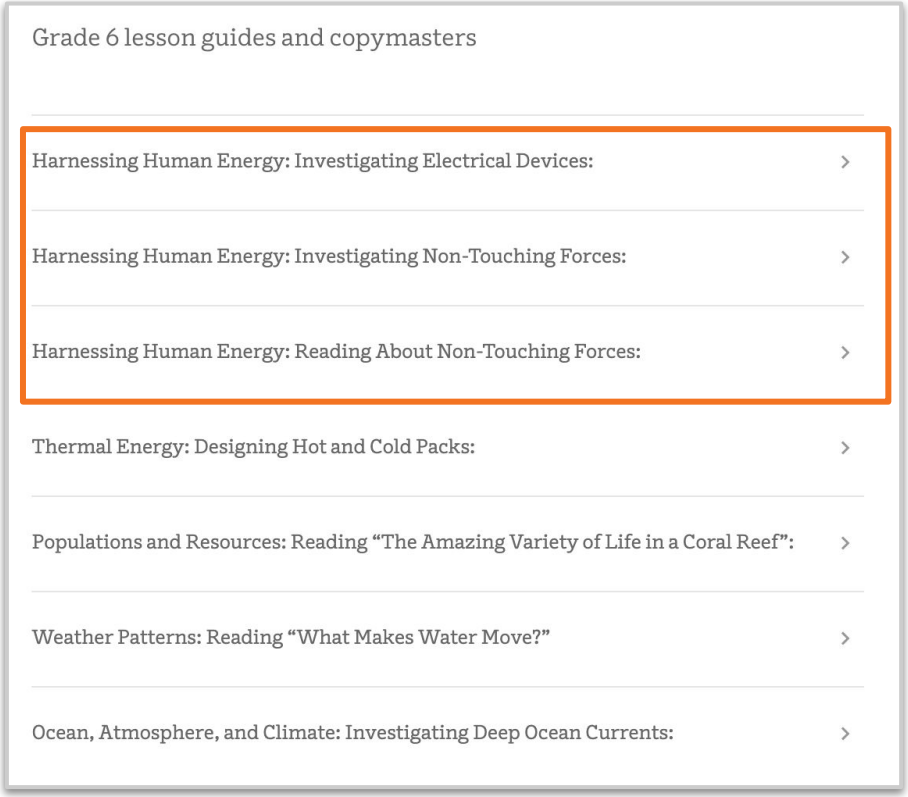
NGSS

+ Companion Lessons

NYSSLS

NYC Companion Lesson Slides, Grade 6

https://amplify.com/resources-page-for-nyc-6-8/

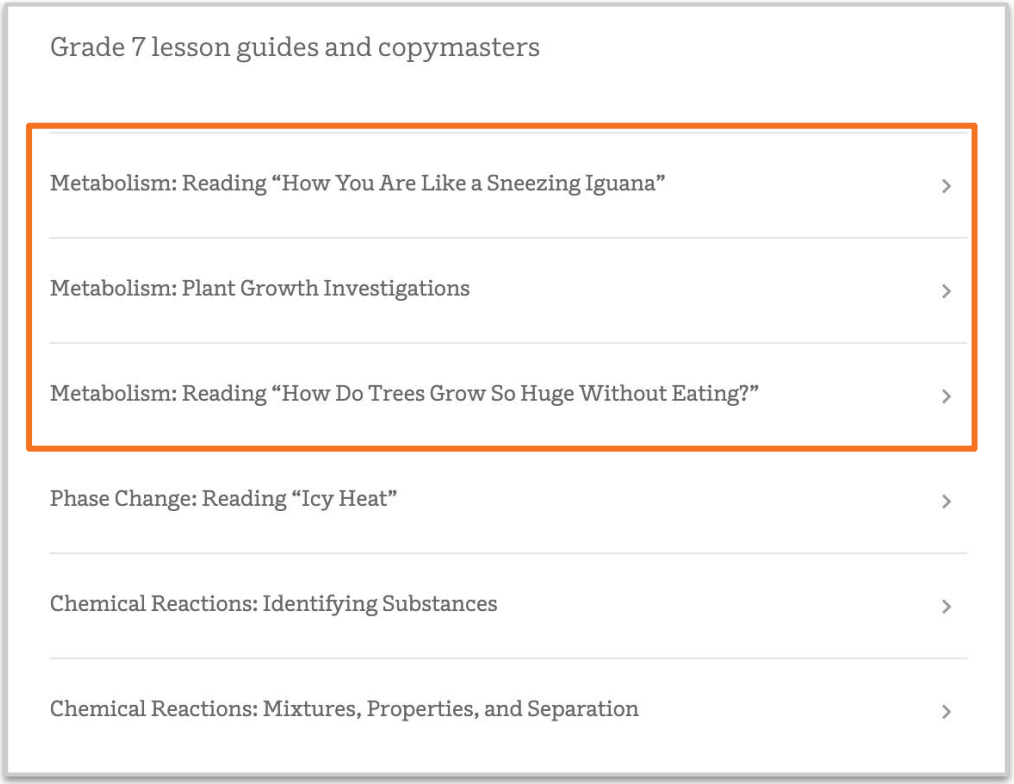


Slides for the first unit will be available on the NYC Resources site in September.

Amplify.

NYC Companion Lesson Slides, Grade 7

https://amplify.com/resources-page-for-nyc-6-8/



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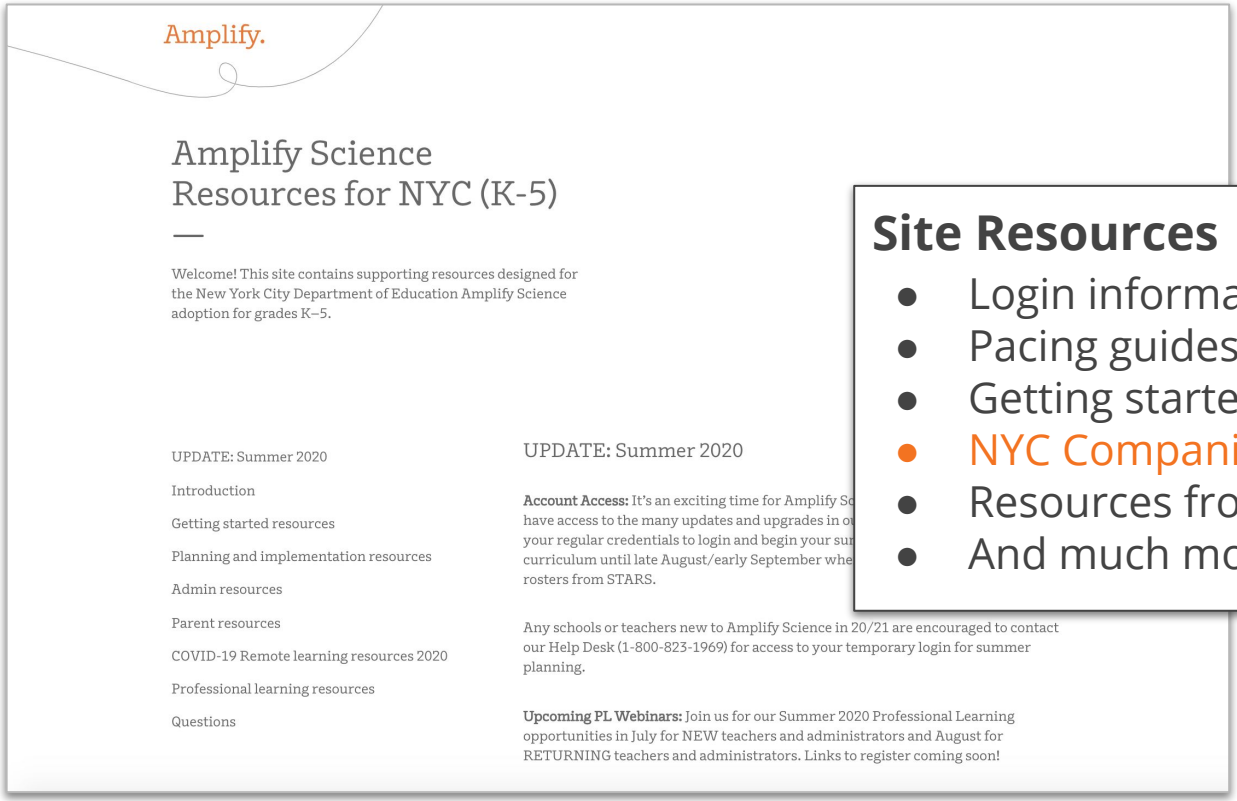

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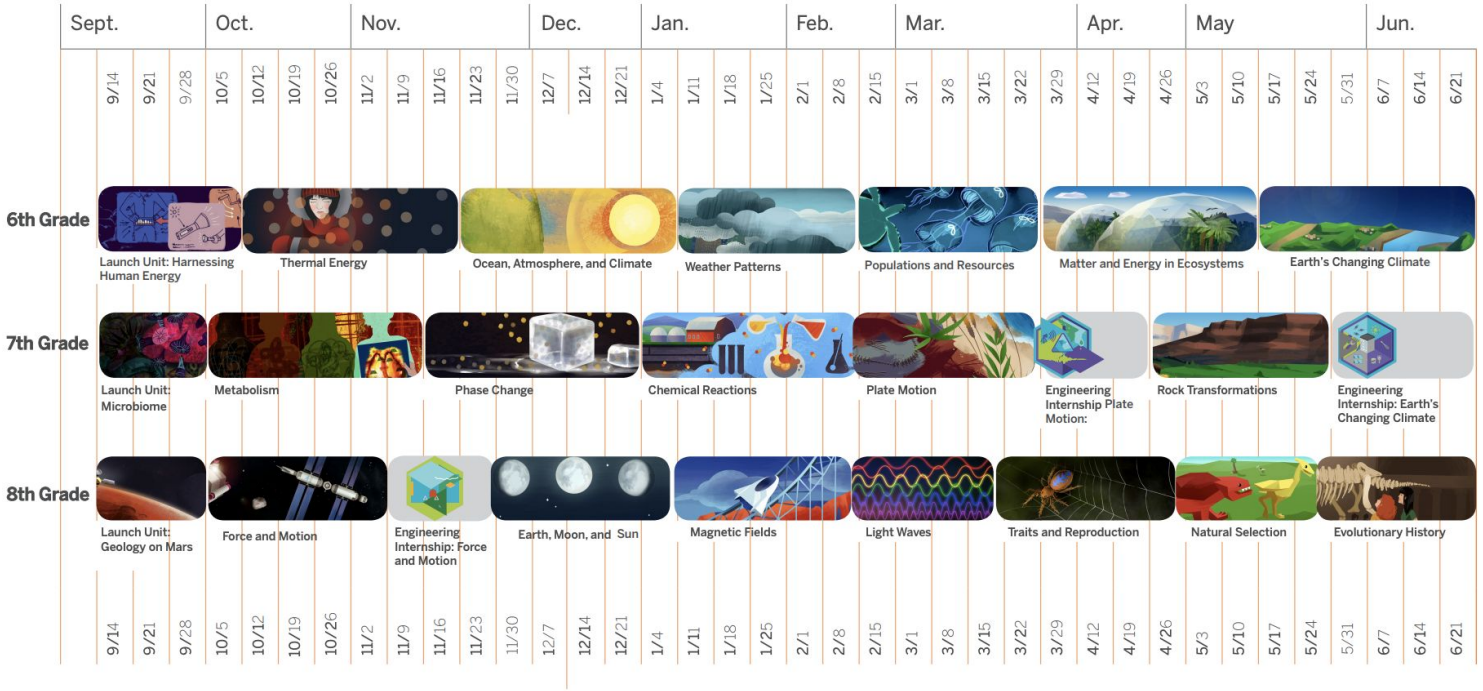
AmplifyScience

NYC Middle School
Unit Pacing Calendar 20-21*



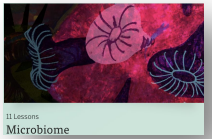
*Updated Sequence for the 2020-2021 School Year

Middle School Curriculum New York City Edition

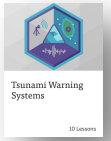
Grade 6

- Launch: Harnessing Human Energy
- Thermal Energy
- Populations and Resources
- Matter and Energy in Ecosystems
- Weather Patterns
- Ocean, Atmosphere,and Climate
- Earth's Changing Climate

Grade 7



- Launch: Microbiome
- Metabolism
- Phase Change
- Chemical Reactions
- Plate Motion



- Engineering Internship: Plate Motion
- Rock Transformations

- Engineering Internship: Earth's Changing Climate

Grade 8

- Launch: Geology on Mars
- Earth, Moon, and Sun
- Force and Motion

- Engineering Internship: Force and Motion
- Magnetic Fields
- Light Waves
- Traits and Reproduction
- Natural Selection
- Evolutionary History

Middle School curriculum: Unit types

Launch Units

11 Lessons

Geology on Mars

11 Lessons

Harnessing Human Energy

11 Lessons

Microbiome

Middle School curriculum: Unit types

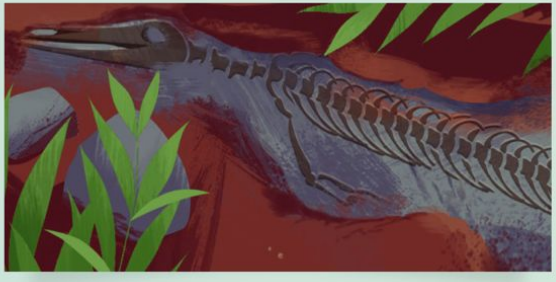
Core units

19 Lessons

Force and Motion

19 Lessons

Metabolism



19 Lessons

Plate Motion

Middle School curriculum: Unit types

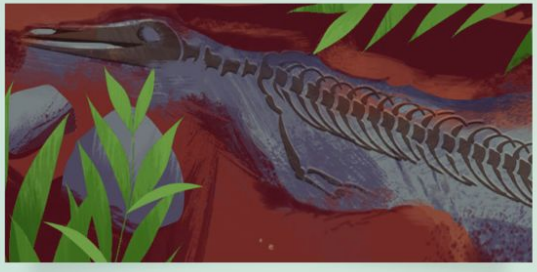
Engineering Internships

19 Lessons

Force and Motion

19 Lessons

Metabolism



19 Lessons

Plate Motion

10 Lessons

Force and Motion Engineering Internship

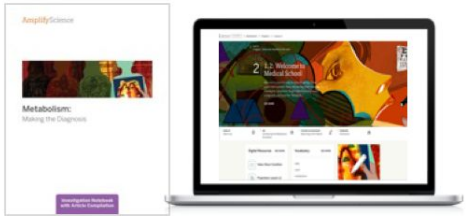
10 Lessons

Metabolism Engineering Internship

10 Lessons

Plate Motion Engineering Internship

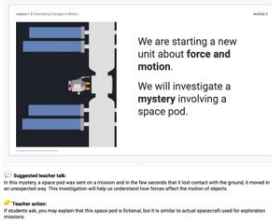
Middle school unit resources



Investigation Notebooks or digital student experience

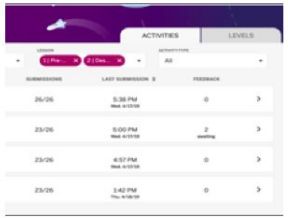
Articles (digital or print)

Simulations and other digital tools



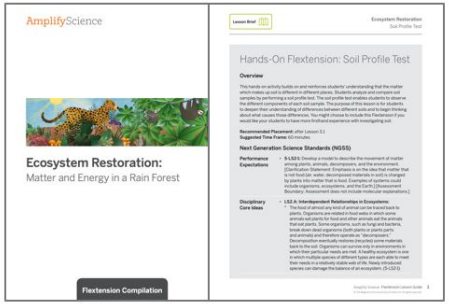
Classroom Slides

Teacher's Guide (digital or print)

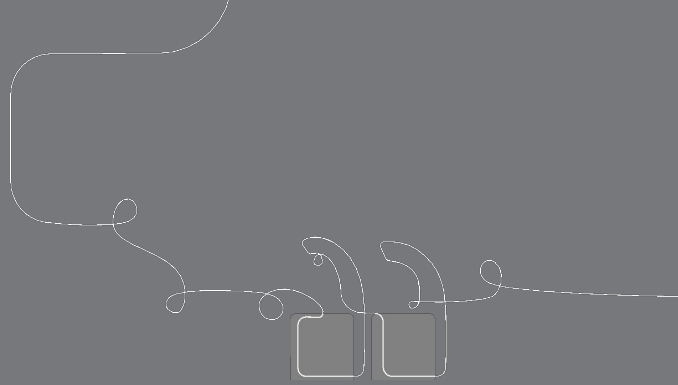


Assessments and Reporting

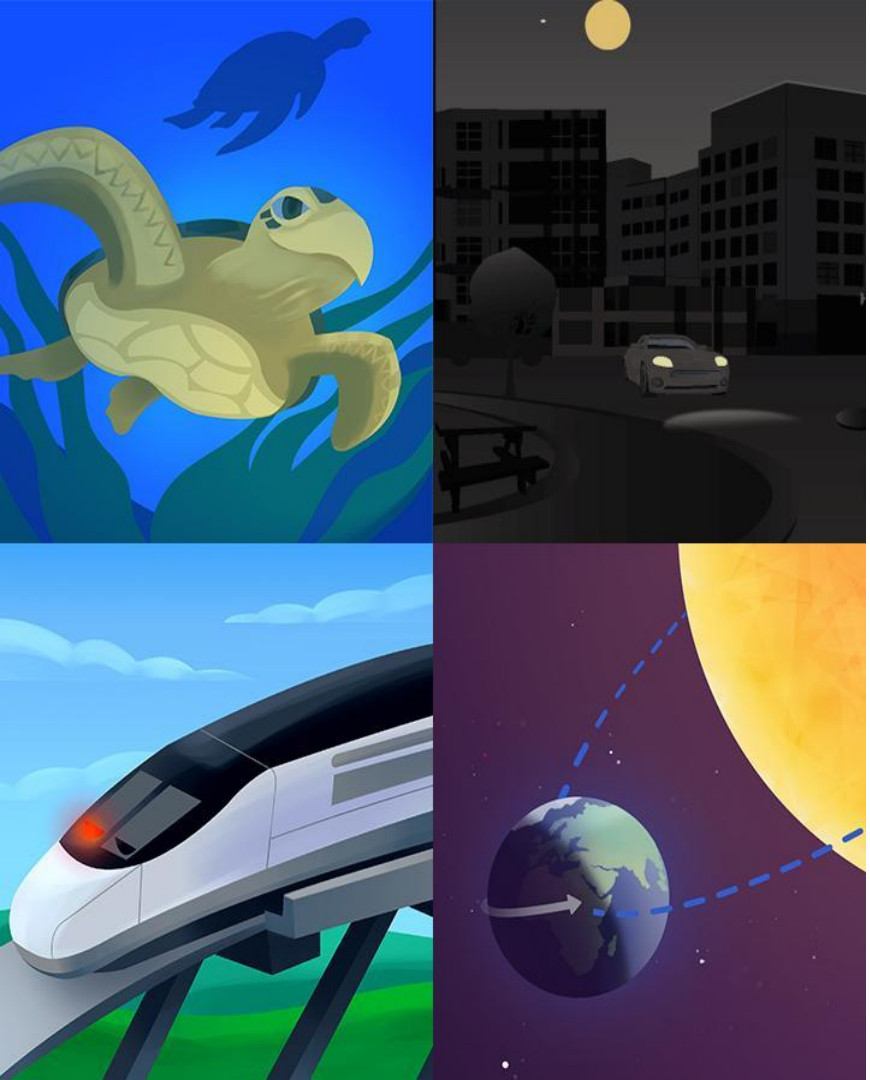
Hands-on and print materials



Hands-on Flextensions



Questions?



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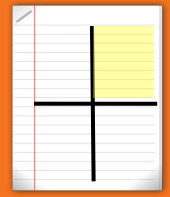
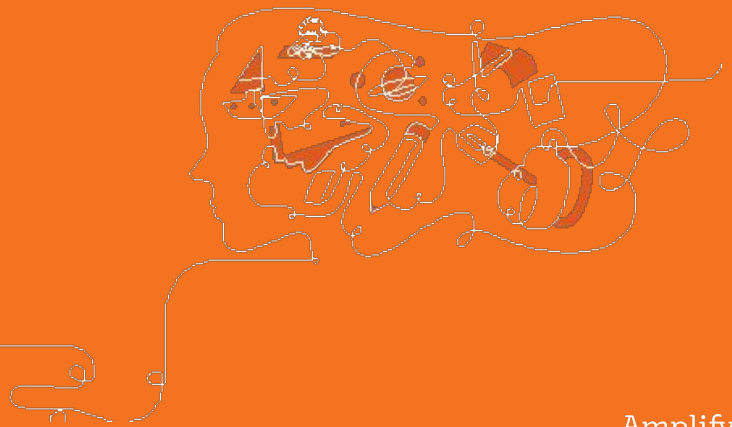


What is phenomenon-based instruction?



NGSS/NYSSLS

Phenomenon-based teaching and learning

A scientific phenomenon is an **observable event** that occurs in the universe that we can use science ideas to explain or predict.

Comparing topics and phenomena

Topic-based	Phenomenon-based
Ocean habitats	A sea turtle can survive in an ocean habitat where sharks live

NGSS/NYSSLS

Think-Type-Discuss: How might learning be different?

How might learning be different?

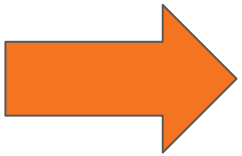
Topic-based	Phenomenon-based
What is the water cycle?	What caused the storms in this area to be severe?
What is an ecosystem?	Why are there suddenly so many moon jellies?
How does light energy interact with matter?	Why does Australia have an elevated skin cancer rate?

Comparing topics and phenomena

A shift in science instruction

from learning about

(like a student)



to figuring out

(like a scientist)

Introducing a phenomenon

Metabolism

Pay attention to the phenomenon, or **observable event**, that students are asked to figure out.

Metabolism phenomenon

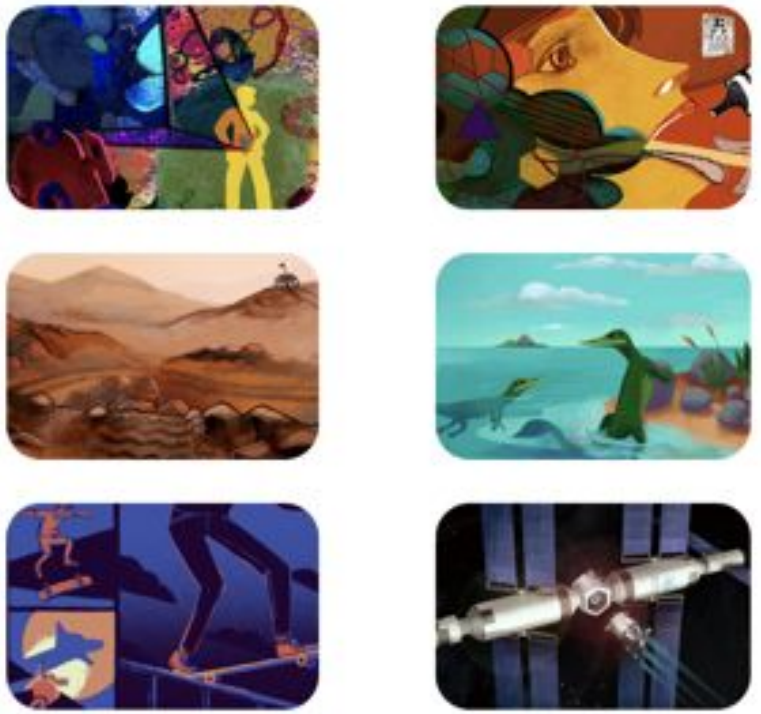
Claims:

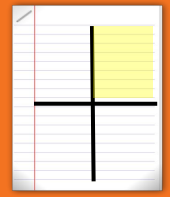
- Elisa isn't getting enough sleep.
- Elisa is not eating enough food or not eating the right foods.
- Elisa has a medical condition.

Amplify Science

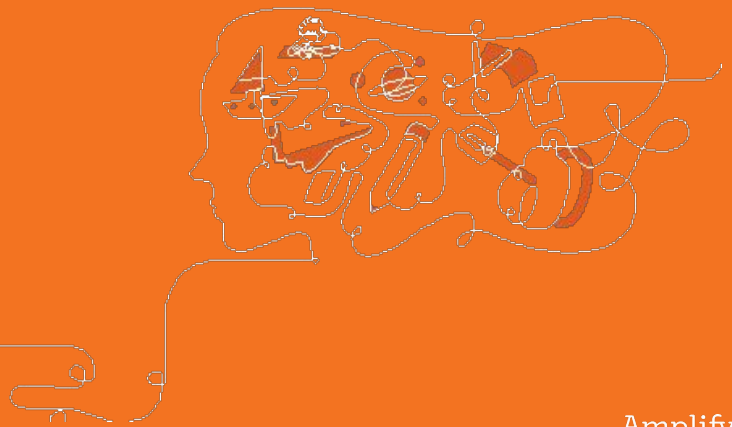
Anchoring phenomenon

- Complex and rich
- Drives learning through a whole unit
- Specific and observable
- Relatable at students' developmental level





Guided work time: Navigation



Unit

Chapters

Lessons

Activities

Logging in

If you have your login information please use that. If not, please use the NYC DOE Review site, below.

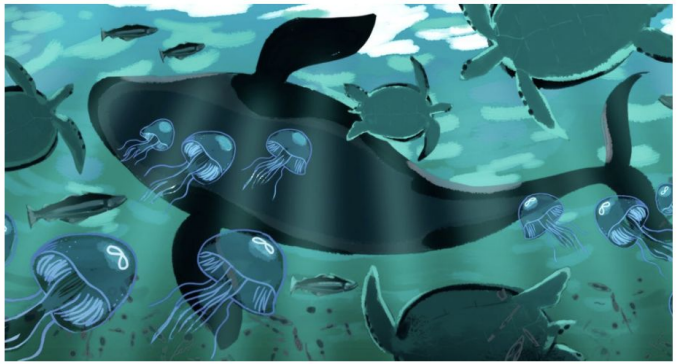
Amplify. https://amplify.com/amplify-science-nyc-doe-review/

Students take on the role of a scientist or engineer every day.

—

Amplify Science is a new blended curriculum developed to align to the New York City PK–8 Science Scope and Sequence 2018 that meets the New York State Science Learning Standards.

The middle school grades of our K–8 curriculum recently received the only all-green rating by EdReports.



Begin your review

Begin your review

What sets Amplify Science apart?

The Amplify Science approach

Components overview

Review grades K–5

Grades K–5

Click here

Grades 6–8

Navigation summary

1. Click the caret to select your grade-level
2. Select your first unit
    a. You are now on the Unit Landing Page.
3. Select **JUMP DOWN TO UNIT GUIDE**
4. Select **Unit Map** under **Planning for the unit**
5. Option to open **Printable Unit Map** in a second tab for ease of reading.

Preparing to teach: Step 1

Lesson Brief

1. Navigate to **Lesson 1.1** in a Launch unit or **Lesson 1.2** in Core unit
    - From the Unit Landing page, select Chapter 1, then select Lesson 1.1 or 1.2
2. Scroll down to the **Lesson Brief**
    - Read the **Lesson Overview** and consider:
        - What is the purpose of this lesson?
        - In which activity are students introduced to the anchor phenomenon they'll work to figure out?
    - Read the **Materials & Preparation** and consider:
        - What is one step of preparation you will need to do before this lesson?
3. Explore the other resources in the Lesson Brief: **Differentiation, Standards, Vocabulary, Unplugged**
4. Type **one noticing** from exploring the Lesson Brief into the chat.

Classroom slides

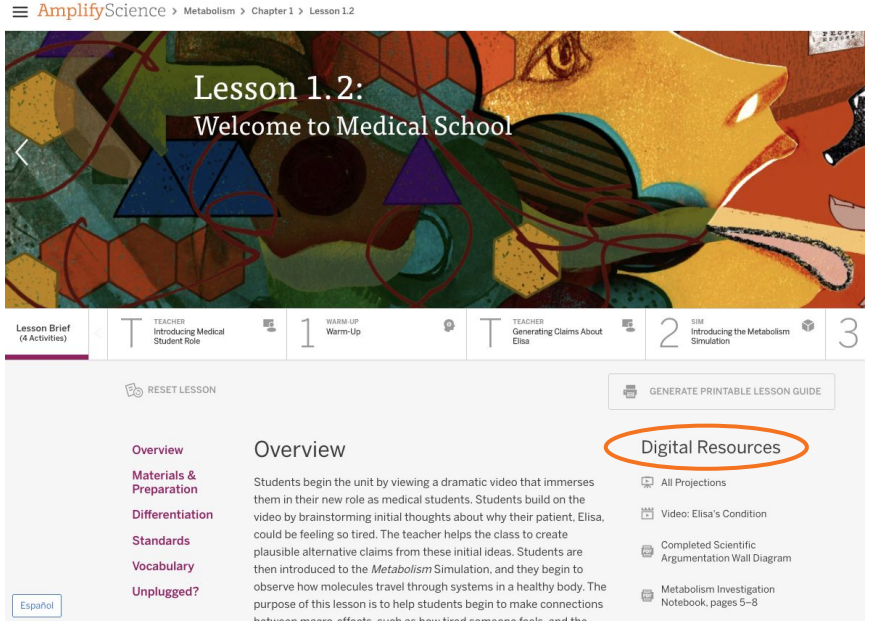
Suggested teacher talk:
In this mystery, a space pod was sent on a mission and in the few seconds that it lost contact with the ground, it moved in an unexpected way. This investigation will help us understand how forces affect the motion of objects.

Teacher action:
If students ask, you may explain that this space pod is fictional, but it is similar to actual spacecraft used for exploration missions.

Preparing to teach: Step 3

Digital Resources

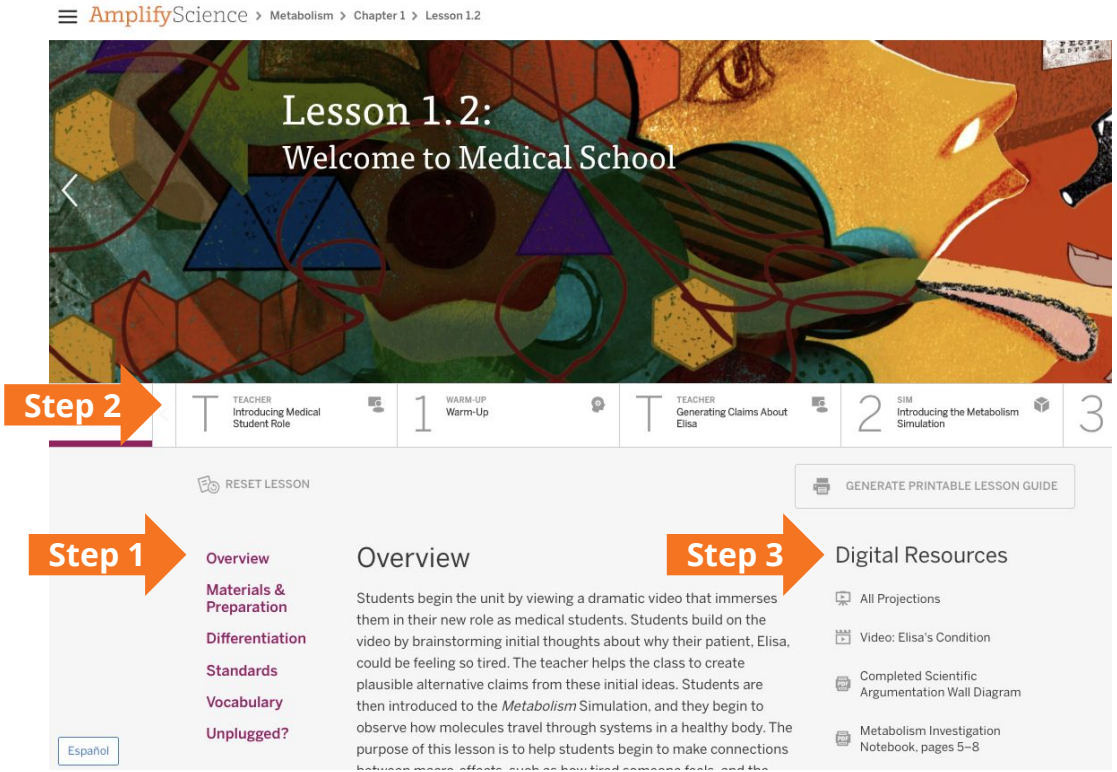
1. Explore the **Digital Resources** in the lesson.
2. **Consider:**
   - What do you need to project?
   - Are there documents in Digital Resources that you need to review or set up? (e.g. Assessment Guide, Annotation Tracker, Articles)
   - Do you have any new questions after looking at Digital Resources? Where will you look to find more information?



Preparing to teach

3-step method

1. Lesson Brief
2. Instructional Guide
3. Digital Resources



Navigation Temperature Check

Rate yourself on your comfort level accessing Amplify Science materials and navigating a digital curriculum.

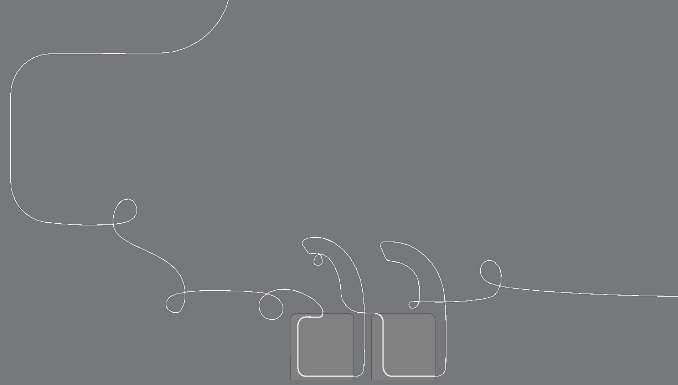
1 = Extremely Uncomfortable

2 = Uncomfortable

3 = Mild

4 = Comfortable

5 = Extremely Comfortable



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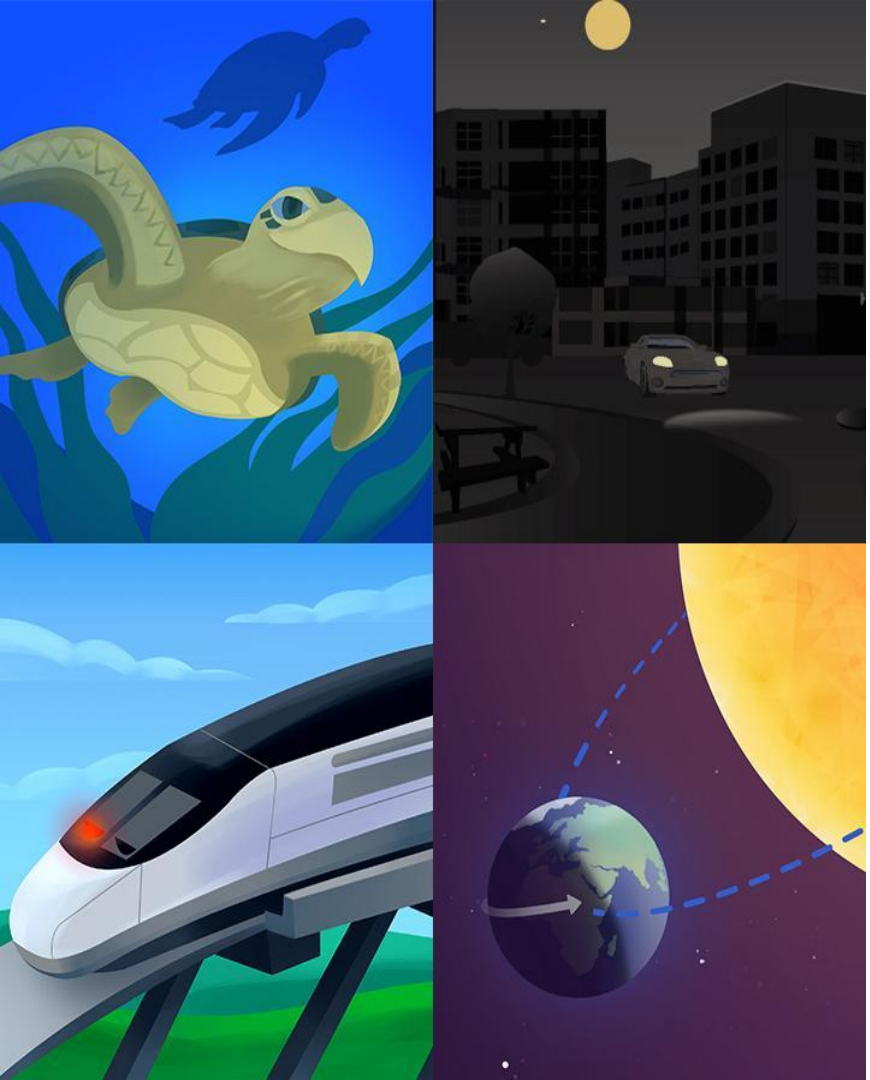

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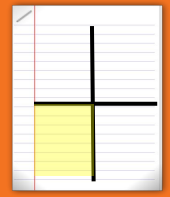
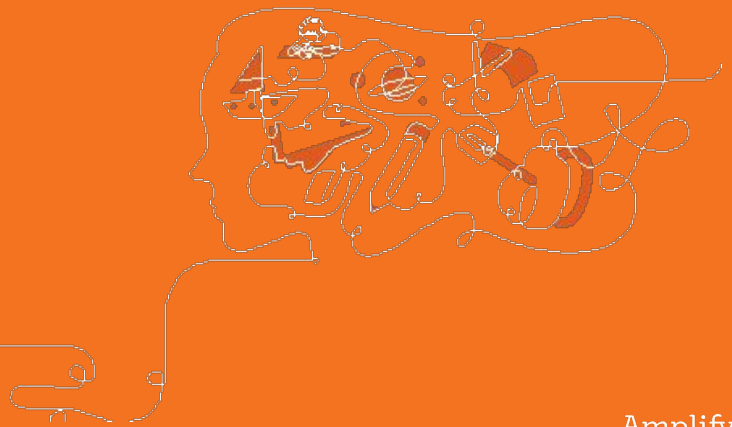
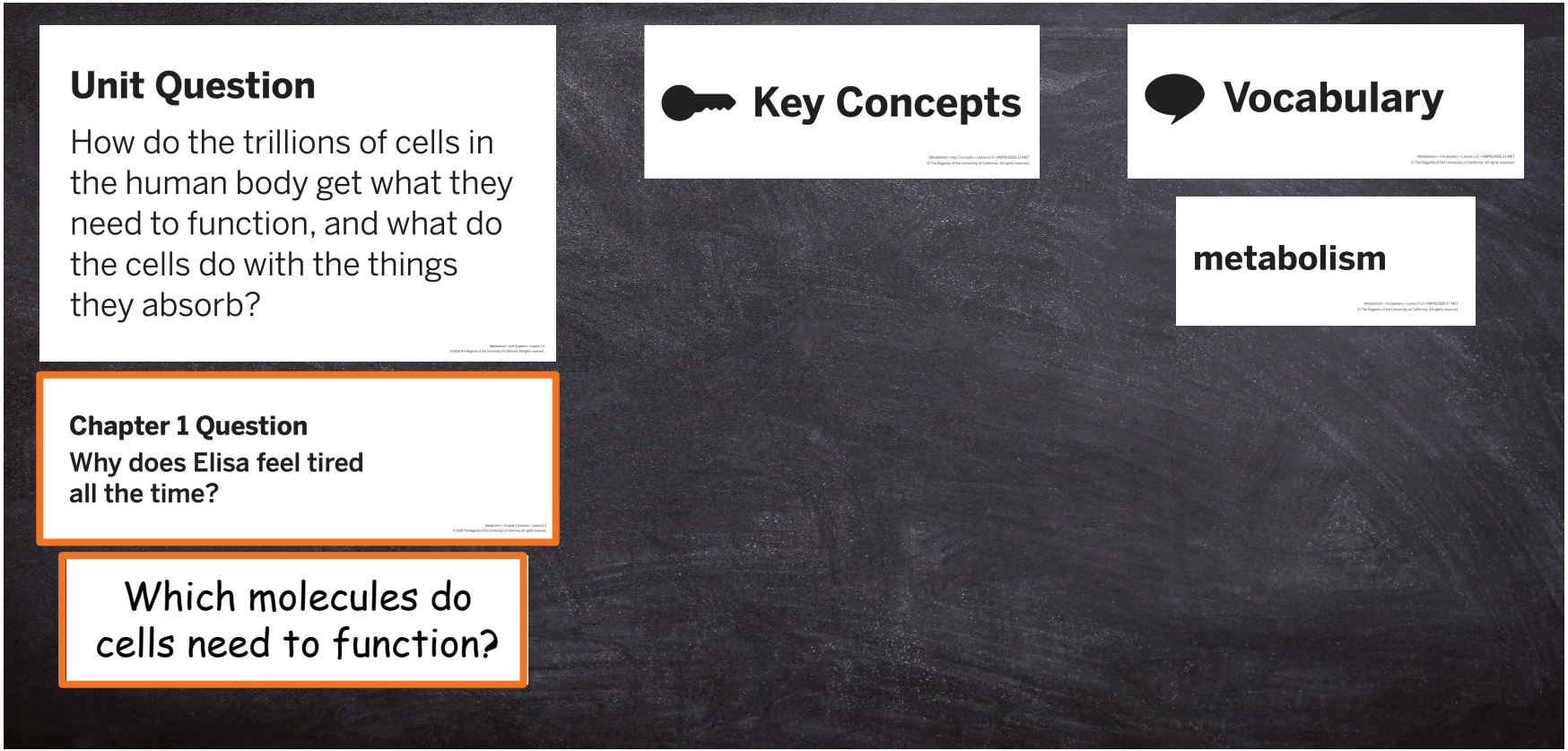


Example lesson



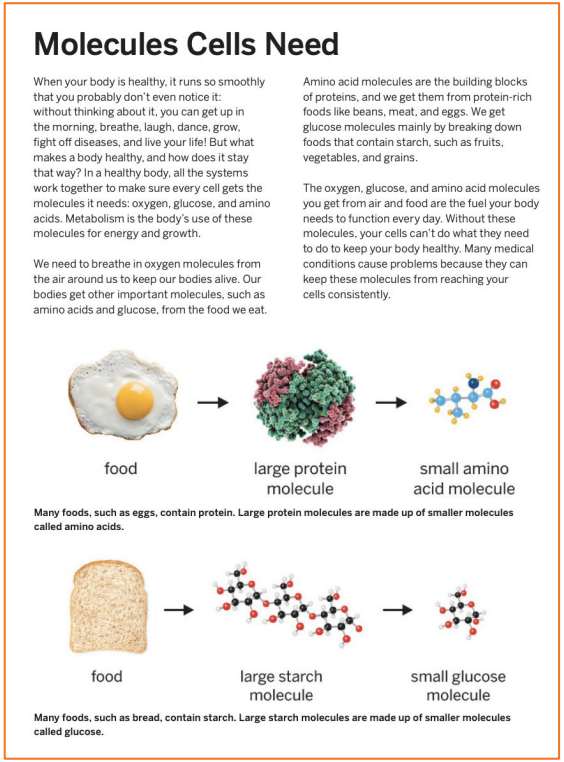
Digital classroom wall



Student volunteers

Setting a purpose for the second read

- Where does the body get glucose, amino acids, and oxygen molecules?
- What might happen if the body doesn't take in one or all of these molecules?



Molecules Cells Need

When your body is healthy, it runs so smoothly that you probably don't even notice it: without thinking about it, you can get up in the morning, breathe, laugh, dance, grow, fight off diseases, and live your life! But what makes a body healthy, and how does it stay that way? In a healthy body, all the systems work together to make sure every cell gets the molecules it needs: oxygen, glucose, and amino acids. Metabolism is the body's use of these molecules for energy and growth.

We need to breathe in oxygen molecules from the air around us to keep our bodies alive. Our bodies get other important molecules, such as amino acids and glucose, from the food we eat.

Amino acid molecules are the building blocks of proteins, and we get them from protein-rich foods like beans, meat, and eggs. We get glucose molecules mainly by breaking down foods that contain starch, such as fruits, vegetables, and grains.

The oxygen, glucose, and amino acid molecules you get from air and food are the fuel your body needs to function every day. Without these molecules, your cells can't do what they need to do to keep your body healthy. Many medical conditions cause problems because they can keep these molecules from reaching your cells consistently.

Many foods, such as eggs, contain protein. Large protein molecules are made up of smaller molecules called amino acids.

Many foods, such as bread, contain starch. Large starch molecules are made up of smaller molecules called glucose.

Digital classroom wall

Unit Question

How do the trillions of cells in the human body get what they need to function, and what do the cells do with the things they absorb?

Chapter 1 Question

Why does Elisa feel tired all the time?

Which molecules do cells need to function?

Key Concepts

1. **A functioning human body has molecules from food (glucose and amino acids) and molecules from air (oxygen) in its cells.**

Vocabulary

metabolism

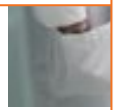
Returning to Elisa's problem

Claims:

- ~~Elisa isn't getting enough sleep.~~
- ~~Elisa is not eating enough food or not eating the right foods.~~
- Elisa has a medical condition.

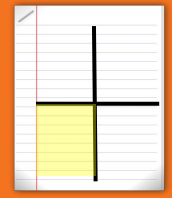
Healthy Sleep Comparison

Average Teenage Sleep Patterns	Elisa's Sleep Pattern
Many scientific studies of teenagers show that most healthy teenagers get between 8 and 10 hours of sleep each night.	Elisa's sleep journal shows that she is getting about 9 hours of sleep every night.

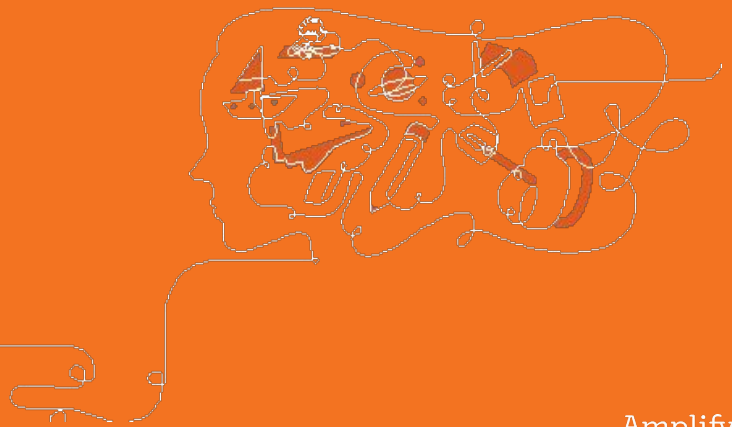


Healthy Eating Comparison

Average Teenage Eating Habits	Elisa's Eating Habits
A scientific study done on 1,000 healthy 14-year-olds found that they ate between 5 and 8 servings of starch per day and between 1 and 4 servings of protein per day.	Elisa's food journal shows that she ate between 6 and 8 servings of food that contained starch every day. She ate between 2 and 4 servings of food that contained protein every day.



Reflecting on phenomenon-based learning



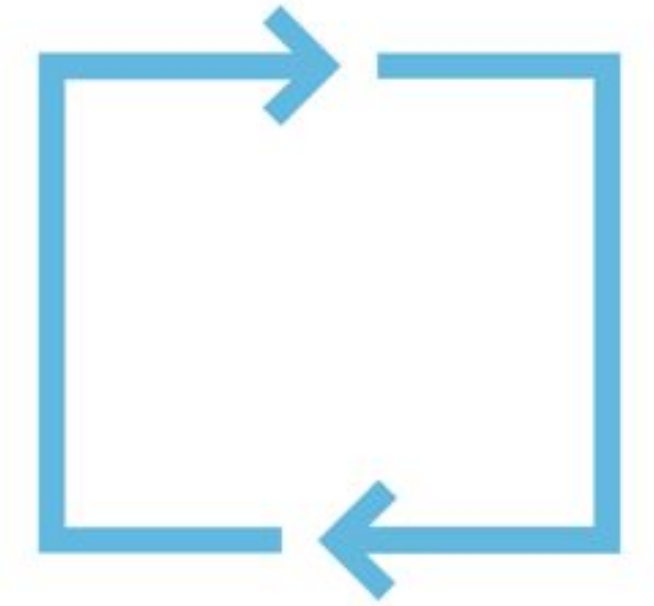
Example lesson reflection

Think-Type-Discuss

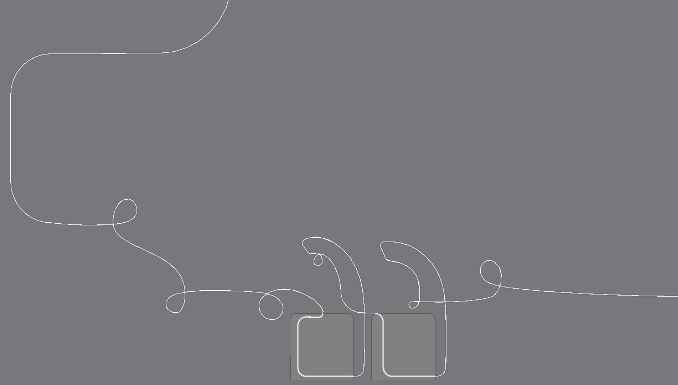
What new insights do you have about phenomenon-based learning?

Multimodal learning

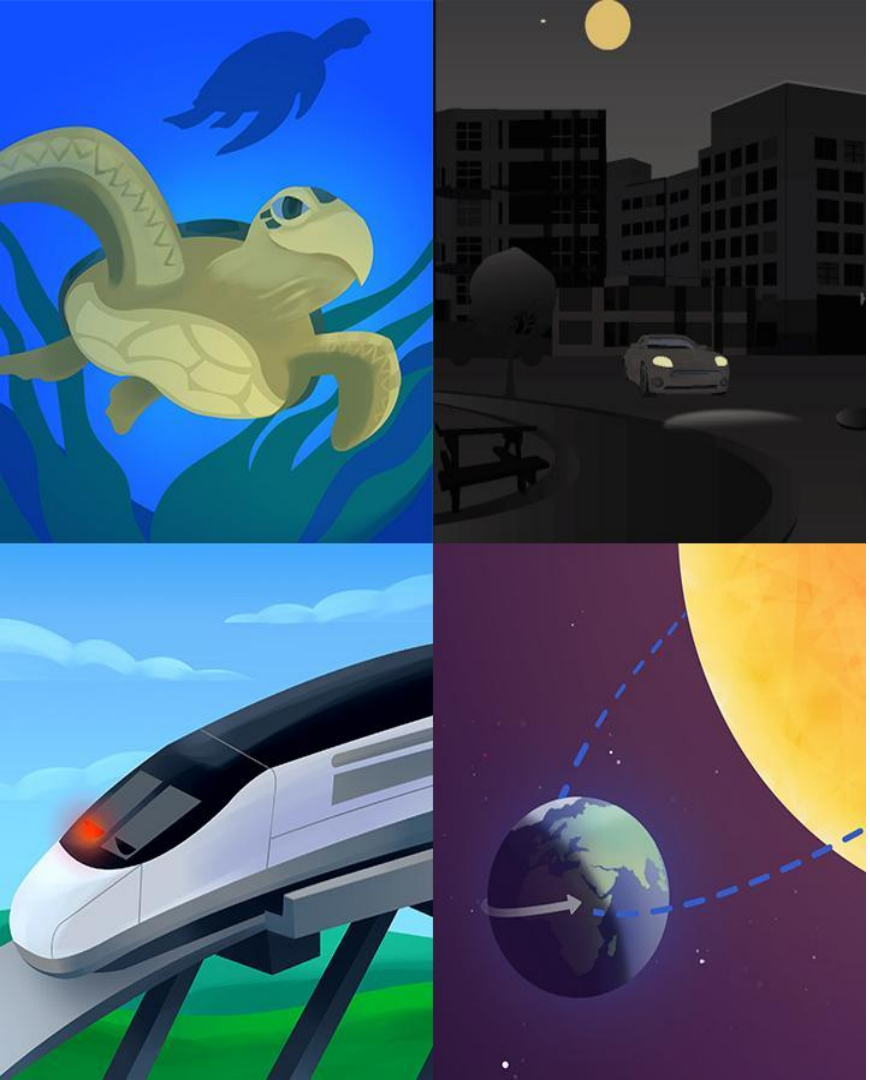
Gathering evidence over multiple lessons



Do,
Talk,
Read,
Write,
Visualize

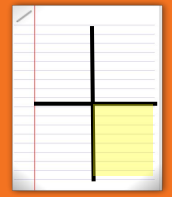


Questions?

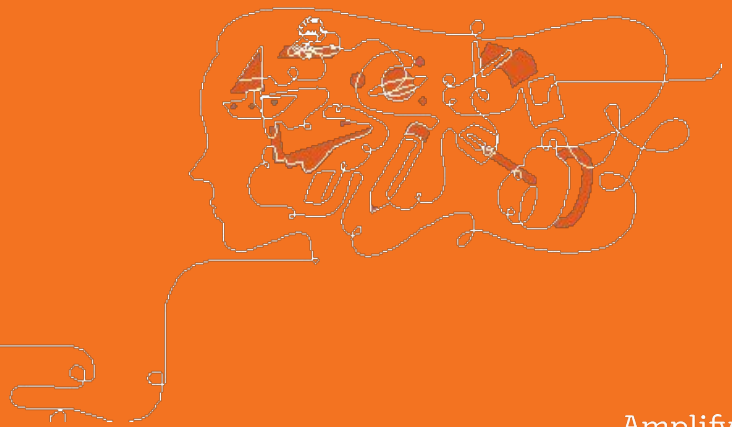


Plan for the day

- Framing the day
  - What is Amplify Science?
- Preparing to teach
  - Phenomenon-based instruction
  - Navigation
  - 3-step method
- Teaching a lesson
  - Example lesson
  - Reflection
- **Teaching a unit**
  - **Coherence**
  - **Unit Guide resources**
- Reflection and closing



Coherence



Coherence flowchart

A diagram of student learning

Phenomenon
(Chapter Question)

↓

Investigation Question

↓

Multiple sources of evidence

↓

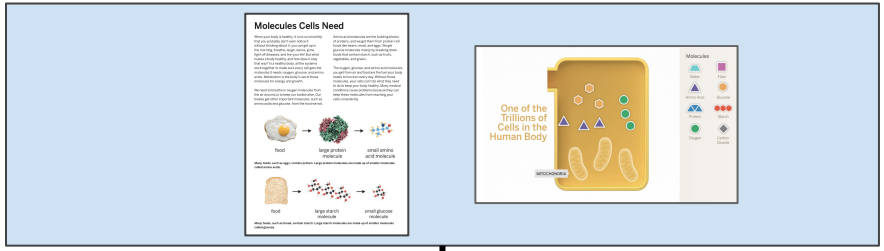
Key concepts

Chapter Question: Why does Elisa feel tired all the time?

↓

Investigation Question: Which molecules do cells need to function?

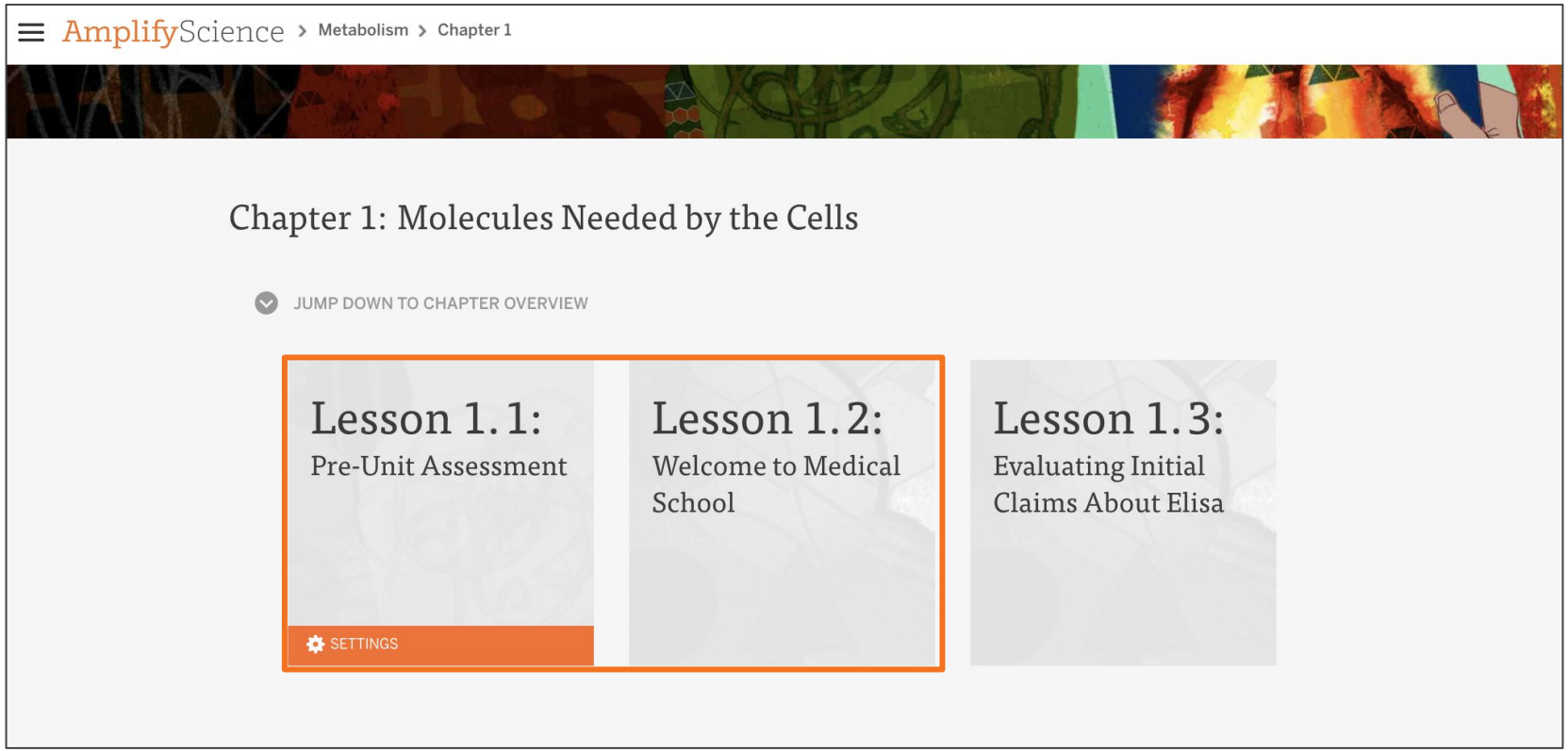
↓



↓

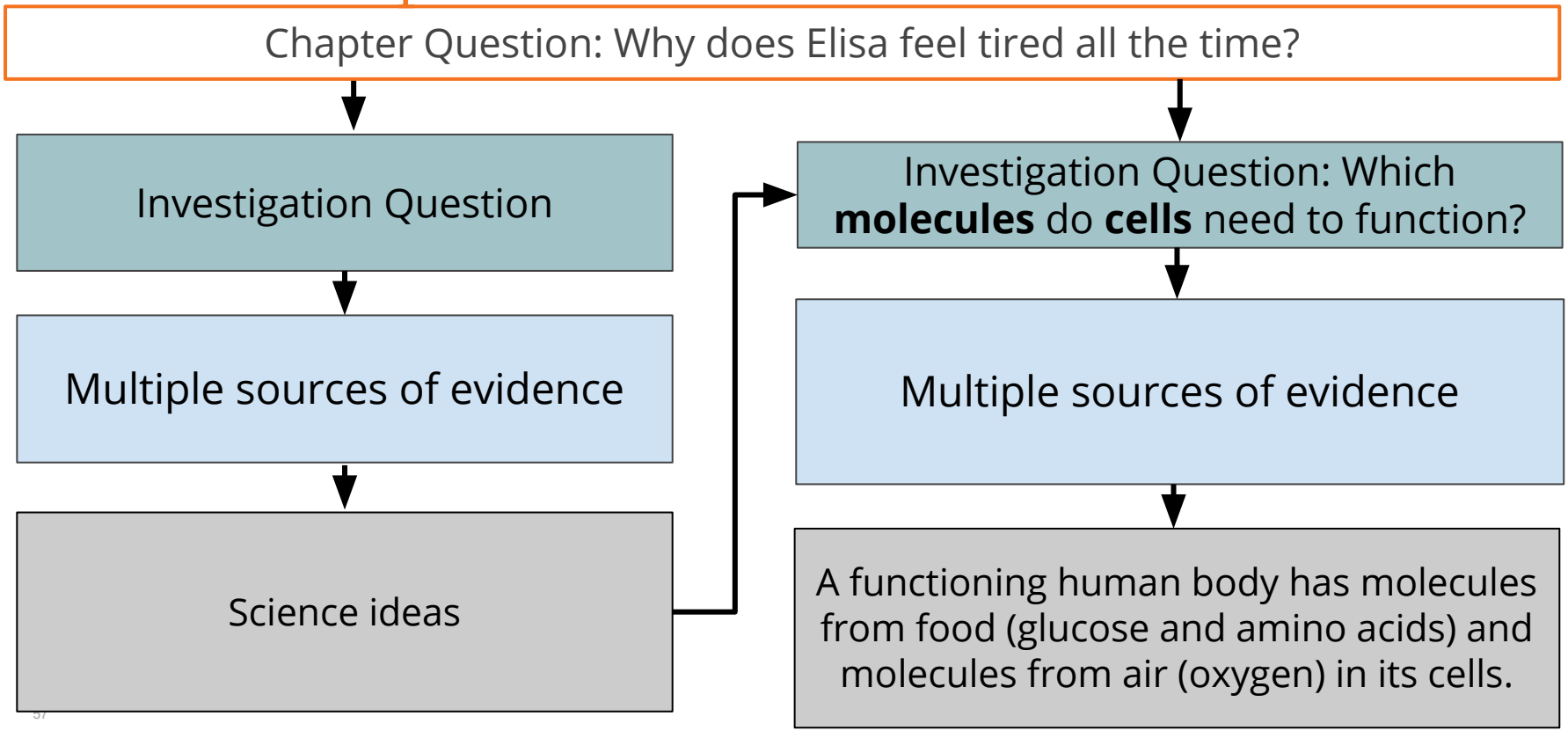
Key Concept: A functioning human body has molecules from food (glucose and amino acids) and molecules from air (oxygen) in its cells.

Metabolism Chapter 1



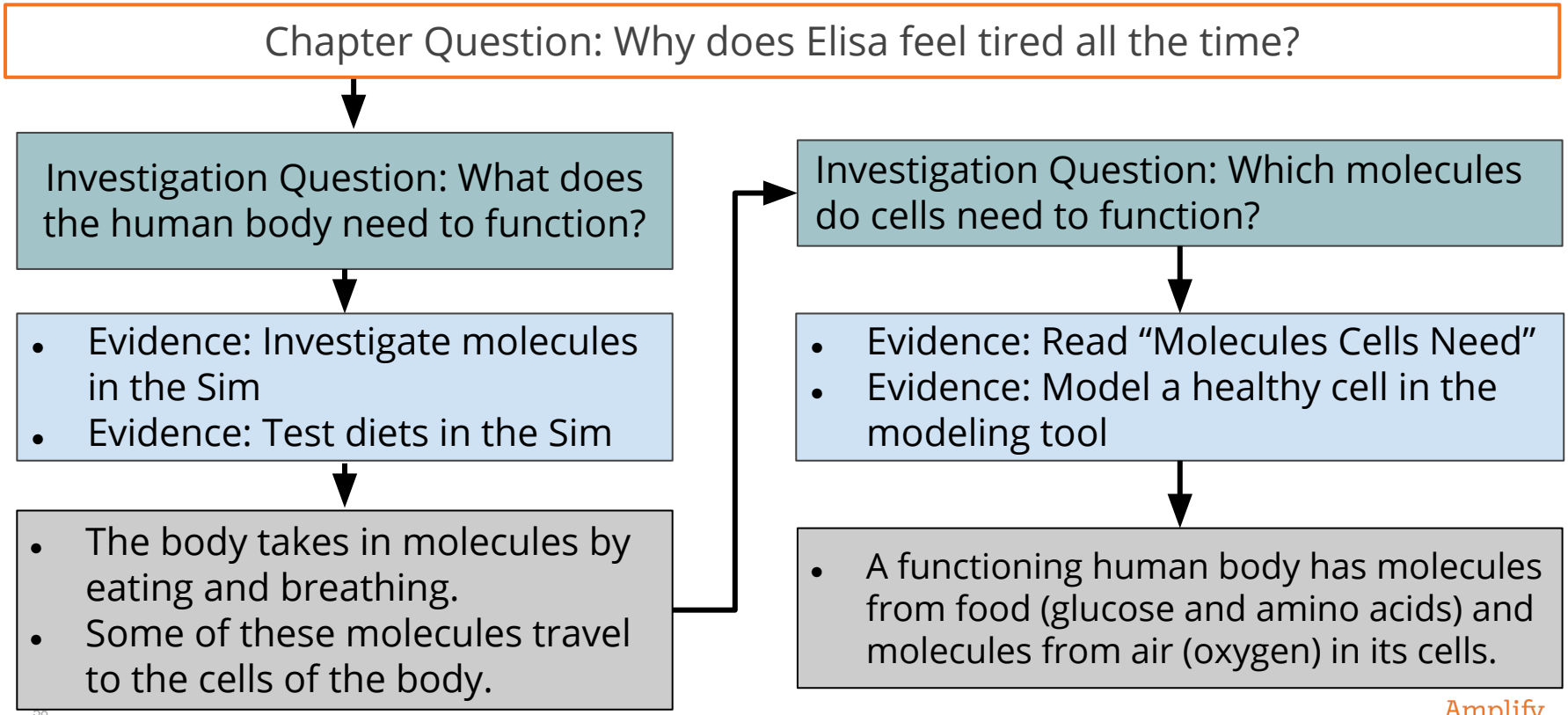
Coherence flowchart

Metabolism Chapter 1

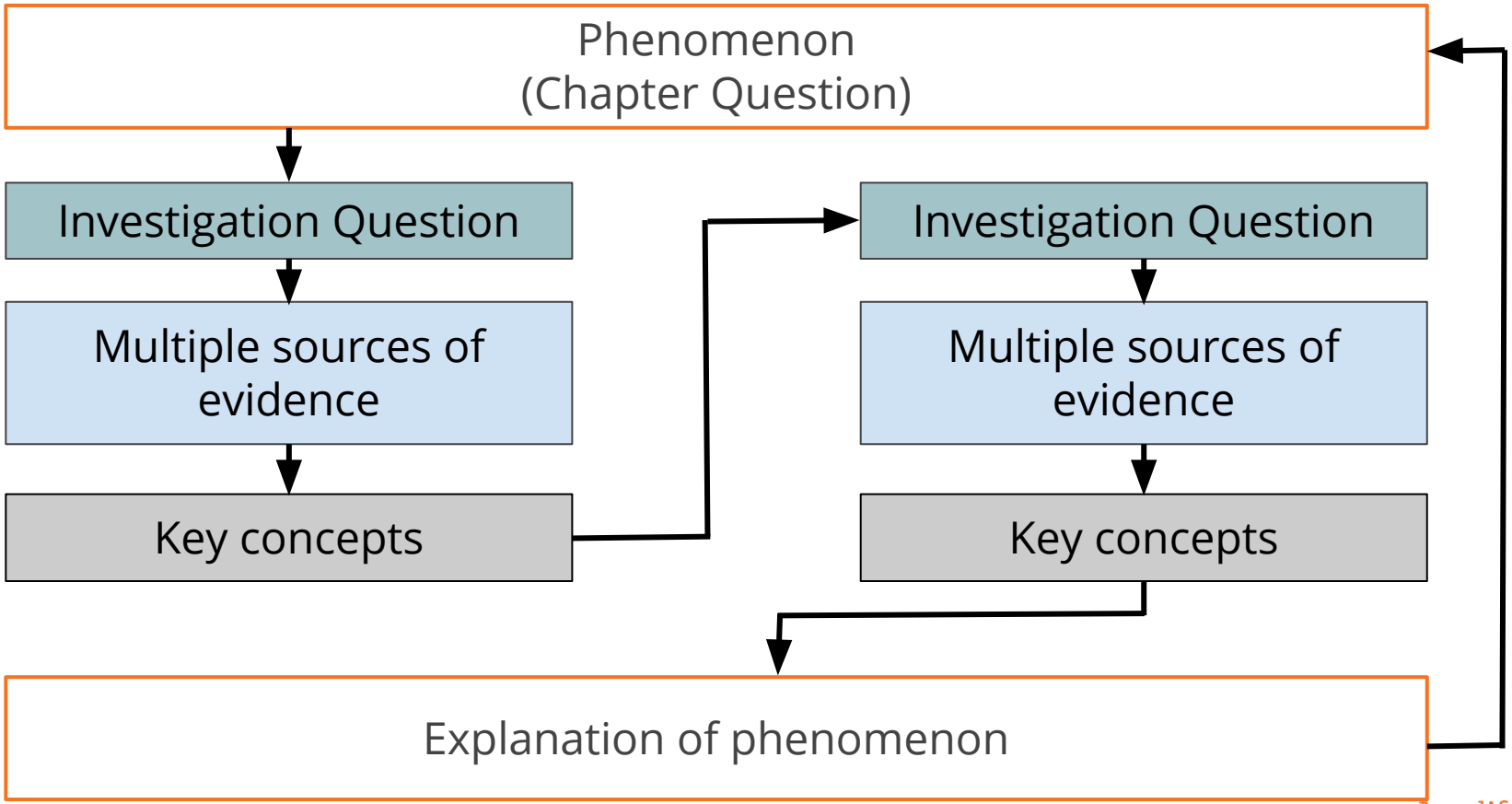


Coherence flowchart

Metabolism Chapter 1



Coherence flowchart



Metabolism: Making the Diagnosis

The problem students work to solve

What is causing Elisa, a young patient, to feel tired all the time?

Chapter 1 Question

Why does Elisa feel tired all the time?

Investigation Question

What does the human body need to function? (1.2)

Which molecules do cells need to function? (1.3)

Evidence Sources and reflection opportunities

- Investigate molecules in the Sim (1.2)
- Test diets in the Sim (1.2)

- Read "Molecules Cells Need" (1.3)
- Model a healthy cell in the modeling tool (1.3)

Key Concepts

Students figure out:

- The body takes in molecules by eating and breathing. (1.2)
- Some of these molecules travel to the cells of the body. (1.2)

- A functioning human body has molecules from food (glucose and amino acids) and molecules from air (oxygen) in its cells. (1.3)

Applying back to the problem

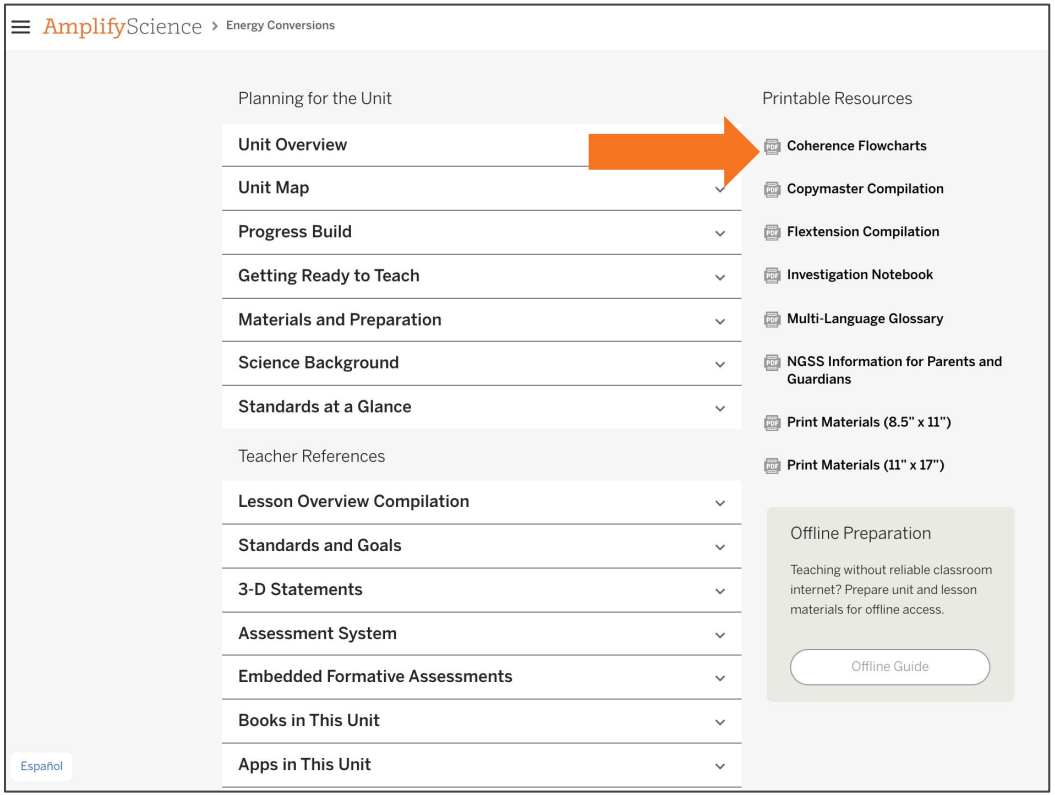
- Evaluate evidence and claims about Elisa (1.3)

The explanation that students can make to answer the Chapter 1 Question

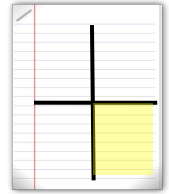
Elisa's cells need molecules from food like glucose and amino acids and oxygen molecules from air in her cells. If she is tired all the time her cells may not be getting what they need.

Navigate to your own coherence flowchart

1. From the Unit Landing Page, select **JUMP DOWN TO UNIT GUIDE**
2. Under Printable Resources, select **Coherence Flowchart**
3. Look over the coherence flowchart for **Chapter 1.**



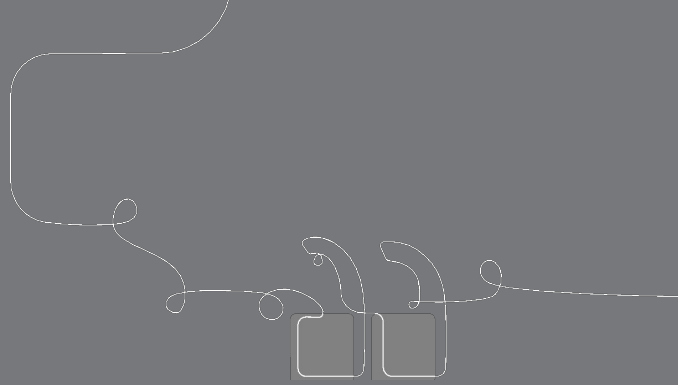
Capture your thinking!



How can the coherence flowchart serve as a planning tool as you begin teaching Amplify Science?

Metabolism: Making the Diagnosis

Problem Students Work to Solve	What is causing Elisa, a young patient, to feel tired all the time?
Chapter 1 Question	Why does Elisa feel tired all the time?
Investigation Questions	What does the human body need to function? (1.2) Which molecules do cells need to function? (1.3)
Evidence Sources and Reflection Opportunities	• Investigate molecules in the Sim (1.2) • Test diets in the Sim (1.2) • Read "Molecules Cells Need" (1.3) • Model a healthy cell in the modeling tool (1.3)
Key Concepts	Students figure out: • The body takes in molecules by eating and breathing. (1.2) • Some of these molecules travel to the cells of the body. (1.2) • A functioning human body has molecules from food (glucose and amino acids) and molecules from air (oxygen) in its cells. (1.3)
Application of Key Concepts to Problem	• Evaluate evidence and claims about Elisa (1.3)
Explanation That Students Can Make to Answer the Chapter 1 Question	Elisa's cells need molecules from food like glucose and amino acids and oxygen molecules from air in her cells. If she is tired all of the time her cells may not be getting what they need.



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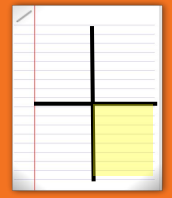
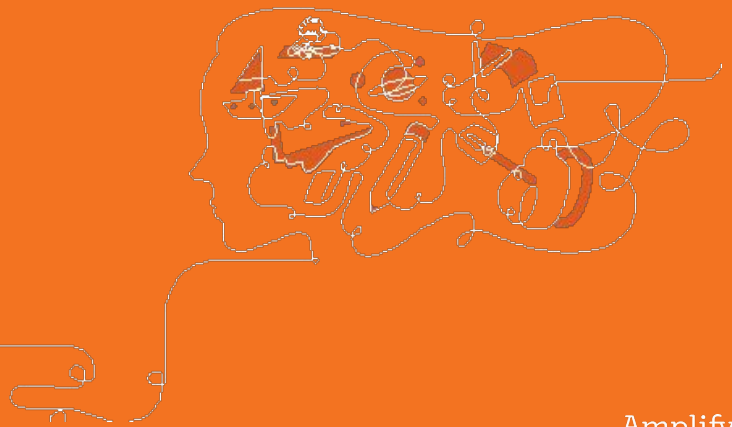


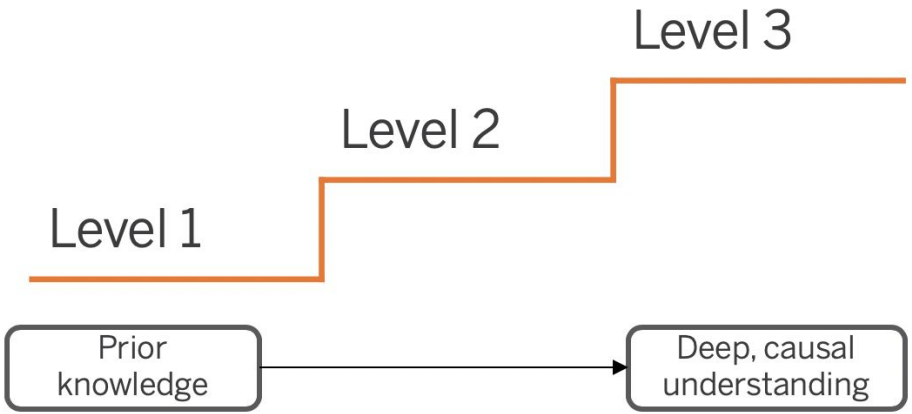
Other Unit Guide resources



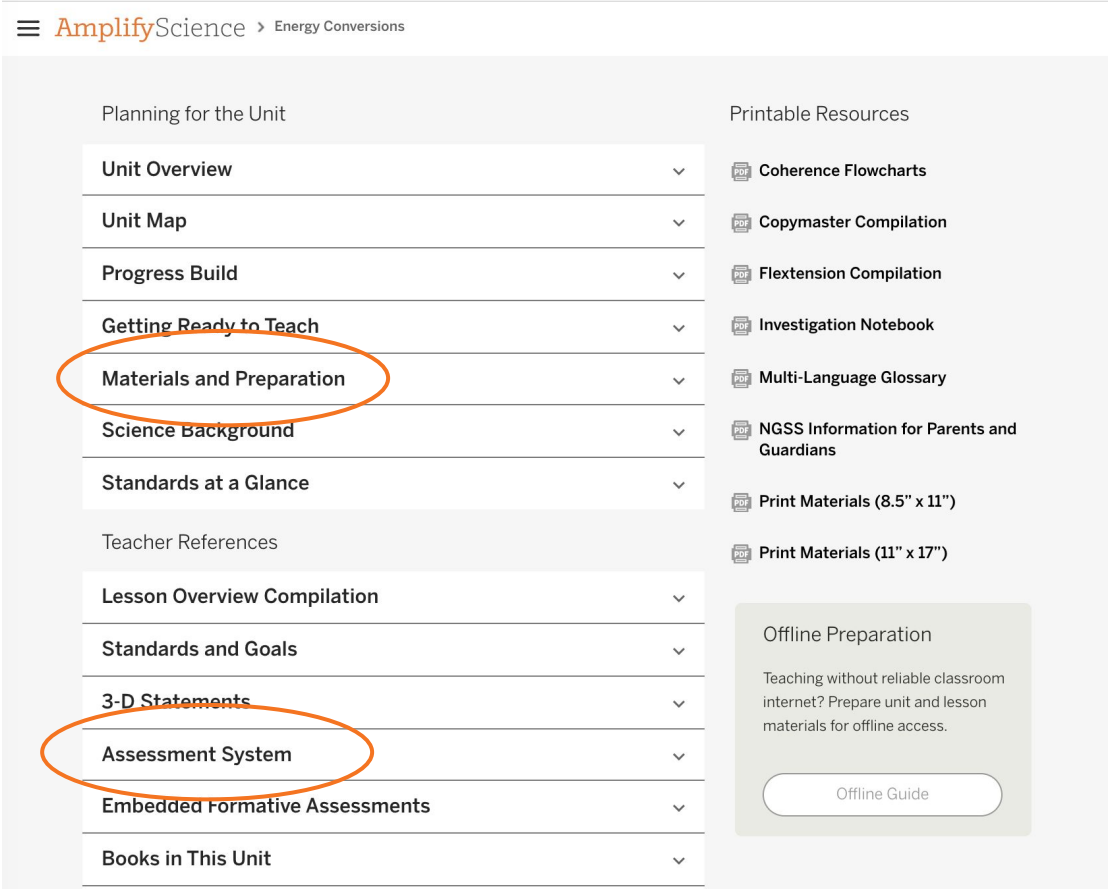
Progress Build

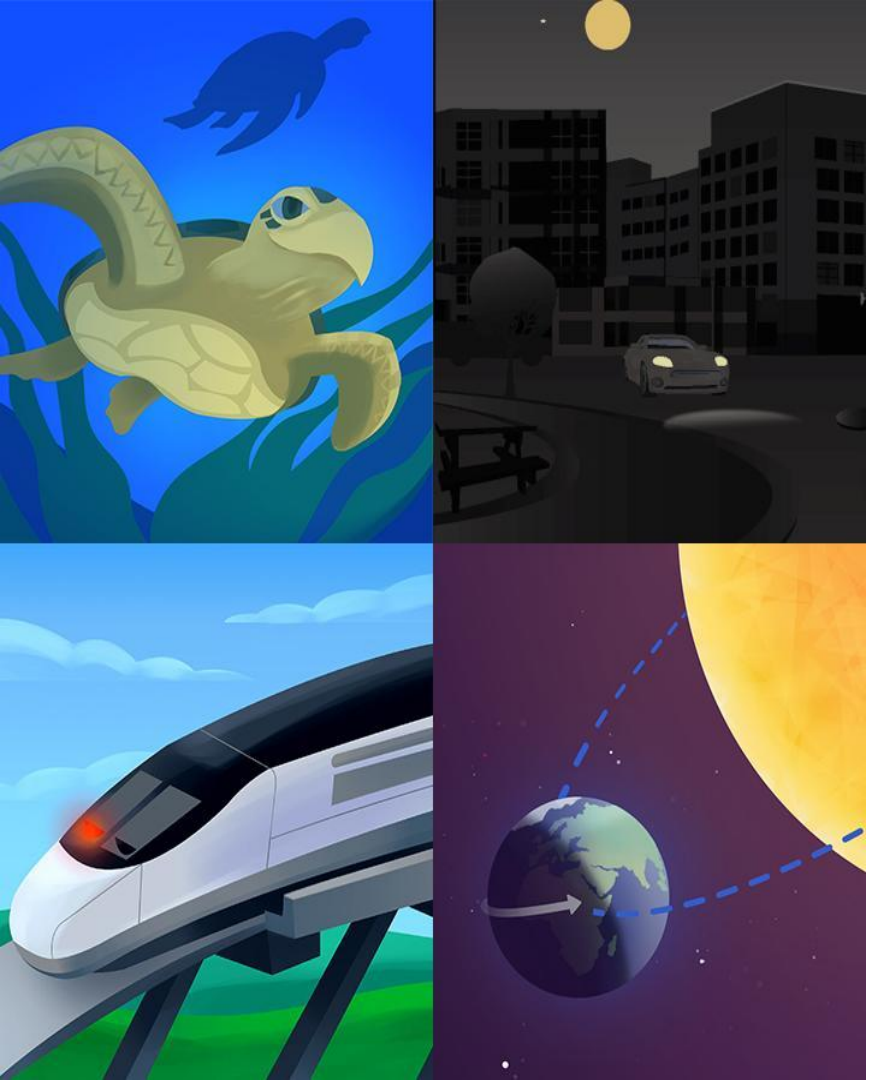
Teaching tip

Being familiar with your unit's Progress Build means you know what's coming. This will help you avoid giving ideas away too early in the unit!



Unit Guide


AmplifyScience
Energy Conversions
Planning for the Unit
Unit Overview
Unit Map
Progress Build
Getting Ready to Teach
Materials and Preparation
Science Background
Standards at a Glance
Teacher References
Lesson Overview Compilation
Standards and Goals
3-D Statements
Assessment System
Embedded Formative Assessments
Books in This Unit
Printable Resources
Coherence Flowcharts
Copymaster Compilation
Flextension Compilation
Investigation Notebook
Multi-Language Glossary
NGSS Information for Parents and Guardians
Print Materials (8.5" x 11")
Print Materials (11" x 17")
Offline Preparation
Teaching without reliable classroom internet? Prepare unit and lesson materials for offline access.
Offline Guide



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  - Coherence
  - Unit Guide resources
- **Reflection and closing**

Navigation Temperature Check

Rate yourself on your comfort level accessing Amplify Science materials and navigating a digital curriculum.

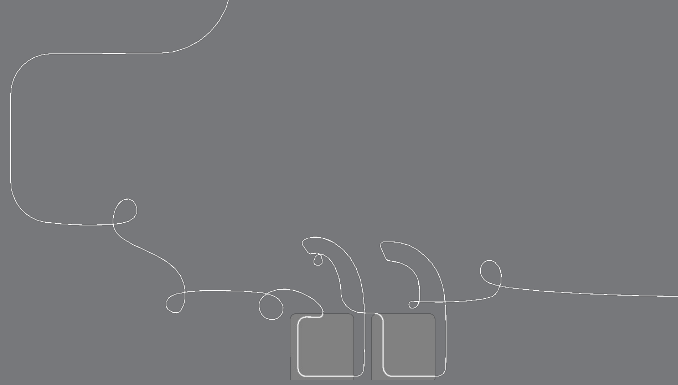
1 = Extremely Uncomfortable

2 = Uncomfortable

3 = Mild

4 = Comfortable

5 = Extremely Comfortable

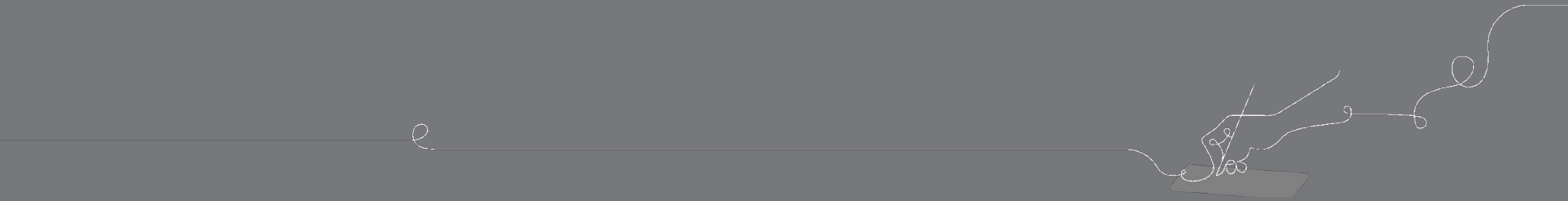


Questions?

Overarching goals

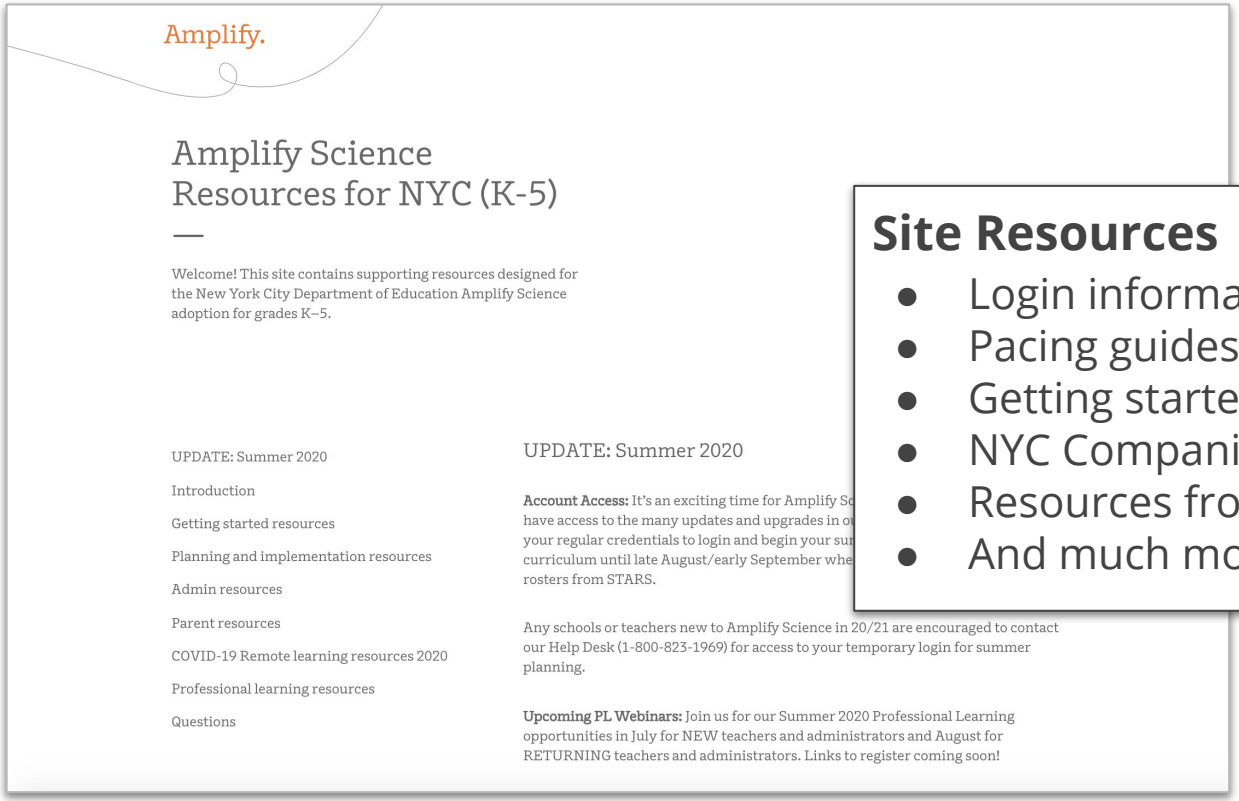
By the end of this workshop, you will be able to:

- Navigate the Amplify Science curriculum.
- Understand the program's phenomenon-based approach.
- Apply the program essentials to prepare to teach.



New York City Resources Site

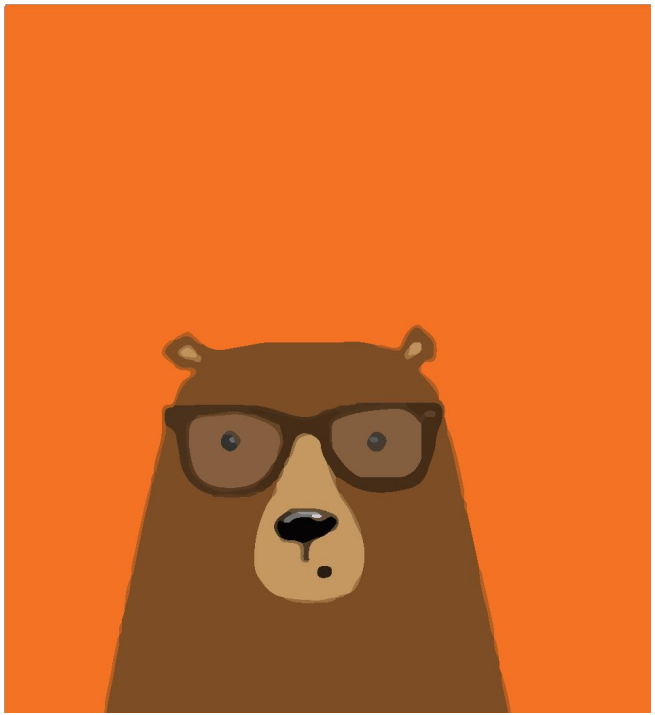
https://amplify.com/amplify-science-nyc-doe-resources/



Site Resources

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

Additional Amplify resources



Program Guide

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

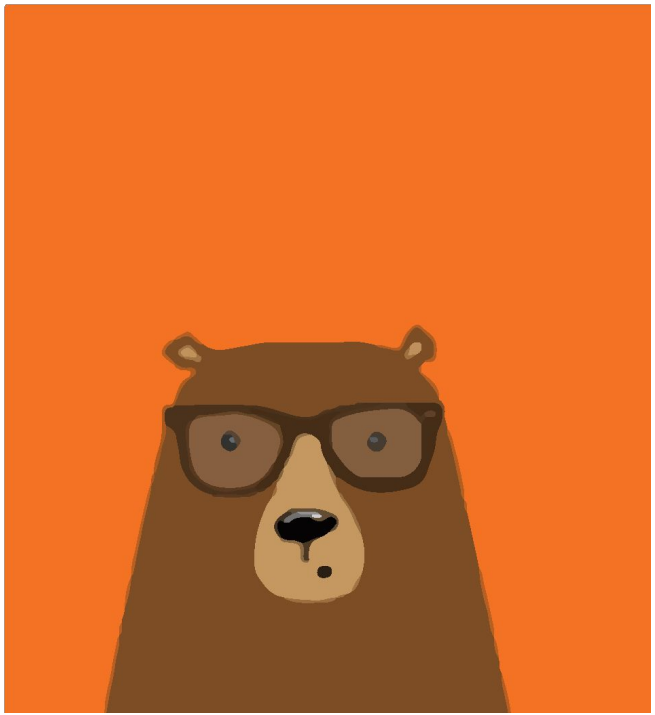
my.amplify.com/programguide

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help

Additional Amplify resources



Caregivers site

Provide your students' families information about Amplify Science and what students are learning

amplify.com/amplify-science-family-resource-intro/

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

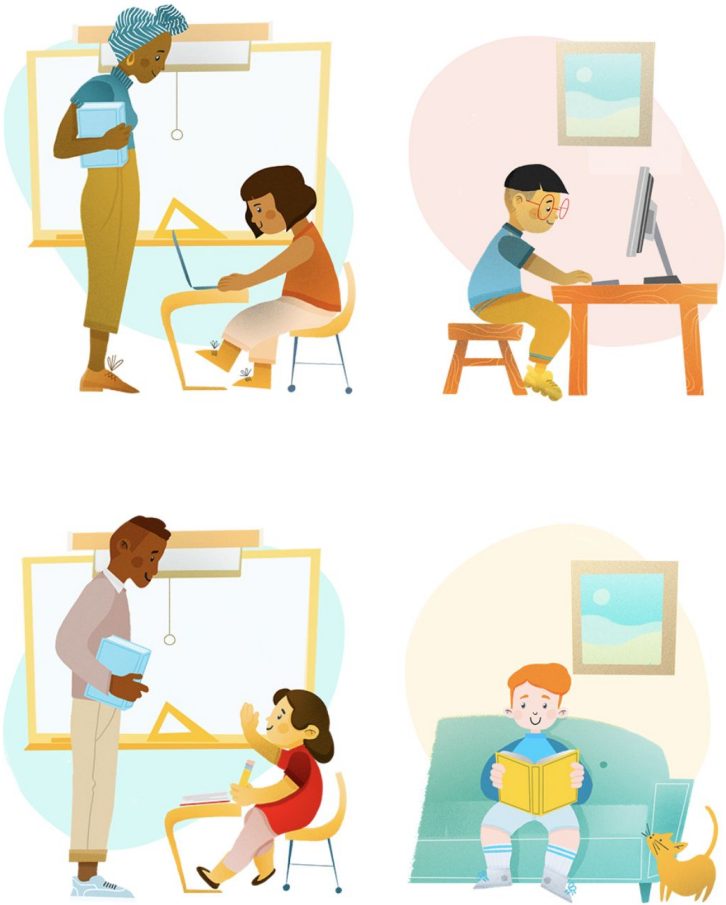
Amplify Chat

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.

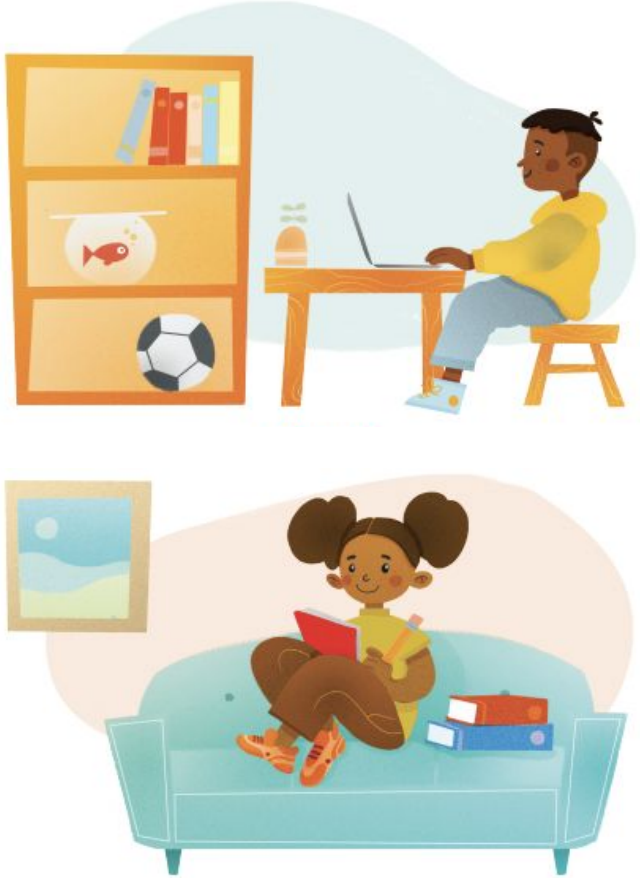
AmplifyScience@Home

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



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



AmplifyScience@Home

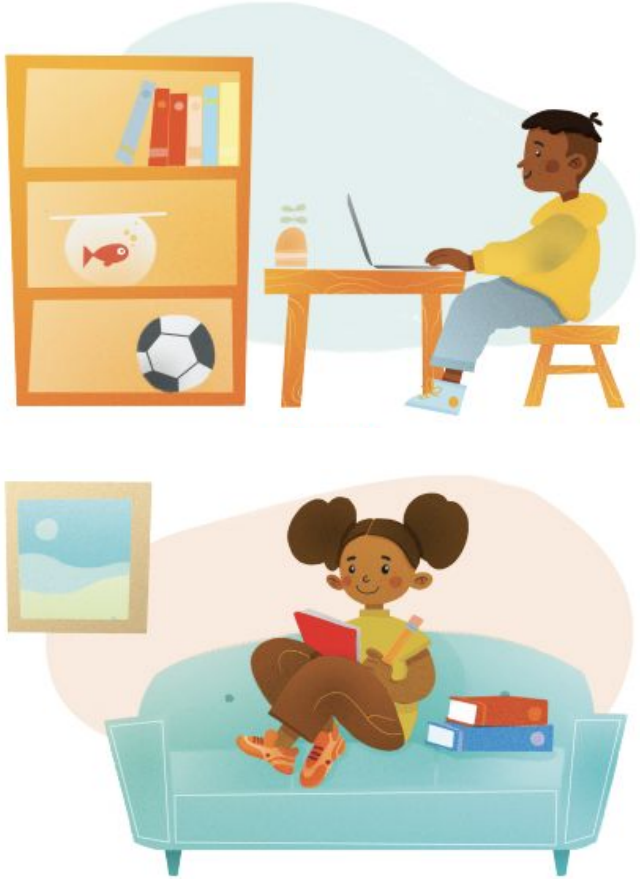
Two different options:

@Home Units

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

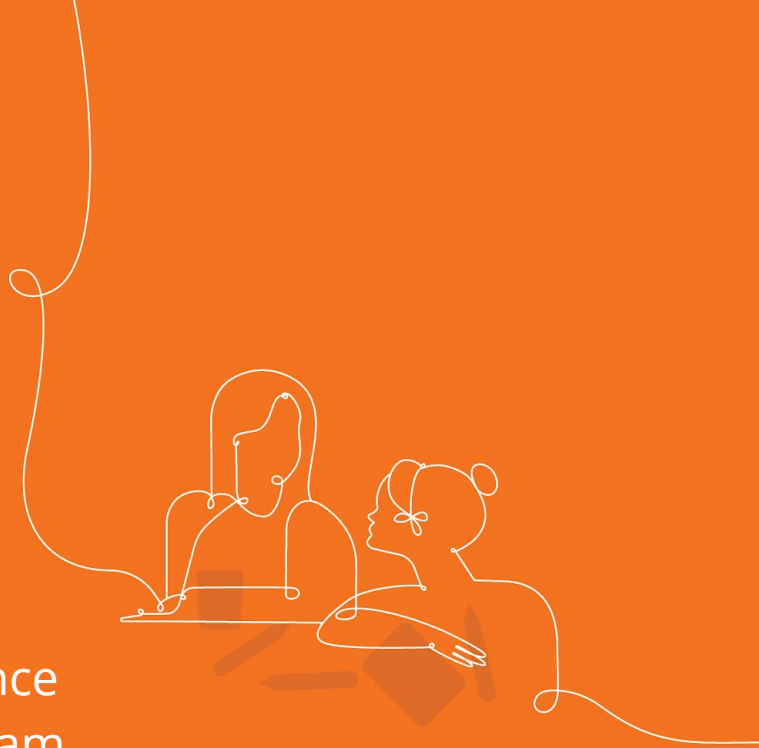
@Home Videos

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



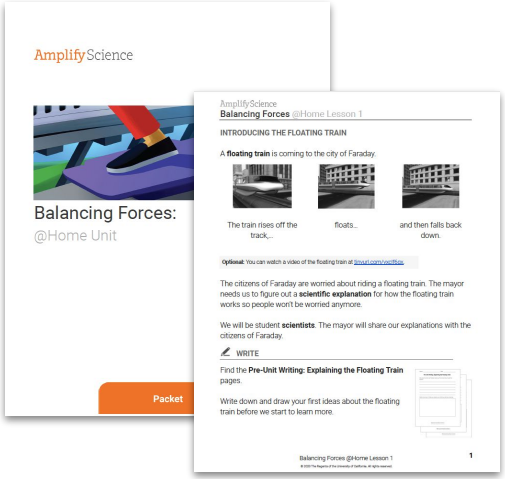
@Home Units

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

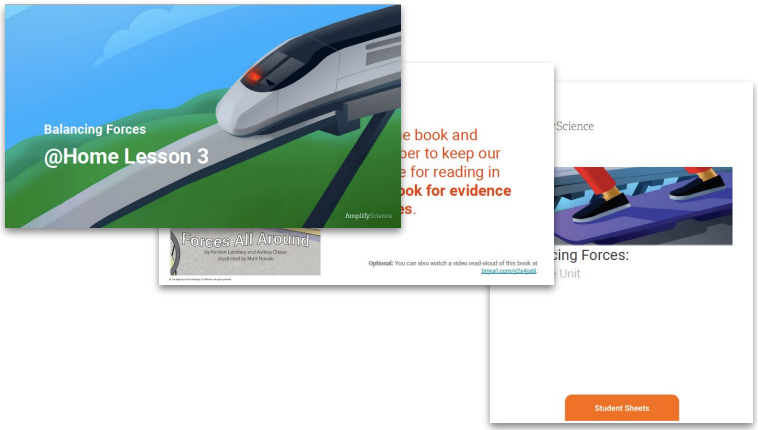


@Home Units

- Solution for **reduced instructional time**
- Two options for student access

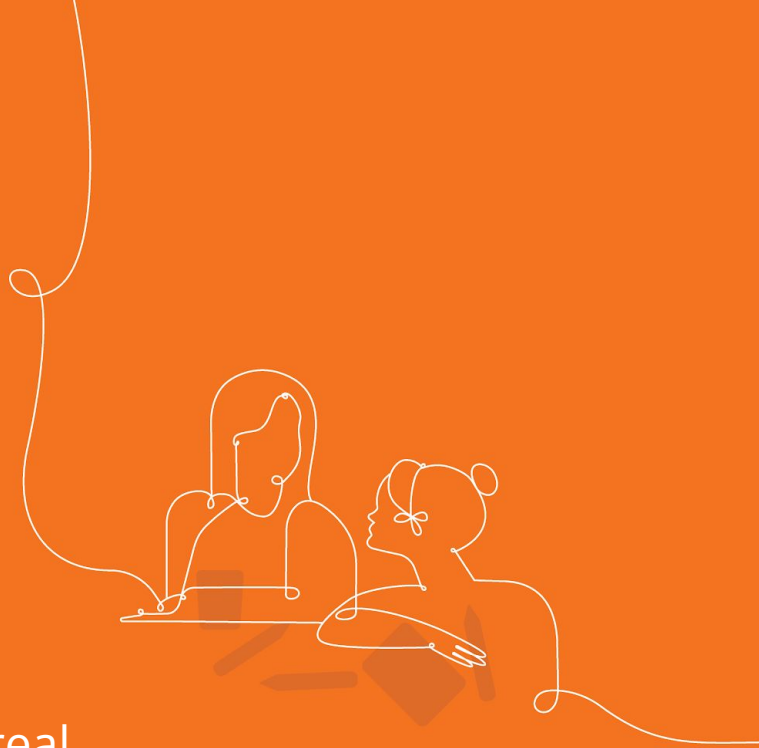


@Home Packets: print-based



@Home Slides and Student Sheets: tech-based

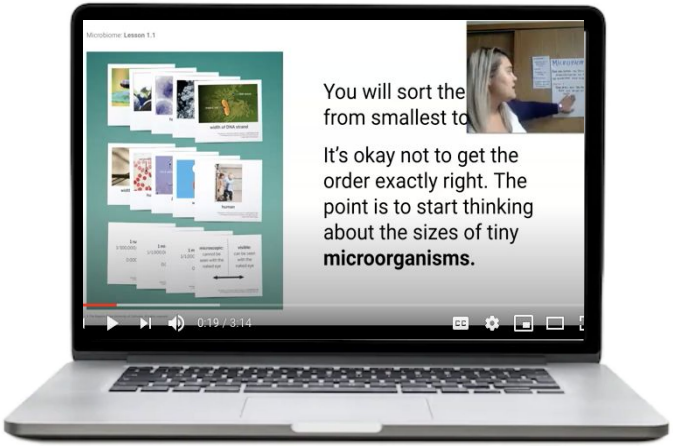
@Home Videos



Versions of original Amplify Science lessons adapted for remote learning and recorded by real Amplify Science teachers

@Home Videos

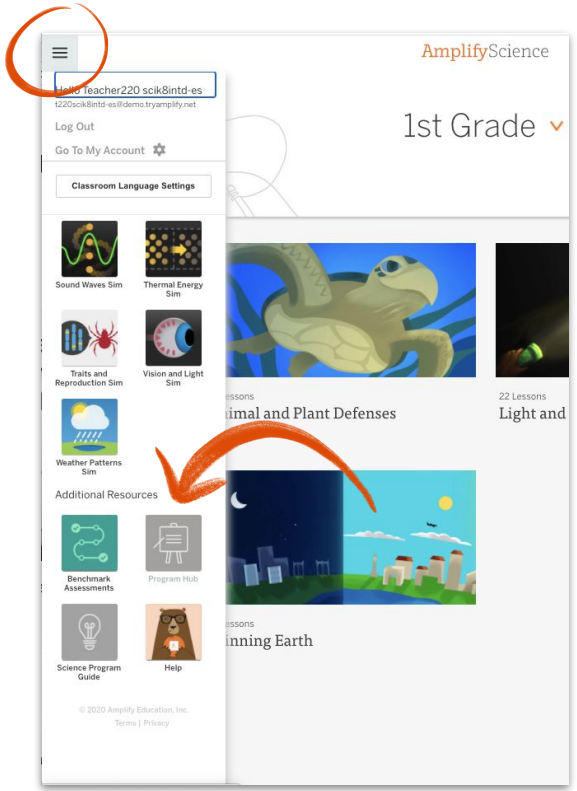
- Lesson playlists include **all activities** from original units
- Great option if have the **same amount of instructional time** as you typically would for science
- Requires **tech access** at home
- Can be used as models for **creating your own videos**



Accessing Amplify Science@Home

Amplify Science Program Hub

- New site containing Amplify Science@Home and additional PL resources
- Accessible via the Global Navigation menu



Course curriculum structure

Integrated model*

Grade 6

- Launch: **Microbiome**
- **Metabolism**
- Engineering Internship: **Metabolism**
- **Traits and Reproduction**
- **Thermal Energy**
- **Ocean, Atmosphere, and Climate**
- **Weather Patterns**
- **Earth's Changing Climate**
- Engineering Internship: **Earth's Changing Climate**

Grade 7

- Launch: **Geology on Mars**
- **Plate Motion**
- Engineering Internship: **Plate Motion**
- **Rock Transformations**
- **Phase Change**
- Engineering Internship: **Phase Change**
- **Chemical Reactions**
- **Populations and Resources**
- **Matter and Energy in Ecosystems**

Grade 8

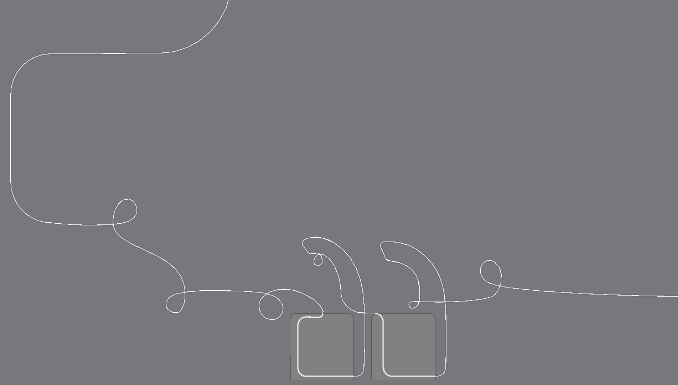
- Launch: **Harnessing Human Energy**
- **Force and Motion**
- Engineering Internship: **Force and Motion**
- **Magnetic Fields**
- **Light Waves**
- **Earth, Moon, and Sun**
- **Natural Selection**
- Engineering Internship: **Natural Selection**
- **Evolutionary History**

AmplifyScience

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

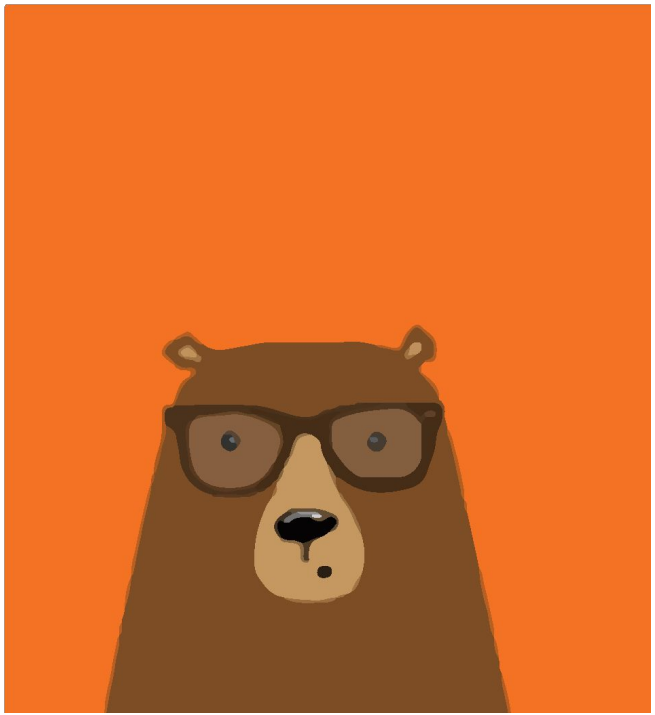
Which resource should I choose?

Use @Home Units if...	Use @Home Videos if...
• You have reduced instructional time for science • You need a print-based solution for some or all of your students	• You have about the same amount of instructional time for science
As you explore the resources, you may decide to use both!	



Questions?

Back to school webinar series



Now-October, topics include:

- Remote and hybrid learning support
- Navigation support
- What's new for 2020-2021
- Planning support
- Curriculum overview

bit.ly/BTSwebinars