

Amplify Science

New Teachers: Part 2

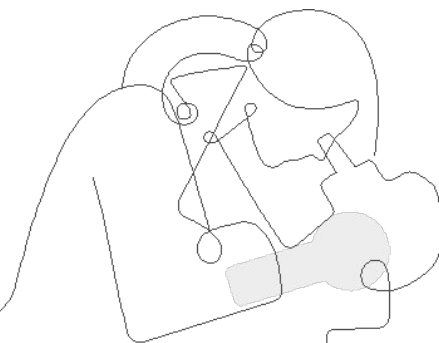
Unit 1 - Guided Planning

Grade 3: Balancing Forces

School/District Name: LAUSD

Date:

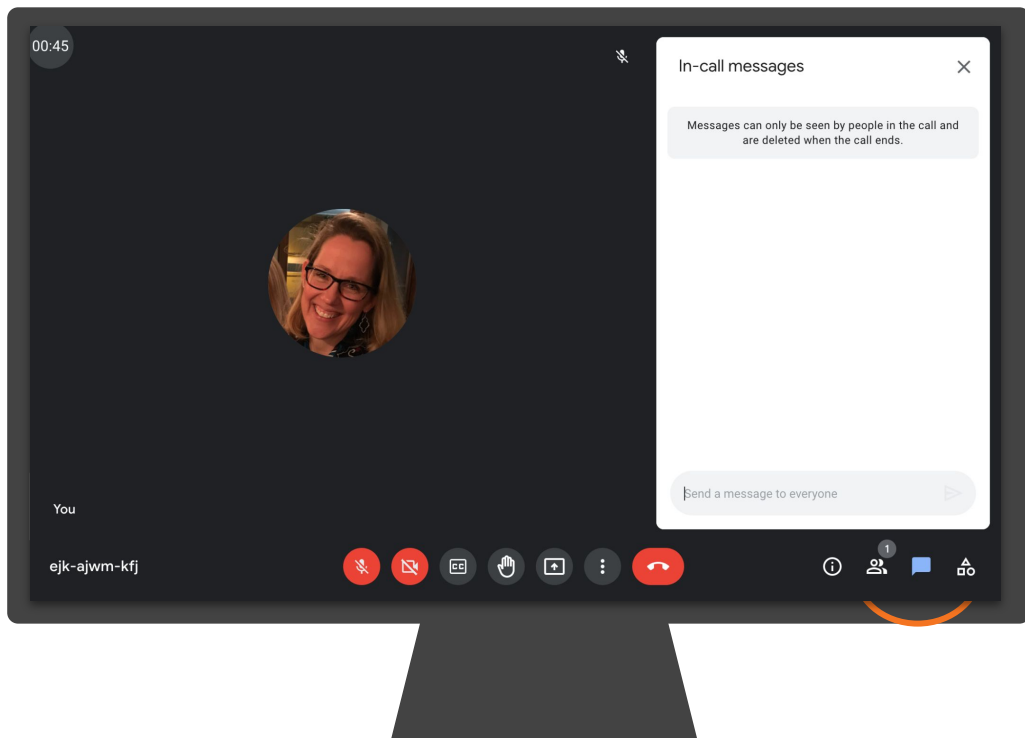
Presented by:



Ice Breaker!

Who do we have in the room today?

- **Question:** Now that we have gone through Part 1, which aspects of Amplify Science do you feel more comfortable with or have a greater understanding of?



Amplify's Purpose Statement

Dear teachers,

You do a job that is nearly impossible and **utterly essential**.

We are in your corner – extending your reach, saving you time, and enhancing your understanding of each student.

Thank you for working with us to craft rigorous and riveting learning experiences for your classroom.


We share your goal of **inspiring all students to think deeply, creatively, and for themselves**.

Sincerely,
Amplify

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.

Last year's Amplify apps.



[Home](#) [About Los Angeles Unified](#) [Find a School](#) [Offices](#) [Classic View](#)


LOS ANGELES UNIFIED SCHOOL DISTRICT



[mCLASS Student](#)

Content Area: ELA
Grade Level: ES
Content Type: Assessment
Integration Type: App (Left Navigation)
Purchase Type: District
[Getting Started Guide](#)
Other Info: App to be installed for all course members.


Vendor Support Desk:
P: 800.823.1969
E: help@amplify.com
S: amplify.com/support/
Textbook Title(s):
NA



[mCLASS Assessment](#)

Content Area: ELA
Grade Level: ES
Content Type: Assessment
Integration Type: App (Left Navigation)
Purchase Type: District
[Getting Started Guide](#)
Other Info: App to be installed for Course Admins only


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[mCLASS Portal](#)


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NA





LOS ANGELES UNIFIED


COURSES





Course Options


 **Materials**


 Updates


 Gradebook


 Grade Setup


 Mastery

 Amplify Reading: Teac...

 Amplify Science: Eleme...


 Amplify Science: Midd...

 mCLASS Portal

 mCLASS Student




This year's app(s).



LOS ANGELES UNIFIED SCHOOL DISTRICT

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LOS ANGELES UNIFIED SCHOOL DISTRICT

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COURSES GROUPS RESOURCES TOOLS

Back to Schoology Home Page

LMS App Center

The LMS App Center provides a catalog of District-approved digital content and learning tools (including digital components of adopted textbooks) that are available for classroom teachers and students to access within the learning management system, Schoology.


For information on District-approval policies and procedures, please visit: udpp.lausd.net.

- To search the full list of digital learning tools, click "Submit".
- To search by Publisher Name or Textbook Title, type in a word associated to your adopted publisher, then click "Submit".
- To narrow your search with filters such as Content Area, Grade Level, or Content Type, select from the dropdown menu, then click "Submit".


To learn more about using the LMS App Center, please refer to the following [video overview](#).

Search Again

All Amplify Products



Grade Sync for MS Science




LMS App Center

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Publisher Name Starts With 

Content Area All

Grade Level All

Content Type All

Textbook Title Starts With

Submit

LMS App Center

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[Search Again](#)


Amplify



Content Area: ELA
Grade Level: ES
Content Type: Supplemental
Integration Type: App (Left Navigation)
Purchase Type: District and School
Getting Started Guide
Other Info: School licenses required
mCLASS
CKLA
Amplify Reading
Amplify Science
Fractions

Vendor Support Desk:
P: 800.823.1969
E: help@amplify.com
S: amplify.com/support/
Textbook Title(s):
NA

Amplify Classwork



Content Area: ELA
Grade Level: ES
Content Type: Supplemental
Integration Type: App (Left Navigation)
Purchase Type: District and School
Getting Started Guide
Other Info: School licenses required. This app is for teacher use only (install for Course Admins only)

Vendor Support Desk:
P: 800.823.1969
E: help@amplify.com
S: amplify.com/support/
Textbook Title(s):
NA

 mCLASS Educators: To view or make changes to your account go to mclass.amplify.com.

Hi, Terin

Classes

Programs & Licenses

Account Settings

Help Center 



[CKLA Hub](#)



[CKLA Resource Site](#)



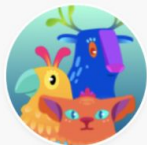
[mCLASS Assessment](#)



[mCLASS Reporting](#)



[Reading 6-8](#)



[Reading K-5](#)



[Science](#)



[Vocabulary](#)



Amplify. on Schoology

2021-2022



Schoology

- To join Amplify ES Group: W4PK-W466-63F5B



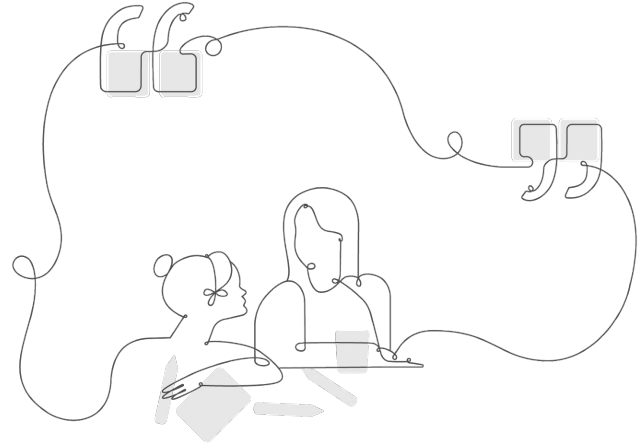
Upcoming LAUSD Office Hours

Last working Monday of the month

Next Office Hour:

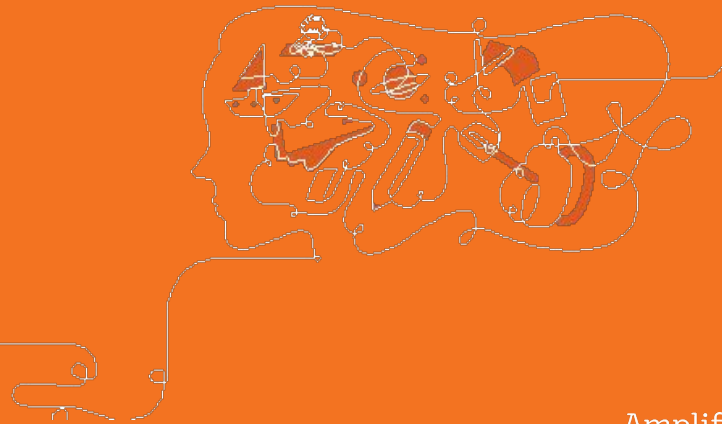
January 31, 2022

- Monday, (4-5pm)



<https://meet.google.com/uwc-uuaz-qdc?authuser=0>

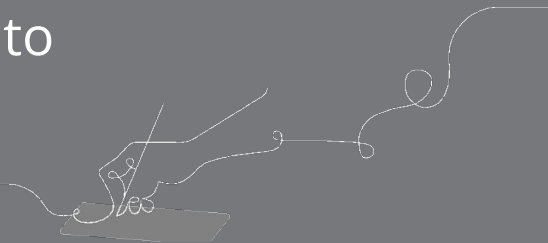
Part 2: Guided Planning

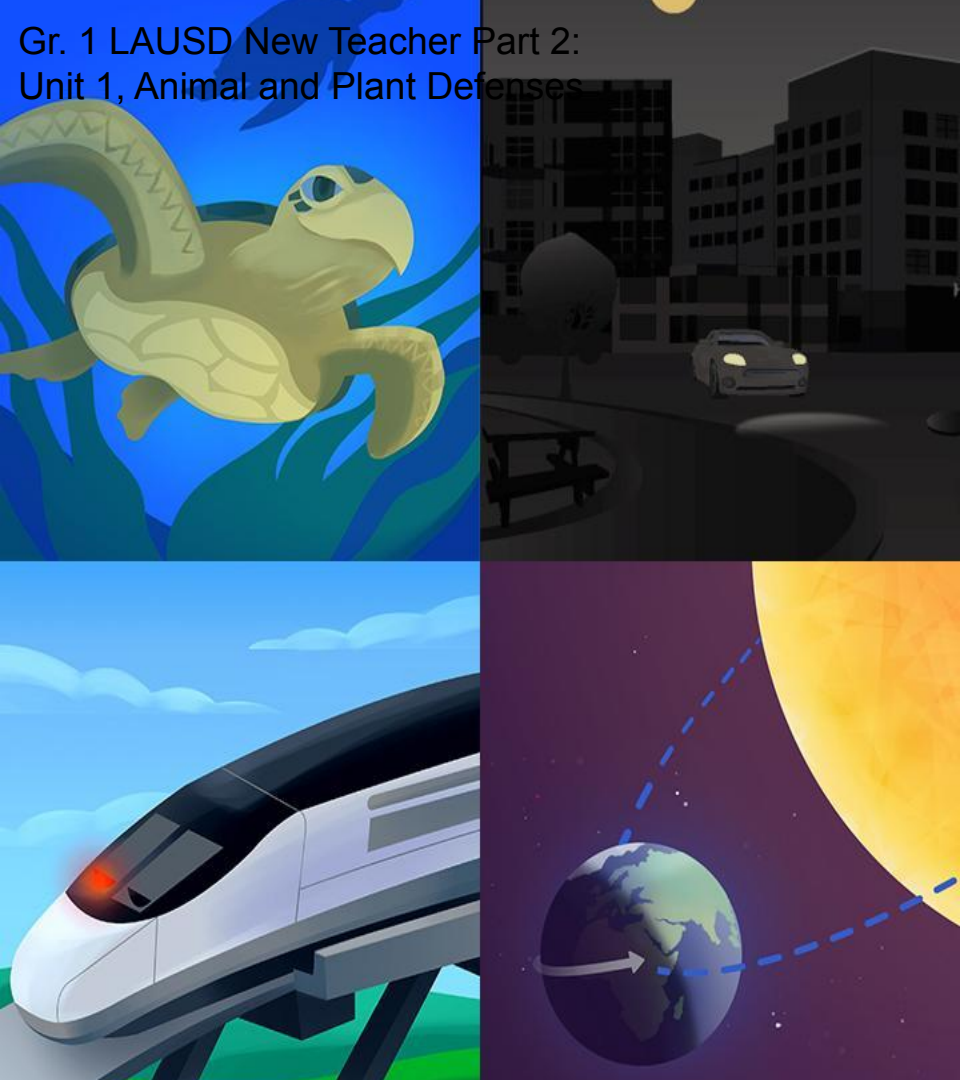


Overarching goals

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

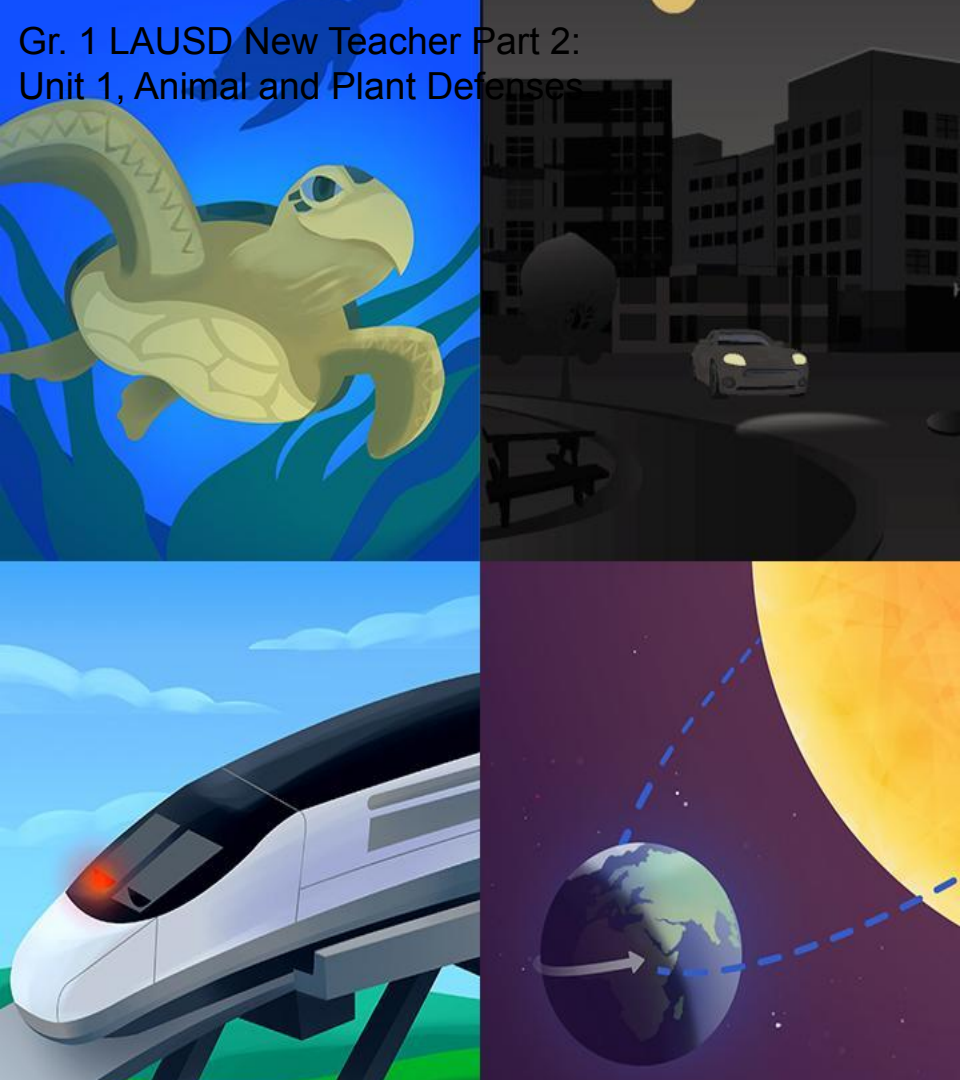
- ❑ Navigate the Amplify Science curriculum.
- ❑ Describe what teaching and learning look like in Amplify Science.
- ❑ Apply the program essentials to prepare to teach.





Plan for the day: Part 2

- Part 1 Review
- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- Planning a Lesson
- Closing



Plan for the day: Part 2

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Course curriculum structure

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

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

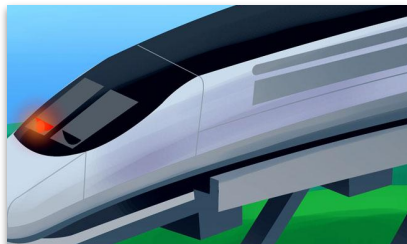
Grade 5

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

Key takeaways:

- There are 22 lessons per unit
- Lessons at grades 2-5 are 60 minutes long

Year at a Glance: Grade 3



Balancing Forces

Domain: Physical Science

Unit type: Modeling

Student role:
Engineers

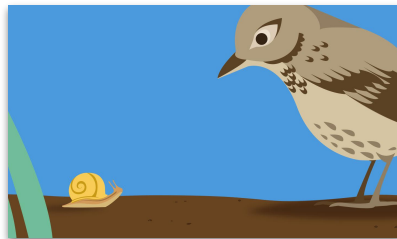


Inheritance and Traits

Domain: Life Science

Unit type: Investigation

Student role: Wildlife biologists

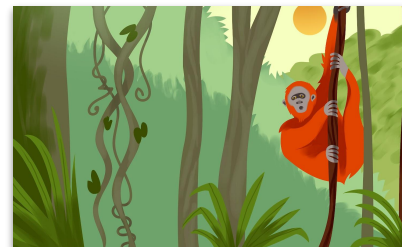


Environments and Survival

Domain: Life Science

Unit type: Engineering Design

Student role:
Biomimicry engineers



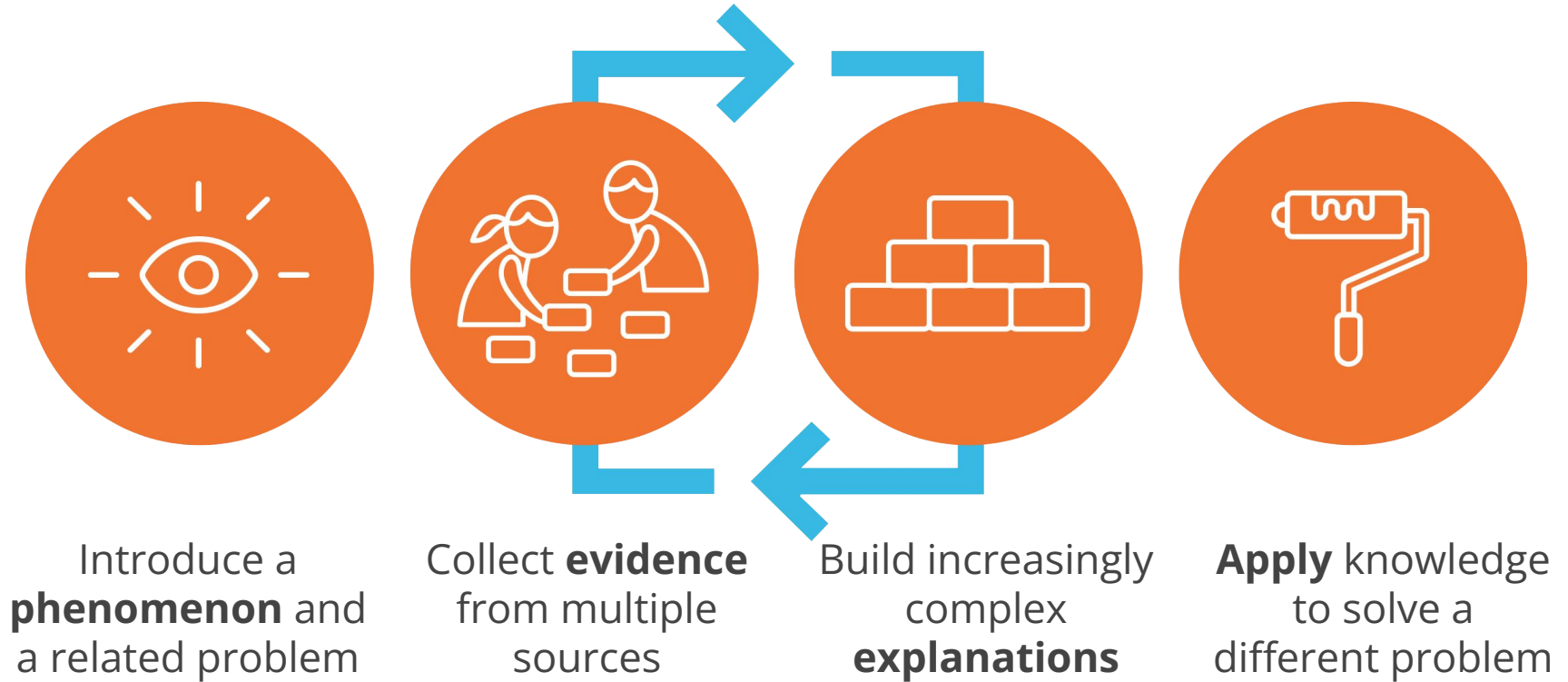
Weather and Climate

Domain: Earth and Space Science

Unit type:
Argumentation

Student role:
Meteorologists

Amplify Science Approach



Balancing Forces

What can make an object move or not move?

Students explore forces that are acting on and around them every day, often unseen and misunderstood. They will discover how magnetic force can be used to counterbalance the force of gravity.



Balancing Forces

Problem: How is it possible for a train to float?

Role: Engineers

Students are challenged to figure out how the floating train works in order to explain it to the citizens of Faraday.

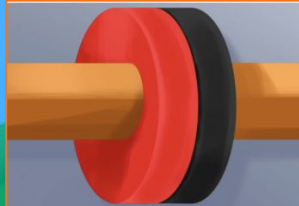


Coherent Storylines



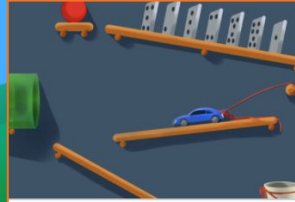
Chapter 1: Why does the train rise?

4 Lessons



Chapter 2: Why does the train rise without anything touching it?

5 Lessons



Chapter 3: Why does the train fall?

4 Lessons



Chapter 4: Why does the train float, even though gravity is acting on it?

4 Lessons



Chapter 5: Why does the train change from floating to falling?

5 Lessons

Explaining the phenomenon: Science Concepts

What **science concepts** do you think students need to understand in order to **explain the phenomenon?**



Progress Build

Balancing Forces

Assumed prior knowledge (preconceptions): When you push or pull something, it starts moving.

Level 1

A force is a push or pull that acts between two objects.

Level 2

Forces can be touching or non-touching.

Level 3

More than one force can act on an object at the same time. When those forces are balanced, a still object will remain still; when those forces are unbalanced, the object will start to move.

Key Unit Guide Documents for Planning

The image shows a digital interface for planning a unit, divided into two main columns. The left column contains a list of documents, and the right column contains printable resources and an offline preparation section. Orange arrows highlight specific areas of interest.

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

Orange arrows point to the following sections:

- Unit Overview
- Unit Map
- Progress Build
- Getting Ready to Teach
- Materials and Preparation
- Lesson Overview Compilation
- Standards and Goals
- 3-D Statements
- Assessment System
- Coherence Flowcharts

Core Unit Planning & Internalization

Unit Title:

Balancing Forces

Overview

[Resources: Unit Overview, Teacher's Guide, Coherence Flowchart, Unit Map, 3-D Statements]

What is the phenomenon/real-world problem students are investigating in your unit?

How is it possible for a train to float?

Student Role:

Engineer

Unit Question:

What can make an object move or not move?

Relationship between the Unit Phenomenon and Unit Question:

In coming to understand how a floating train works, students grasp of an array of foundational concepts in the area of force and motion.

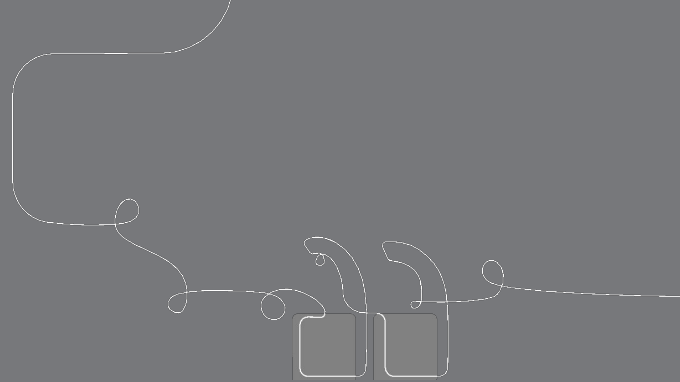
By the end of the unit, students figure out...

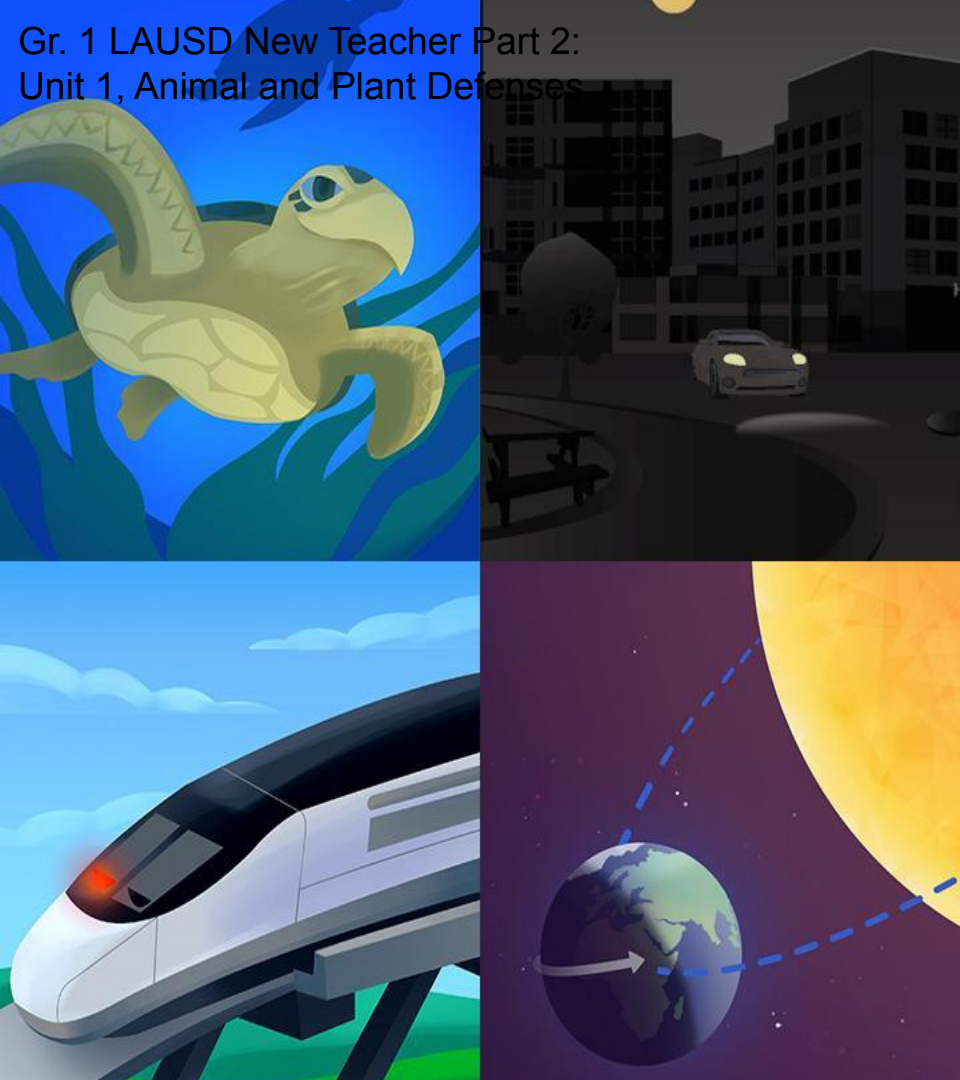
More than one force can be exerted on the train at a time. The force of gravity is pulling the train toward Earth, and magnetic force is pushing the train up away from the tracks. Those forces work in opposite directions so when the forces are balanced, the train floats and stays in the air.

How do students engage with three-dimensional learning to figure out the phenomenon/real-world problem in your unit?

Students plan and conduct investigations, analyze patterns in data (patterns), and obtain information about magnetic force, gravity, and balanced and unbalanced forces. Students write explanations and create physical models and diagram models to show why the train's vertical motion is stable at times and changes at times.

Questions?





Plan for the day: Part 2

- Part 1 Review
- Teaching and Learning in an Amplify Science Lesson
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Beginning the Unit

The first lesson of every Unit is a pre-unit assessment.


Chapter 1: Why does the train rise?

✓ JUMP DOWN TO CHAPTER OVERVIEW

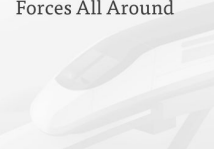
Lesson 1.1:
Pre-Unit Assessment



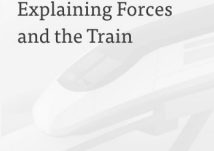
Lesson 1.2:
Making an Object Move



Lesson 1.3:
Forces All Around



Lesson 1.4:
Explaining Forces and the Train



Balancing Forces Family Connection

Lesson 1.1: Pre-Unit Assessment

2

TEACHER-LED DISCUSSION
Introducing Investigation
Notebooks

RESET LESSON

GENERATE PRINTABLE LESSON

Overview

Materials & Preparation

Differentiation

Standards

Unplugged?

Overview

Students watch a short video about a floating train and write their initial explanations about what they think makes the train rise, float, and then fall. Figuring out how the floating train works is the problem students will solve in this unit. The explanations they provide today serve as a Pre-Unit Assessment for formative purposes, designed to reveal students' initial understanding of the unit's core content prior to instruction. As such, students' explanations offer a baseline from which to measure growth of understanding over the course of the unit. These three-dimensional assessments can also provide the teacher with insight into students' thinking as they begin this unit of instruction. This will allow the teacher to draw connections to students' experiences and to watch for preconceptions that might get in the way of students' understanding. At the end of the lesson, students will receive their Investigation Notebooks and learn some of the ways that scientists use notebooks.

Unit Anchor Phenomenon: The floating train rises, floats above the track, then later falls back to the track.

Chapter-level Anchor Phenomenon: The train rises above the track.

Students learn:

- Reflecting on what you understand and don't understand allows you to prepare for learning new things.

Digital Resources

- Classroom Slides 1.1 | PowerPoint
- Classroom Slides 1.1 | Google Slides
- Classroom Videos 1.1 | Zip
- Video: Floating Train
- Pre-Unit Writing: Explaining the Float copymaster
- Assessment Guide: Interpreting Student Unit Explanations About the Floating
- Balancing Forces Investigation Notebook
- Questioning Strategies for Grades 2-4
- Balancing Forces Family Connections Homework**
- Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Backgrounds
- Crosscutting Concept Tracker

Name: _____

Date: _____

Balancing Forces Family Connections Homework

1. Choose a member of your family and tell them about what we are investigating in science class.
2. Ask them about their experiences, ideas, and questions related to our investigations.
3. Write notes about what you learn.

Summary of our investigation you can share:

In science class, we are working as scientists to figure out how a floating train works. We will be answering the question, *What can make an object move or not move?*

Ask questions such as:

- What does our investigation make you think of?
- Do you have any memories, stories, expertise, or experiences about something like what we're investigating?
- What have you heard or learned about these topics?
- What do you wonder about what we are investigating?

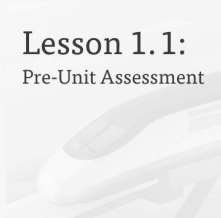
Beginning the Unit

Model lesson 1.2

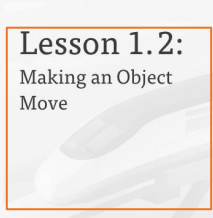
Chapter 1: Why does the train rise?

✓ JUMP DOWN TO CHAPTER OVERVIEW

Lesson 1.1:
Pre-Unit Assessment



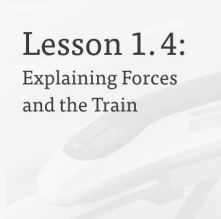
Lesson 1.2:
Making an Object
Move



Lesson 1.3:
Forces All Around



Lesson 1.4:
Explaining Forces
and the Train



A stylized illustration of a high-speed train, possibly a Shinkansen, traveling on a track. The train is white with a black stripe and a red light on its nose. It is moving from the right towards the left. The background features rolling green hills and a bright blue sky with soft, white clouds. The train tracks are dark grey and curve through the landscape.

Grade 3 | Balancing Forces

Lesson 1.2: Making an Object Move

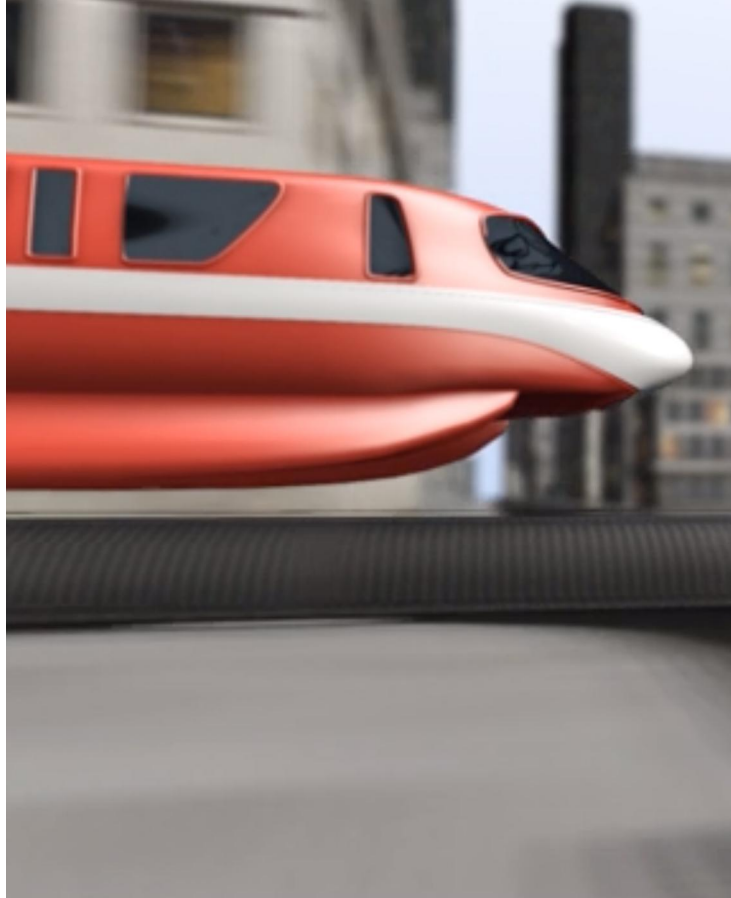
Activity 1

Discussing Initial Ideas





Real engineers invented floating trains. The trains are faster and use less energy than regular trains.



You will be student **scientists** investigating what can make things move, float, and fall.

Think-Pair-Share Routine



Think

Think silently about the question.



Pair

Turn and talk to a partner about the question.



Share

Share your ideas about the question with the class.



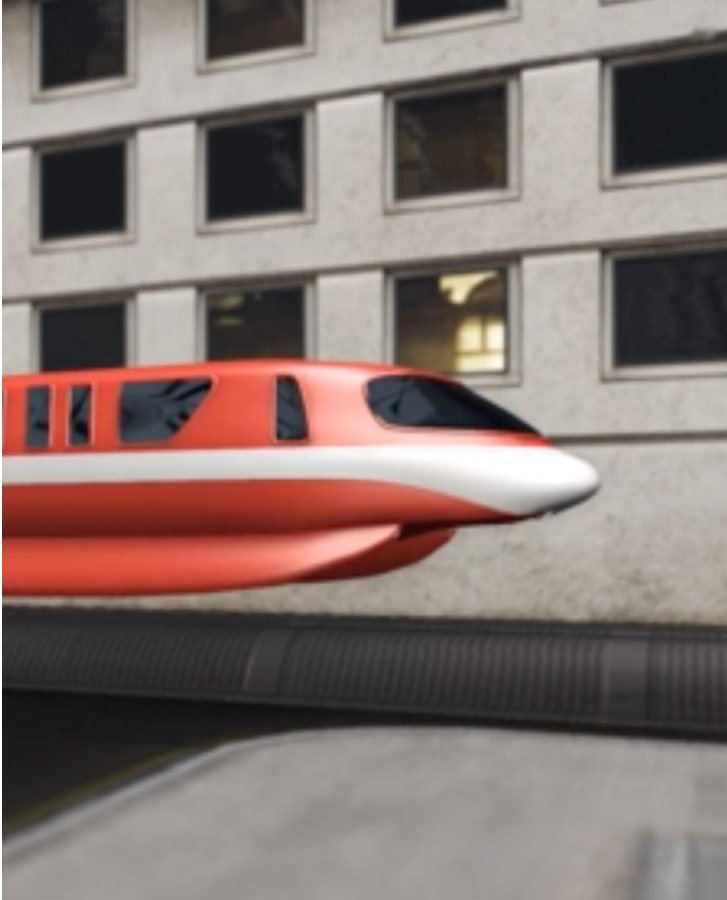
What do you think could
make a train **rise up** off
the track?



What do you think could
make a train **float above**
the track?



What do you think could
make a train **fall back**
onto the track?



What questions do you have about the floating train?



Unit Question

What can make an object move or not move?



Chapter 1 Question

Why does the train rise?

Activity 2

Making Blocks Move



Today, we're going to investigate this question:

What makes an object start to move?

Vocabulary



observe

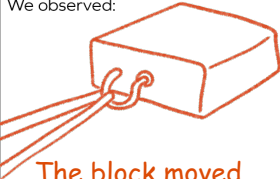
to use any of the five senses to learn more about something

Name: _____ Date: _____

Making Blocks Move

Directions:

1. With your partner, use the materials in your bag to make a block start moving.
2. In each box, record the object you used to make the block move.
3. In each box, record or draw your observation.

<p>We used <u>a rubber band</u>.</p> <p>We observed:</p>  <p>The block moved forward.</p>	<p>We used _____.</p> <p>We observed:</p>
<p>We used _____.</p> <p>We observed:</p>	<p>We used _____.</p> <p>We observed:</p>

On page 2 of the Investigation Notebook, we will **record what we observed** with words and drawings.

Name: _____ Date: _____

Making Blocks Move

Directions:

1. With your partner, use the materials in your bag to make a block start moving.
2. In each box, record the object you used to make the block move.
3. In each box, record or draw your observation.

We used _____. We observed:	We used _____. We observed:
We used _____. We observed:	We used _____. We observed:



Write and draw to record how you made the block move and what you observed.




Find many ways to make one of the blocks start moving.

Activity 3

Sharing Observations




Class Observation Table

Object 1	Object 2	Observation	Push, a pull, or not sure
			

We will gather observations from the whole class and record them in this table.

Class Observation Table

Object 1	Object 2	Observation	Push, a pull, or not sure
			

When scientists gather observations, they look for patterns they can notice.



What patterns do you notice?

Vocabulary



force

a push or a pull

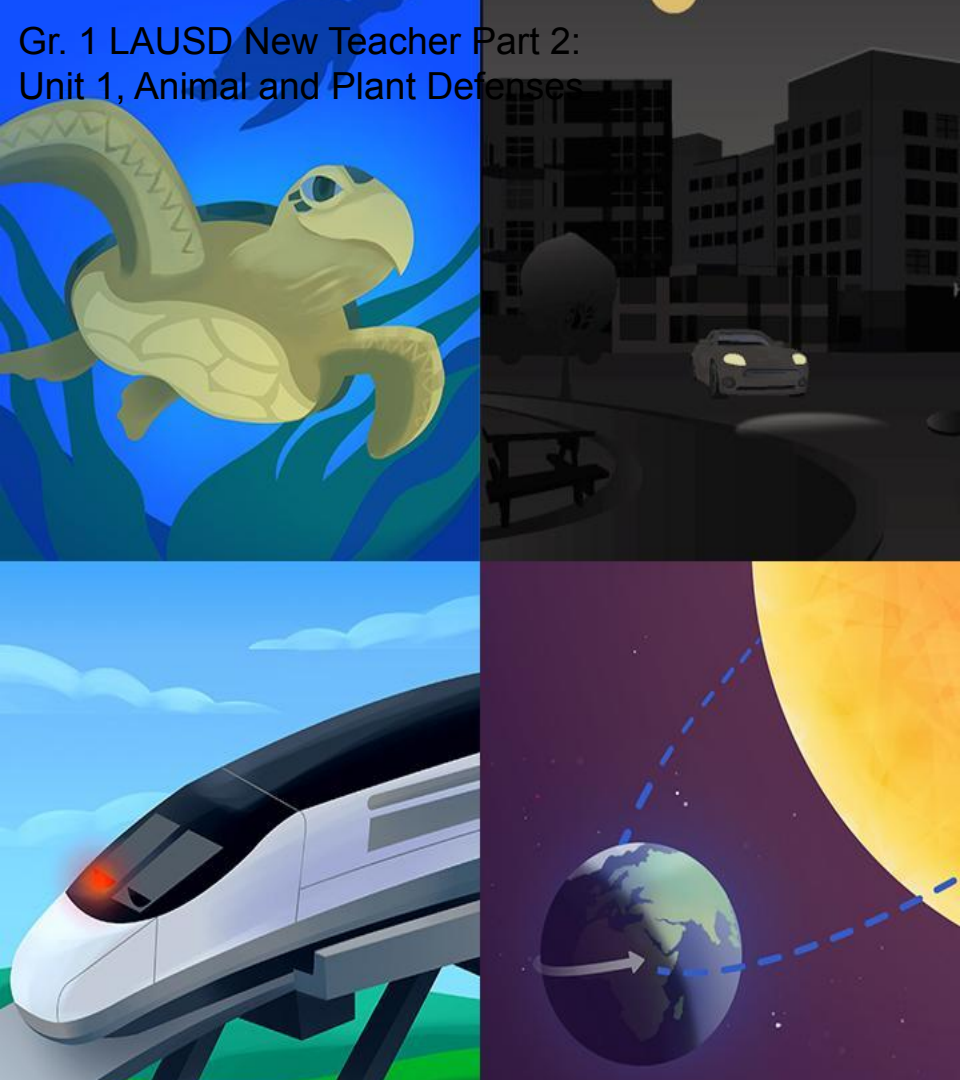
End of Lesson



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HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

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Plan for the day: Part 2

- Part 1 Review
- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- Planning a Lesson
- Closing

Gathering evidence

Balancing Forces Lesson 1.2

Chapter Question: Why does the train rise?

Investigation Question: What makes an object start to move?



Class Observation Table			
Object 1	Object 2	Observation	Push, a pull, or not sure

Evidence sources work together

Investigate making blocks move and sharing observations

How do these activities
work together to
support understanding of
what makes an object
start to move?

Investigation Question: What makes an
object start to move?



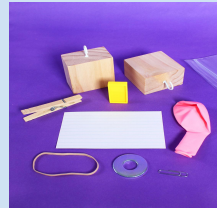
Gathering evidence

Balancing Forces Lesson 1.2

Chapter Question: Why does the train rise?



Investigation Question: What makes an object start to move?



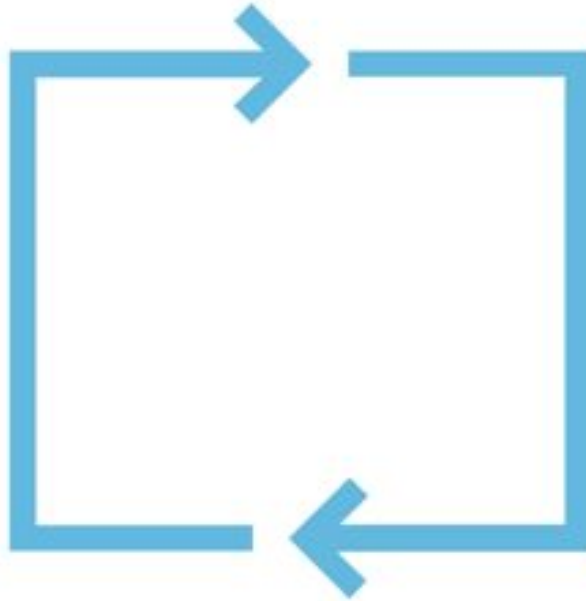
Class Observation Table			
Object 1	Object 2	Observation	Push, a pull, or not sure



What have students figured out so far?

Multimodal learning

Gathering evidence over multiple lessons



**Do,
Talk,
Read,
Write,
Visualize**

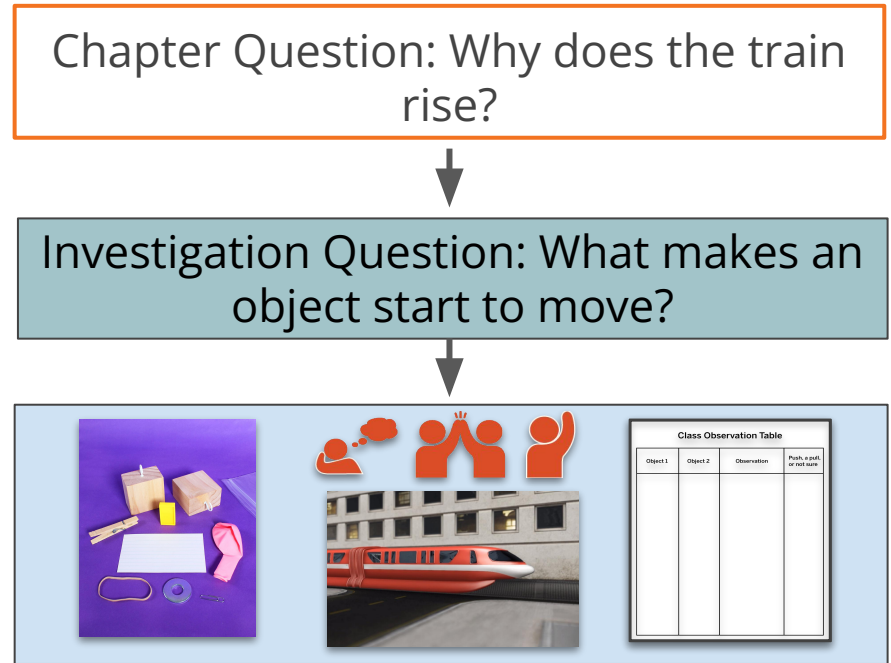
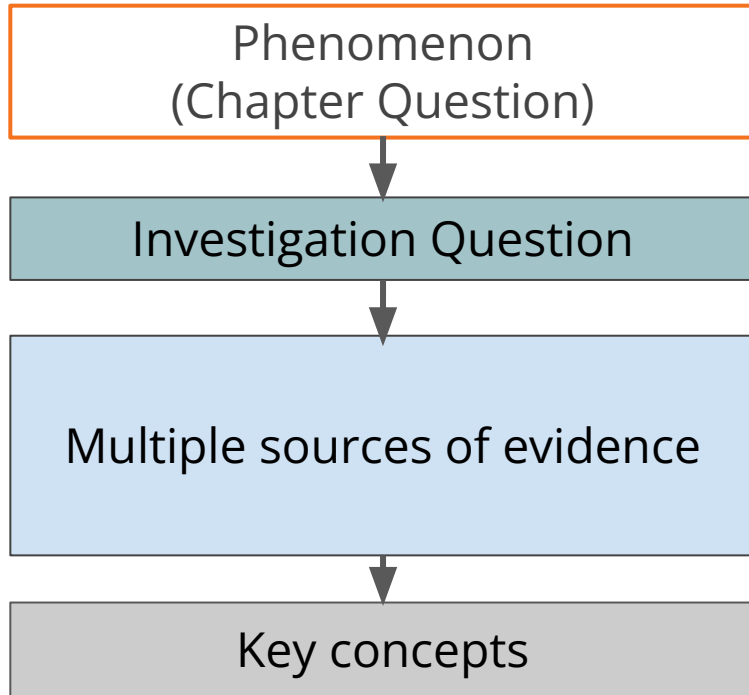
Evidence sources work together

Teacher tip: Every evidence source plays an important role in student learning. Be sure to teach every activity in order!



Class Observation Table			
Object 1	Object 2	Observation	Push, a pull, or not sure

A diagram of student learning



Coherence Flowchart

Balancing Forces Lesson 1.2-1.4

Chapter Question: Why does the train rise?



Investigation Question: What makes an object start to move?



Evidence: Investigate by making blocks move (1.2)

Evidence: Read *Forces All Around* (1.3)

Evidence: View *Domino* video(1.4)

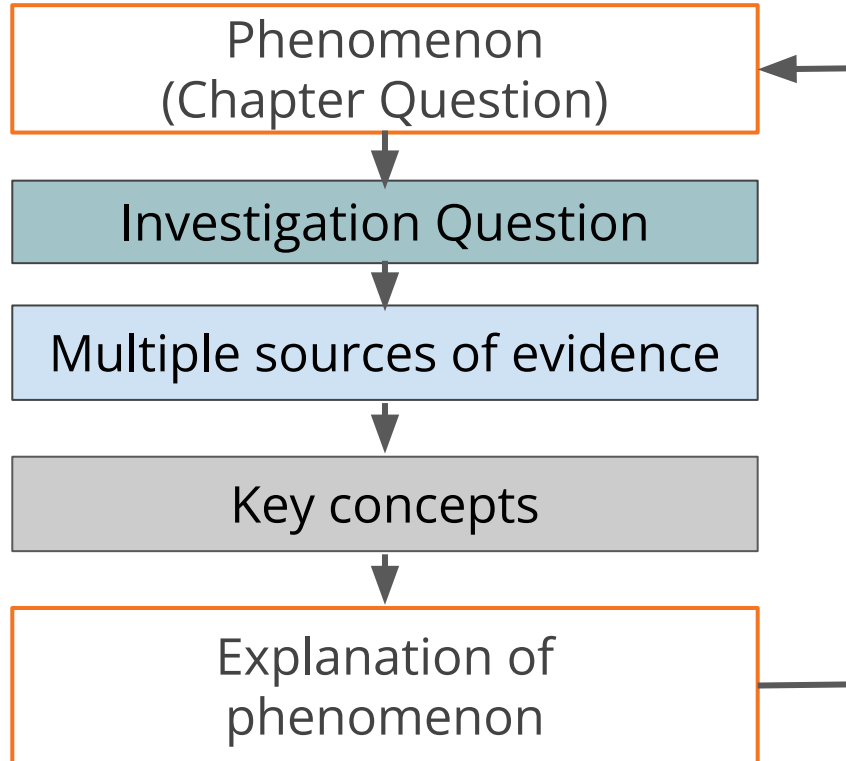
Evidence: Create and analyze chain reactions (1.4)



Key concepts: A force acts between two objects. When an object starts moving or stops moving, that is evidence that a force has acted on it.

Coherence Flowchart

A diagram of student learning



Coherence Flowchart

Balancing Forces Lesson 1.2-1.4

Chapter Question: Why does the train rise?



Investigation Question: What makes an object start to move?



Evidence: Investigate by making blocks move (1.2)

Evidence: Read Forces All Around (1.3)

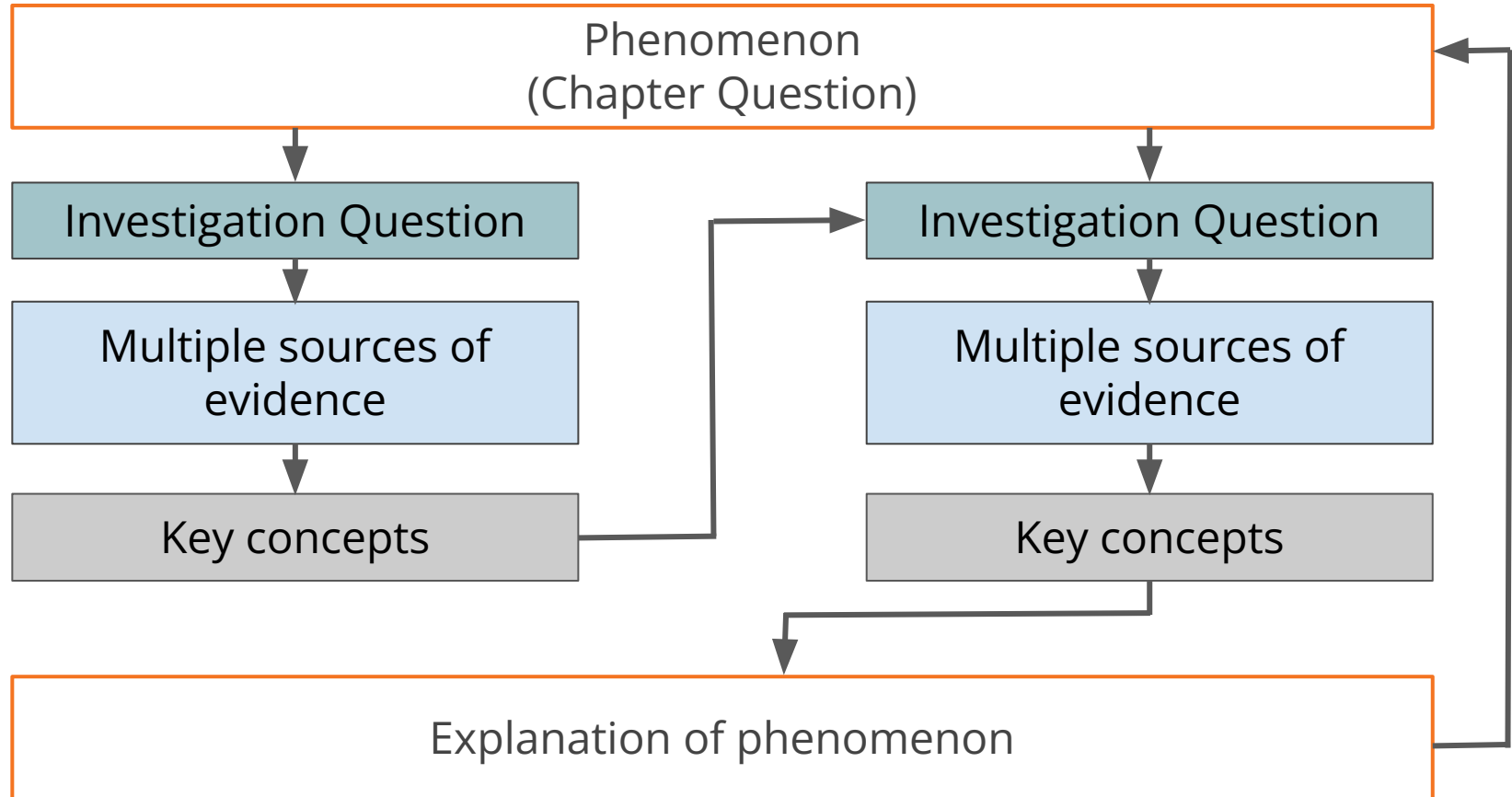
Evidence: View Domino video(1.4)

Evidence: Create and analyze chain reactions (1.4)



Key concepts: A force acts between two objects. When an object starts moving or stops moving, that is evidence that a force has acted on it.

Coherence Flowchart



Unit Anchor Phenomenon

Problem students work to solve

Chapter-level Anchor Phenomenon Chapter 1 Question

Investigative Phenomenon Investigation Question

Evidence sources and reflection opportunities

Key concepts

Application of key concepts to problem

Explanation that students can make to answer the Chapter 1 Question

Balancing Forces: Investigating Floating Trains

The floating train rises, floats above the track, then later falls back to the track.
How is it possible for a train to float?

The train rises above the track.
Why does the train rise?

Sometimes objects start to move.
What makes an object start to move? (1.2, 1.3, 1.4)

- Investigate by making blocks move (1.2)
- Read *Forces All Around* (1.3)
- View *Domino* video (1.4)
- Create and analyze chain reactions (1.4)

- A force acts between two objects. (1.3)
- When an object starts moving or stops moving, that is evidence that a force has acted on it. (1.3)

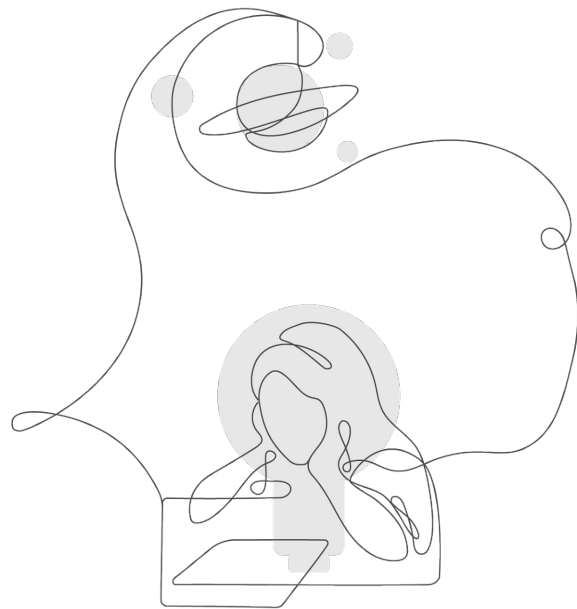
- Discuss why the train starts to move (1.4)
- Write a scientific explanation about the floating train (1.4)

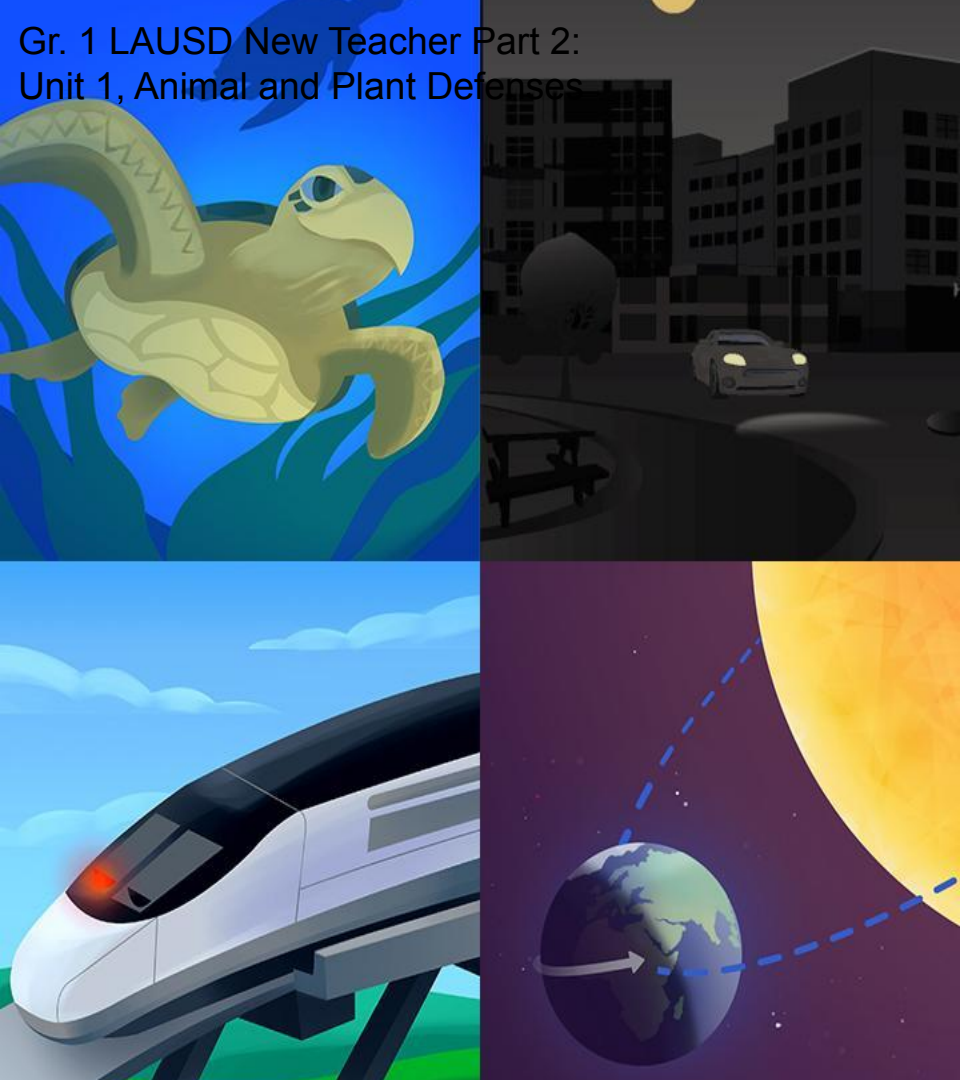
The train rises because a force acts on it. The train started to move and when an object changes how it is moving, that means a force acted on it.

Explore the Coherence Flowchart

Skim the Chapter 1 Coherence Flowchart.

Think about how you might use the Coherence Flowchart to summarize learning throughout Chapter 1.




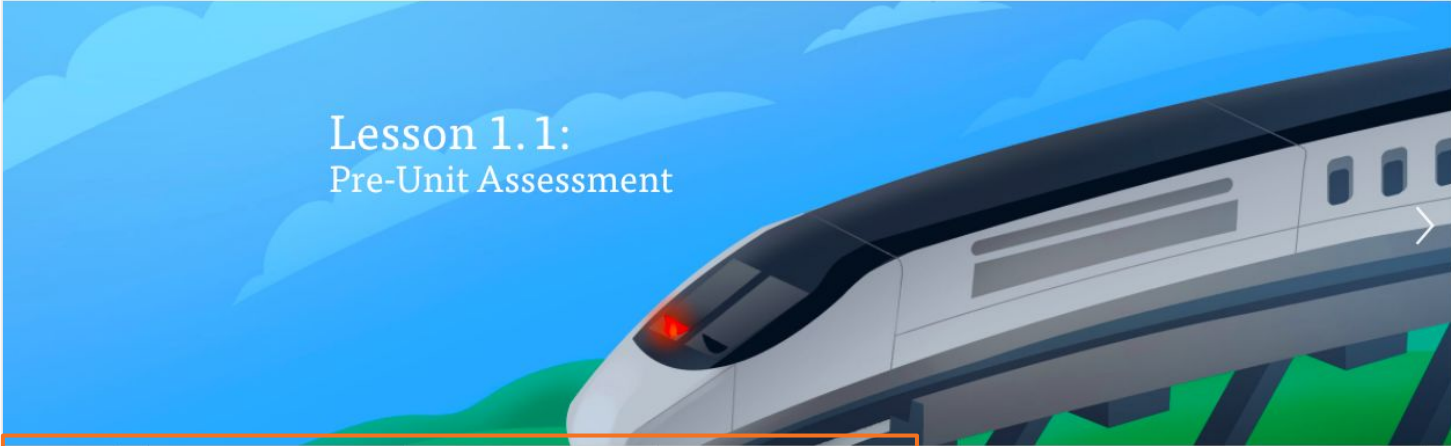


Plan for the day: Part 2

- Part 1 Review
- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- Planning a Lesson
- Closing

The Lesson Brief

 AmplifyScience > Balancing Forces > Chapter 1 > Lesson 1.1




Lesson 1.1: Pre-Unit Assessment


Lesson Brief
(2 Activities)

T
TEACHER
The Floating Train Video

1
WRITING
Students Write Initial
Explanations

2
TEACHER-LED DISCUSSION
Introducing Investigation
Notebooks

 RESET LESSON

 GENERATE PRINTABLE LESSON GUIDE

Overview

Materials & Preparation

Differentiation




Standards


Unplugged?


Overview

Students watch a short video about a floating train and write their initial explanations about what they think makes the train rise, float, and then fall. Figuring out how the floating train works is the problem students will solve in this unit. The explanations they provide today serve as a Pre-Unit Assessment for formative purposes, designed to

Digital Resources

-  Classroom Slides 1.1 | PowerPoint
-  Classroom Slides 1.1 | Google Slides
-  Classroom Videos 1.1 | Zip





4 Easy Steps to Teaching a lesson

DIRECTIONS:

1. Download the **Classroom Slides** for **Lesson 1.1** and review them.
2. Read the **Overview**.
3. Explore the **Materials & Preparation** document.
4. Read the **Differentiation** document.

AmplifyScience > Balancing Forces > Chapter 1 > Lesson 1.1

Lesson 1.1: Pre-Unit Assessment

Lesson Brief (2 Activities) | TEACHER The Floating Train Video | 1 WRITING Students Write Initial Explanations | 2 TEACHER LED DISCUSSION Introducing Investigation Notebooks

RESET LESSON

Overview

Students watch a short video about a floating train and write their initial explanations about what they think makes the train rise, float, and then fall. Figuring out how the floating train works is the problem students will solve in this unit. The explanations they provide today serve as a Pre-Unit Assessment for formative purposes, designed to

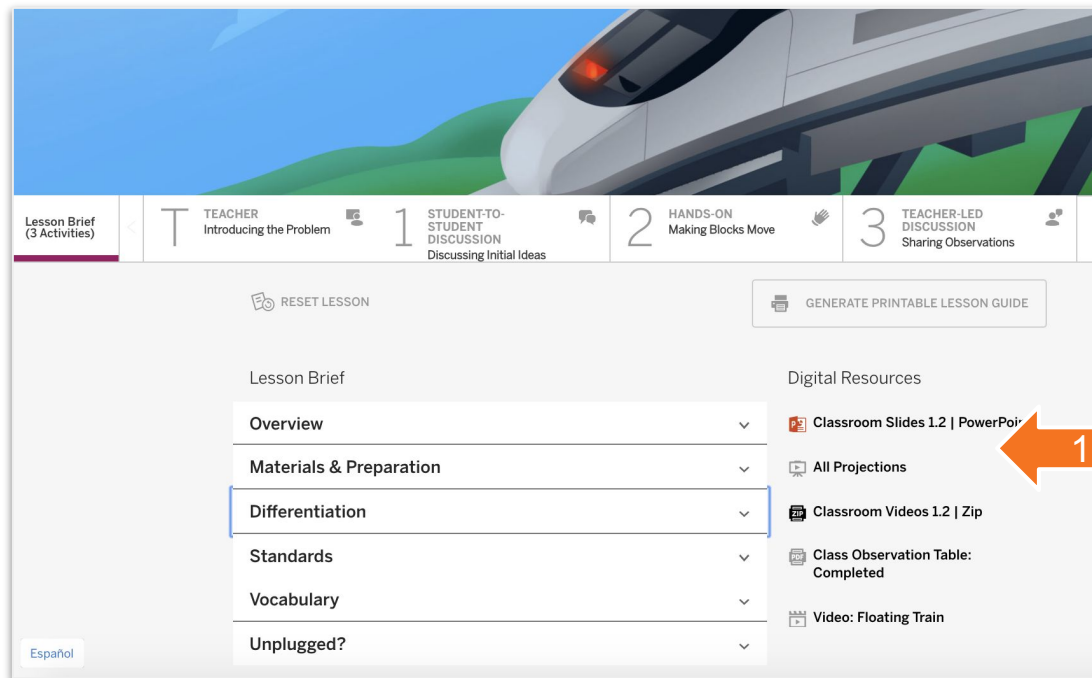
Digital Resources

- Classroom Slides 1.1 | PowerPoint
- Classroom Slides 1.1 | Google Slides
- Classroom Videos 1.1 | Zip

4 Easy Steps to Teaching a lesson

DIRECTIONS:

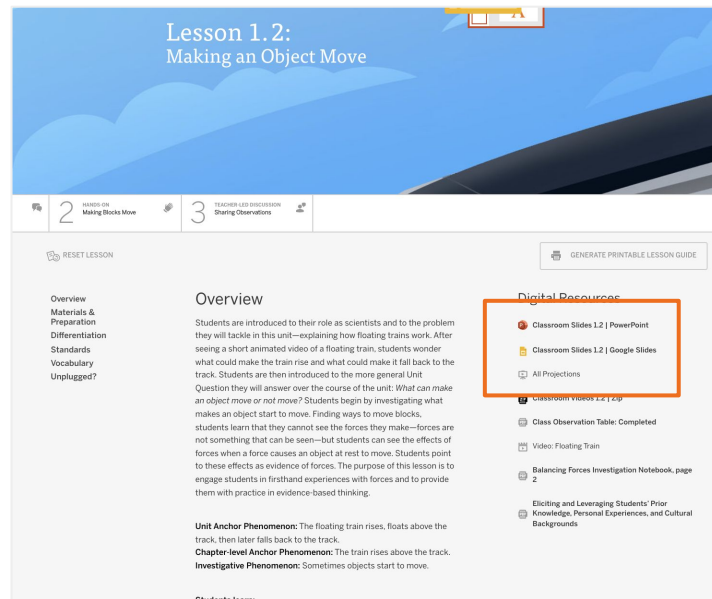
1. Download the **Classroom Slides** for **Lesson 1.1** and review them.
2. Read the **Overview**.
3. Explore the **Materials & Preparation** document.
4. Read the **Differentiation** document.



Preparing to teach

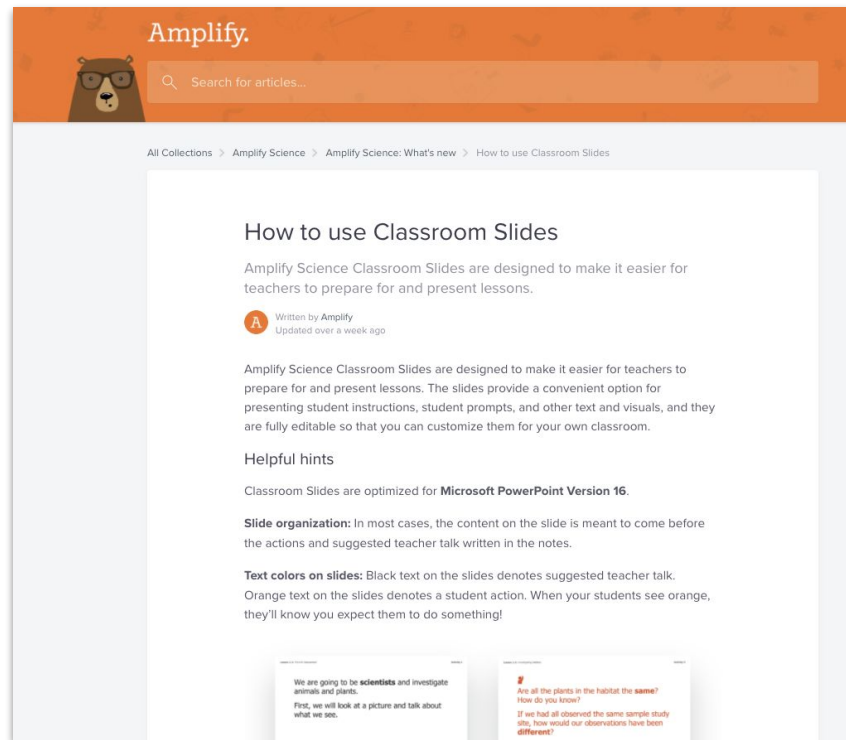
Classroom Slides

1. Open the **Classroom Slides** under the **Digital Resources** (a lesson of your choice)
2. Read through the Classroom Slides including the **presenter notes** to gain a better understanding of the lesson.
3. **Consider:**
 - What features of the Classroom Slides will support you in teaching this lesson?



Teaching with Classroom Slides

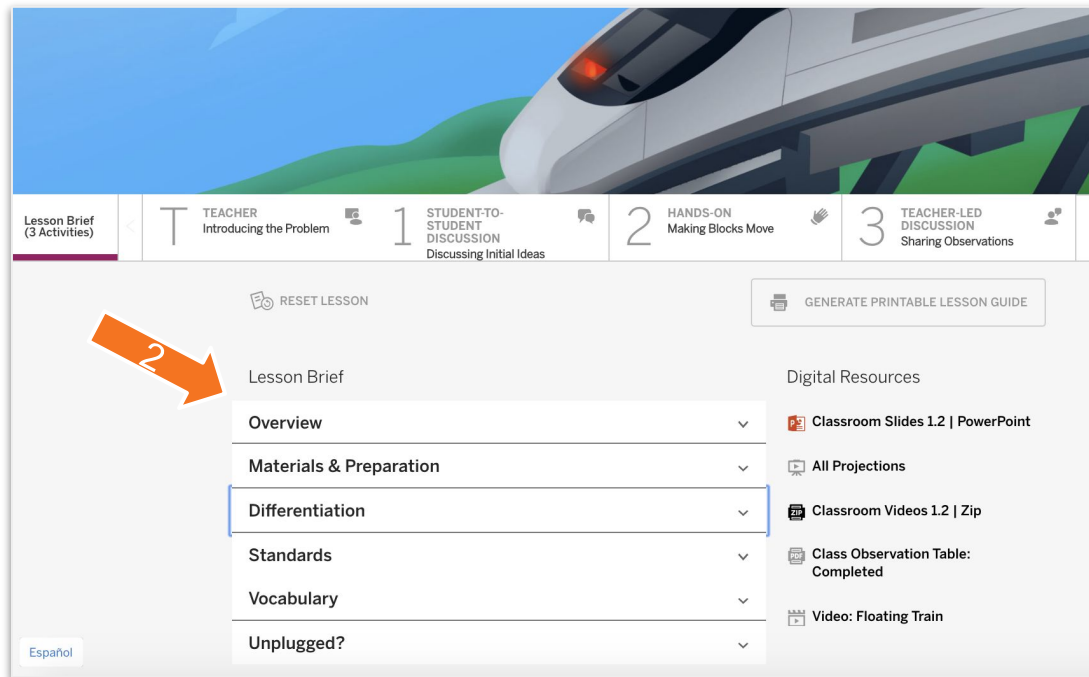
This detailed guide on the Amplify Science Help Site includes tips for teaching with Classroom Slides and information about the different symbols and activity types you'll find in the slide deck.



4 Easy Steps to Teaching a lesson

DIRECTIONS:

1. Download the **Classroom Slides** for **Lesson 1.2** and review them.
2. Read the **Overview**.
3. Explore the **Materials & Preparation** document.
4. Read the **Differentiation** document.



Preparing to teach

The Overview

- Read through the lesson overview.
- Find the purpose of the lesson.

Lesson 1.2:
Making an Object Move

2 HANDS ON
Making Blocks Move

3 TEACHER-LED DISCUSSION
Sharing Observations

RESET LESSON

Overview
Materials & Preparation
Differentiation
Standards
Vocabulary
Unplugged?

Overview

Students are introduced to their role as scientists and to the problem they will tackle in this unit—explaining how floating trains work. After seeing a short animated video of a floating train, students wonder what could make the train rise and what could make it fall back to the track. Students are then introduced to the more general Unit Question they will answer over the course of the unit: *What can make an object move or not move?* Students begin by investigating what makes an object start to move. Finding ways to move blocks, students learn that they cannot see the forces they make—forces are not something that can be seen—but students can see the effects of forces when a force causes an object at rest to move. Students point to these effects as evidence of forces. The purpose of this lesson is to engage students in firsthand experiences with forces and to provide them with practice in evidence-based thinking.

Unit Anchor Phenomenon: The floating train rises, floats above the track, then later falls back to the track.
Chapter-level Anchor Phenomenon: The train rises above the track.
Investigative Phenomenon: Sometimes objects start to move.

Students learn:

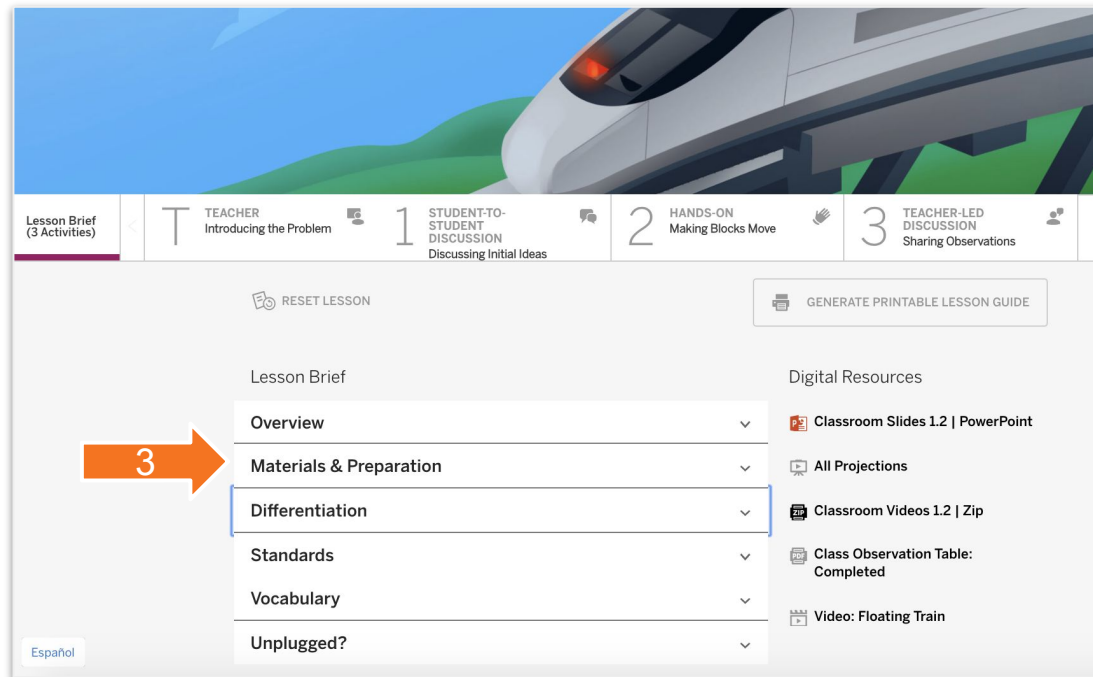
Digital Resources

- Classroom Slides 1.2 | PowerPoint
- Classroom Slides 1.2 | Google Slides
- All Projections
- Classroom Videos 1.2 | Zip
- Class Observation Table: Completed
- Video: Floating Train
- Balancing Forces Investigation Notebook, page 2
- Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds

4 Easy Steps to Teaching a lesson

DIRECTIONS:

1. Download the **Classroom Slides** for **Lesson 1.1** and review them.
2. Read the **Overview**.
3. Explore the **Materials & Preparation** document.
4. Read the **Differentiation** document.



Preparing to teach

Materials and Prep

Review the materials needed for:

- The Classroom Wall
- For the Class
- For each pair of students (if applicable)
- Preparation

Materials & Preparation

Materials

For the Classroom Wall

- Unit Question: *What can make an object move or not move?*
- Chapter 1 Question: *Why does the train rise?*
- section headers: Key Concepts, Vocabulary
- vocabulary: force

For the Class

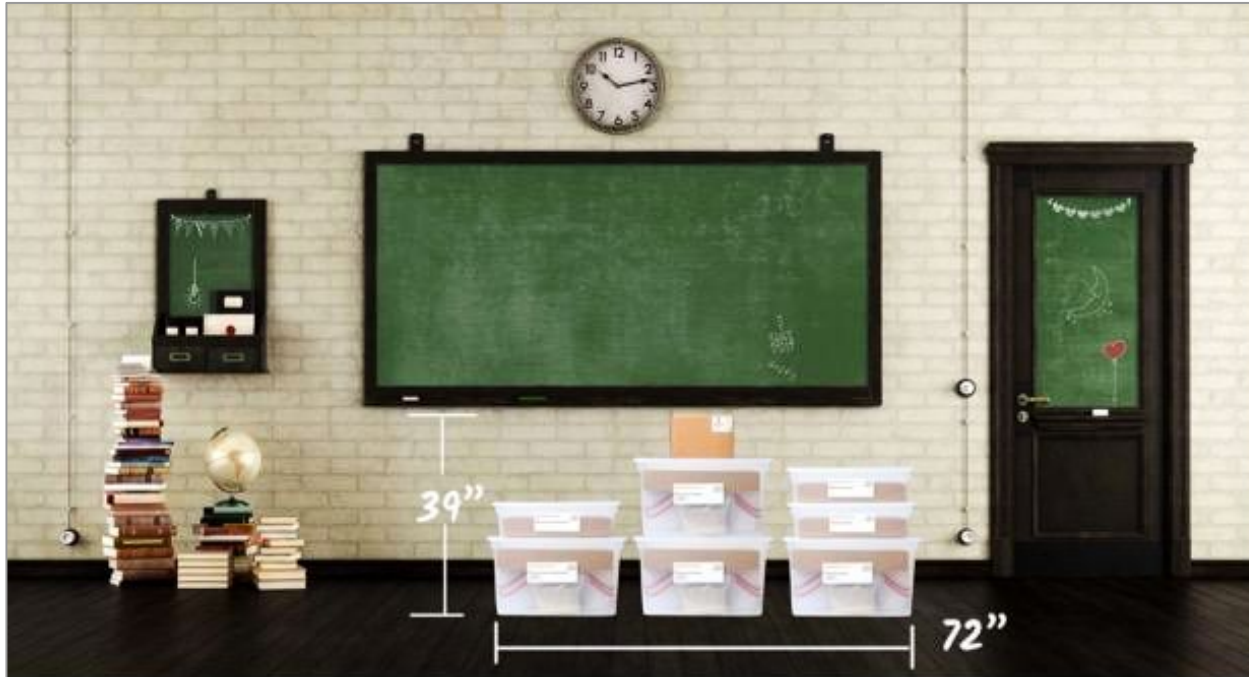
- 1 bag, plastic, gallon, self-sealing
- 2 wooden blocks with hooks
- 1 balloon
- 1 paper clip
- 1 domino
- 1 clothespin
- 1 index card
- 1 rubber band*
- 1 sheet of chart paper*
- masking tape*
- marker*
- scissors*

For Each Pair of Students

- 1 bag, plastic, gallon, self-sealing
- 2 wooden blocks, with hooks
- 1 balloon

Prepping Hands-On Materials for the Unit

Microsite: Unit 1, K-2 Lesson Prep Videos



Classroom Kits

Built for a class of 36 students, with consumables for two years

LAUSD Microsite-
<https://amplify.com/lausd-science>



Welcome to Amplify Science!

This site contains supporting resources designed for the LAUSD Amplify Science adoption for grades TK–8.

- Access the [Amplify Science Program Hub](#) (To help orient you to the new design, watch this [video](#) and view this [reference guide](#).)
- Find out more about [Amplify Science@Home](#)
- Share the [Caregiver Hub](#) (Eng/Span) with your families
- For LAUSD ES Teachers- [Amplify Science & Benchmark Advance Crosswalk](#)
- Instructional guidance for a [Responsive Relaunch of Amplify Science in 21-22](#)

Click the button below to preview the digital Teacher's Guide, and check back for exciting updates to this site!

Microsite: Unit 1, K-2 Lesson Prep Videos

Classroom kits

Program Introduction	New! Lesson Prep Videos
Learn more about Amplify Science	Unit 1
LAUSD Training Sessions- Reference Materials	Grade K- Needs of Plants and Animals >
New! Lesson Prep Videos	Grade 1- Animals and Plant Defenses >
Remote Learning Resources	Grade 2- Plant and Animal Relationships >
Onboarding: What to expect	Grade 3- Balancing Forces >
Onboarding videos	Grade 4- Energy Conversions >
Unpacking your first hands-on materials kit	Grade 5- Patterns of Earth and Sky >
Looking for help?	

Classroom Kits

Built for a class of 36 students, with consumables for two years

LAUSD Schoology: Unit 1, 3-5 Lesson Prep Videos

The screenshot shows the LAUSD Schoology interface. The top navigation bar is dark blue with the LAUSD logo on the left and icons for search, grid, calendar, and email on the right. The main navigation menu on the left includes 'Home', 'COURSES', 'GROUPS', 'RESOURCES' (circled in orange), and 'TOOLS'. Under 'RESOURCES', there are two sections: 'Group Resources' and 'School Resources'. The 'Group Resources' section is expanded, showing 'Amplify Science- Elementary' (circled in orange) and 'LAUSD Middle School Science - Di...'. The 'School Resources' section shows 'LOS ANGELES USD - 9999' and 'Los Angeles Unified School District'. The 'Group' link in the left sidebar is also circled in orange. The main content area is titled 'Amplify Science- Elementary' and lists several resources. The first resource is 'NGSS Resources' (purple folder icon), added by MARIA ARTEAGA on Jun 1, 2021. The second resource is 'Google Drive link for K-6 Phenomenal Notebooking Resources' (pink folder icon), added by INYOUNG LEE on Feb 1, 2021. The third resource is 'Amplify_Science_Shared_Logins.pdf' (PDF icon), added by Señor Fernando REYES on Aug 9, 2021. The fourth resource is 'Lesson Prep Videos' (green folder icon), added by Terin Ngo on Oct 11, 2021, and is circled in orange.

LOS ANGELES USD

Home

COURSES GROUPS **RESOURCES** TOOLS

Search

Personal

Public

Group

Group Resources

Amplify Science- Elementary

LAUSD Middle School Science - Di...

School Resources

LOS ANGELES USD - 9999

Los Angeles Unified School District

Amplify Science- Elementary

Title

NGSS Resources

Added by MARIA ARTEAGA · Jun 1, 2021

Google Drive link for K-6 Phenomenal Notebooking Resources

<https://drive.google.com/drive/folders/168S5PDaAsmg6mOg7LUOIhwO8J7GnYn2G?usp=sharing>

Here are digital resources to support the teaching and learning of the anchor phenomena for Amplify Science and FOSS.

Subfolders for Unit 1 and Unit 2.

Note: In the Unit 1 folder for grades 3-6, please find digital phenomenal notebooks which can be assigned to students in Schoology. For K-2, please find a suite of Seesaw activities. Teachers may add the Seesaw activities into their Seesaw accounts and assign them to students.

Added by INYOUNG LEE · Feb 1, 2021

Amplify_Science_Shared_Logins.pdf

Added by Señor Fernando REYES · Aug 9, 2021

Lesson Prep Videos

Added by Terin Ngo · Oct 11, 2021

Hands On Material Organization

Directions

1. Open the Digital Lesson Guides Only page 7 from the Unit Landing page or go the Print TE to page 31. (Chapter 1 Activities)

2. Look for the lessons with Hands On.

HANDS-ON 

3. Note in the table below.

4. Review the materials and preparation to determine if it can be prepared prior to the lesson or on the day of the lesson.

5. Use this same procedure for each Chapter. (Go to the Chapter Activities Contents)

Chapter/Lesson	Activity	Prep Prior	Prep Day of	What to do	
1.1	1	X		Prep plastic bags with labels A, B, C, D and M. Place 1 tsp of the following cinnamon, salt, flour, cornstarch in A,B,C, D. In bag M mix 1 tsp salt and 1 tsp cinnamon.	<i>This is an example from Properties of Materials Grade 2</i>

- Open Your **Lesson Guides Only**
- Start with **Chapter 1** and look for the **hands icon**
- Go into the lesson **materials and prep**



22 Lessons

Inheritance and Traits

JUMP DOWN TO UNIT GUIDE

GENERATE PRINTABLE TEACHER'S GUIDE

Full Teacher's Guide

(Includes Unit Guide & all 22 Lesson Guides)

Generate

Lesson Guides Only

(on Guides)

OPEN IN NEW TAB

RESET LESSON

Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

Unplugged?

Overview

Through reading an informational text, students continue to explore how organisms can be similar and different. Students read the book *Blue Whales and Buttercups*, which provides many examples of the great diversity of organisms on Earth and the many ways in which they can be similar and different. Students are introduced to the sense-making strategy of asking questions and use this strategy to help them understand and engage with the book. The purpose of this lesson is to introduce students to the concept that even though organisms can be quite different, they are all related.

Chapter 3: Why isn't
lf 44 like the
on Valley Pack in
ting style and...

6 Lessons

Inheritance and Traits

Lesson Guides

Chapter 1
Activities



Chapter 1 Activities

Lesson 1.1: Pre-Unit Assessment

- 1 Introducing the Unit
- 2 Writing Initial Explanations
- 3 Introducing the Investigation Notebook
- 4 Previewing the Reference Book

TEACHER-LED DISCUSSION

WRITING

TEACHER-LED DISCUSSION

STUDENT-TO-STUDENT DISCUSSION

Lesson 1.2: Blue Whales and Buttercups

- 1 Introducing Asking Questions
- 2 Partner Reading
- 3 Reflecting on Relatedness

TEACHER-LED DISCUSSION

READING

TEACHER-LED DISCUSSION

Lesson 1.3: Observing Similarities and Differences

- 1 Observing Similarities and Differences in Animals
- 2 Observing Bird Traits
- 3 Thought Swap

STUDENT-TO-STUDENT DISCUSSION

STUDENT-TO-STUDENT DISCUSSION

Lesson 1.4: Introducing Species

- 1 Observing Bird Sounds
- 1 Identifying Songbirds
- 2 Sorting Bear Species
- 3 Introducing the Problem Students Will Investigate

TEACHER

TEACHER-LED DISCUSSION

HANDS-ON

TEACHER-LED DISCUSSION



HANDS-ON

Hands On Material Organization

Completed for Inheritance
and Traits

Chapter/Lesson	Activity	Prep Prior	Prep Day of	What to do
1.3	1	X		Prep Prior: For each group of 4: • 1 set of Animal Cards, clipped together (10 cards/set), I put them in envelopes and label them. For each group of 2: 1 set of Bird Cards, clipped together (8 cards/set)
1.4	2	X		Prep Prior: Bird cards from prior lesson, locate the Bear cards. Each pair of students will receive 1 bear card. Here are the bear groupings : • Black bear: 1, 5, 9, 13, 17 • Brown bear: 2, 6, 10, 14, 18 • Spectacled bear: 4, 8, 12, 16, 20 • Sun bear: 3, 7, 11, 15, 19
1.5	1	X		Prep Prior: For each group of 4: 1 set of Elk Mountain Pack Data Cards, clipped together (6 cards/set)
2.4	2	X	X	Prep Prior: Print out Parent 1 and 2 Instructions copymaster. Make two copies of each sheet so you have a total of three sheets of Parent 1 Instructions and three sheets of Parent 2 Instructions. Cut apart each Parent 1 and Parent 2 strip. You should have 18 Parent 1 strips and 18 Parent 2 strips. Each pair of students will receive 1 strip of instructions from each parent. Using a permanent marker, label 1 cup with "Instructions from Parent 1." On the other cup, write "Instructions from Parent 2." Place the respective strips in each cup. Each pair of students will choose one Parent 1 strip of instructions and one Parent 2 strip of instructions from the cups. Prep Day of: Each pair will get three pieces of clay: red, green, and yellow. Each piece of clay should be about 2 inches.
3.1	2	X		Prep Prior: For each group of 4: 1 set of Flamingo Family Data Cards, clipped together (3 cards/set)
3.3	3	X		Prep Prior: For each group of 4: Label 3 cups: cup 1, cup 2, cup 3. Each group will also need 1 bottle of red and 1 bottle of blue food coloring. Note: Each group will need approximately one cup of water for each of the three cups. Teacher will need to provide three stalks of celery (the lighter, inner stalks with leaves intact work best) per group. The length of the celery stalks you will need for the investigation will depend on the thickness of the stalks. Cut off the end of a stalk so the stalk measures approximately 10 inches. Place the stalk in a cup of water to ensure that the stalk does not cause the cup to tip over.
3.4	1	X		Trays from previous days celery experiment
4.3	1	X		Prep Prior: For each group of 4: 1 set of Sparrow Family Data Cards, clipped together (3 cards/set) For each group of 2: crayons and/or color pencils (minimum: gray, brown, black, yellow, pink)*

4 Easy Steps to Teaching a lesson



DIRECTIONS:

1. Download the **Classroom Slides** for **Lesson 1.1** and review them.
2. Read the **Overview**.
3. Explore the **Materials & Preparation** document.
4. Read the **Differentiation** document.

The screenshot shows a digital lesson interface. At the top, there's a header with a train illustration and a navigation bar with three main sections: 'Lesson Brief (3 Activities)', '1 STUDENT-TO-STUDENT DISCUSSION', and '2 HANDS-ON'. Below the navigation bar, there's a 'Lesson Brief' section with a dropdown menu open, showing options: 'Overview', 'Materials & Preparation', 'Differentiation' (highlighted with a blue border), 'Standards', 'Vocabulary', and 'Unplugged?'. To the right of the dropdown, there's a 'Digital Resources' section with links to 'Classroom Slides 1.2 | PowerPoint', 'All Projections', 'Classroom Videos 1.2 | Zip', 'Class Observation Table: Completed', and 'Video: Floating Train'. A large orange arrow with the number '4' points to the 'Differentiation' option in the dropdown menu.

Preparing to Teach

Lesson-specific differentiation

- Embedded supports
- Potential challenges
- Strategies for:
 - English Learners
 - Students who need more support
 - Students who need more challenge

Differentiation

Embedded Supports for Diverse Learners

Frequent student-to-student discussions. This introductory lesson is intended to get students excited about the specific content of the

unit. It includes multiple opportunities for students to discuss and share their initial thinking. Students will come into the classroom with very different experiences and understandings; providing frequent student discussion allows students to learn from one another. As students share, the teacher can carefully listen for incorrect ideas and can either address them in the moment or make a plan for addressing them during later lessons. Students learn from and are motivated by frequent student discussions. This strategy is especially effective when students have a range of background knowledge.

Initial experiences with touching forces. Having students experience touching forces in this lesson supports learning that students will do in upcoming lessons about the non-touching forces of magnetic force and gravity. It is easier to establish the idea of a force as a push or a pull with touching forces because in these examples, the push or pull is more active and easily observed.

Visual references. The Problem in Faraday Slideshow, the Floating Train video, the images on the concept wall, and the use of physical materials during discussions help support students' learning. Visuals are especially helpful for English learners and students who struggle to process oral or written language.

Potential Challenges in This Lesson

Discussion-centered. Since discussion is central to this lesson, you might want to consider how you can support participation of students who are not as confident in their abilities to communicate orally or who have difficulties with this kind of communication.

Partner work with physical materials. Some students may have difficulty focusing on the task at hand when presented with engaging materials and/or when working independently with a partner. Consider ways you can make expectations clear ahead of time and support students in focusing their efforts on the specific goals for the activity.

Specific Differentiation Strategies for English

4 Easy Steps to Teaching a lesson

DIRECTIONS:

1. Download the **Classroom Slides** for **Lesson 1.1** and review them.
2. Read the **Overview**.
3. Explore the **Materials & Preparation** document.
4. Read the **Differentiation** document.

AmplifyScience > Balancing Forces > Chapter 1 > Lesson 1.1

Lesson 1.1: Pre-Unit Assessment

Lesson Brief (2 Activities) | TEACHER The Floating Train Video | 1 WRITING Students Write Initial Explanations | 2 TEACHER LED DISCUSSION Introducing Investigation Notebooks

RESET LESSON

Overview

Students watch a short video about a floating train and write their initial explanations about what they think makes the train rise, float, and then fall. Figuring out how the floating train works is the problem students will solve in this unit. The explanations they provide today serve as a Pre-Unit Assessment for formative purposes, designed to...

Digital Resources

- Classroom Slides 1.1 | PowerPoint
- Classroom Slides 1.1 | Google Slides
- Classroom Videos 1.1 | Zip

GENERATE PRINTABLE LESSON GUIDE

Lesson ____		Activity Overview	
What is the purpose of this lesson?		Activity 1 (##min)	
	From the lesson overview		
What will students learn?		Activity 2 (##min)	
3-D Statement (identify SEP, CCC, and DCI):		Activity 3 (##min)	
	From the lesson standards		
Student Resources:		Activity 4 (##min)	
	From the lesson materials and preparation		
Assessment Opportunities:		Activity 5 (##min)	
	From the lesson at a glance in the overview or classroom slides		

From the Lesson at a glance in the overview

From the lesson overview

From the lesson standards

From the lesson materials and preparation

From the lesson at a glance in the overview or classroom slides

Lesson <u>1.2</u>	Activity Overview	
<p>What is the purpose of this lesson?</p> <p>The purpose of this lesson is to engage students in firsthand experiences with forces and to provide them with practice in evidence-based thinking</p>	<p>Activity 1 (10 min)</p>	<p>Introducing the Problem</p>
<p>What will students learn?</p> <p>Scientists gather information by making observations. Compiling many observations in a table makes it easier to look for patterns. An object can start moving when it is pushed or pulled by another object. This push or pull is called a force.</p>	<p>Activity 2 (10 min)</p>	<p>Discussing Initial Ideas</p>
<p>3-D Statement (identify SEP, CCC, and DCI):</p> <p>Students ask questions about the floating train. They plan and conduct investigations to figure out many ways to cause a wooden block to start to move (cause and effect) and learn that these pushes and pulls are called forces.</p>	<p>Activity 3 (20 min)</p>	<p>Making Blocks Move</p>
<p>Student Resources:</p> <p>1 bag, plastic, gallon, self-sealing, 2 wooden blocks, with hooks, 1 balloon, 1 rubber band*, 1 paper clip, 1 domino, 1 clothespin, 1 index card, Investigation Notebook (pg 2)</p>	<p>Activity 4 (20 min)</p>	<p>Sharing Observations</p>
<p>Assessment Opportunities:</p> <p>n/a</p>	<p>Activity 5 (## min)</p>	

(Make your own copy first before planning)

1. Make a copy of this planning slide.
2. Download the classroom slides for the lesson you would like to plan
3. Insert the planning slide at the front of the classroom slide deck
4. Navigate at the lesson level to answer the questions on this slide
5. Make edits directly on your side deck to meet the needs of your students

Digital Resources



Classroom Slides 1.1 | PowerPoint



Classroom Slides 1.1 | Google Slides

Lesson ____	Activity Overview	
What is the purpose of this lesson?	Activity 1 (##min)	
What will students learn?	Activity 2 (##min)	
3-D Statement (identify SEP, CCC, and DCI):	Activity 3 (##min)	
Student Resources:	Activity 4 (##min)	
Assessment Opportunities:	Activity 5 (##min)	

Independent Planning Time

DIRECTIONS:

1. Download the **Classroom Slides** for **Lesson 1.1** and review them.
2. Read the **Overview**.
3. Explore the **Materials & Preparation** document.
4. Read the **Differentiation** document.
5. If you have time, navigate to **Lesson 1.3** and repeat steps 1-4.

AmplifyScience > Balancing Forces > Chapter 1 > Lesson 1.1

Lesson 1.1: Pre-Unit Assessment

Lesson Brief (2 Activities)

TEACHER: The Floating Train Video

1 WRITING: Students Write Initial Explanations

2 TEACHER-LED DISCUSSION: Introducing Investigation Notebooks

RESET LESSON

Overview

Materials & Preparation

Differentiation

Standards

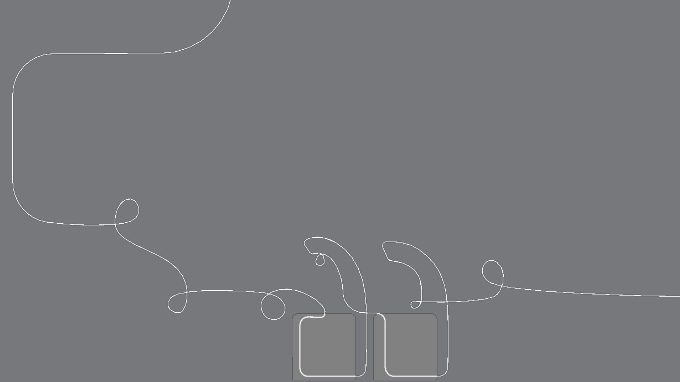
Unplugged?

GENERATE PRINTABLE LESSON GUIDE

Digital Resources

- Classroom Slides 1.1 | PowerPoint
- Classroom Slides 1.1 | Google Slides
- Classroom Videos 1.1 | Zip

Questions?





Plan for the day: Part 2

- Teaching and Learning in an Amplify Science Lesson
- Instructional Approach Reflection
- Planning a Lesson
- Closing

Additional resources

Welcome, caregivers!

We hope you enjoy learning more about Amplify Science and what students are learning in science this year.

[Para acceder a este sitio en español haga clic aquí.](#)

Amplify welcomes you and your learner to the Science program for the new school year. We are very excited to



Grades 6-8



[Caregivers](#)

LAUSD Microsite-
<https://amplify.com/lausd-science>



Welcome to Amplify Science!

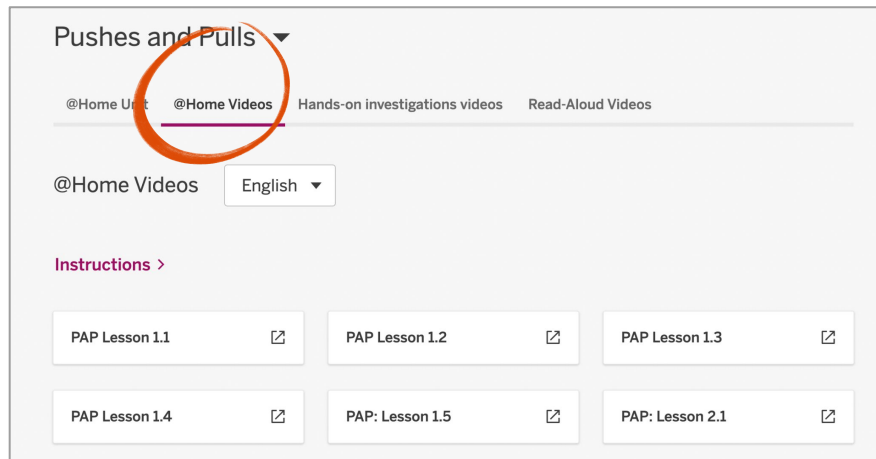
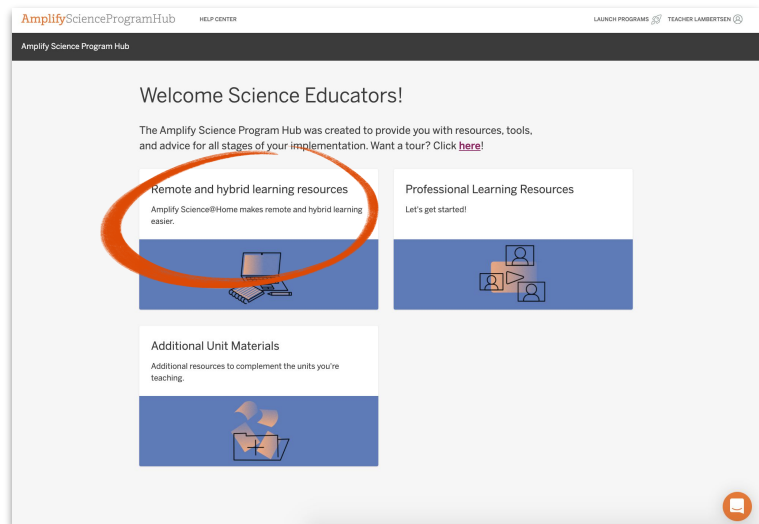
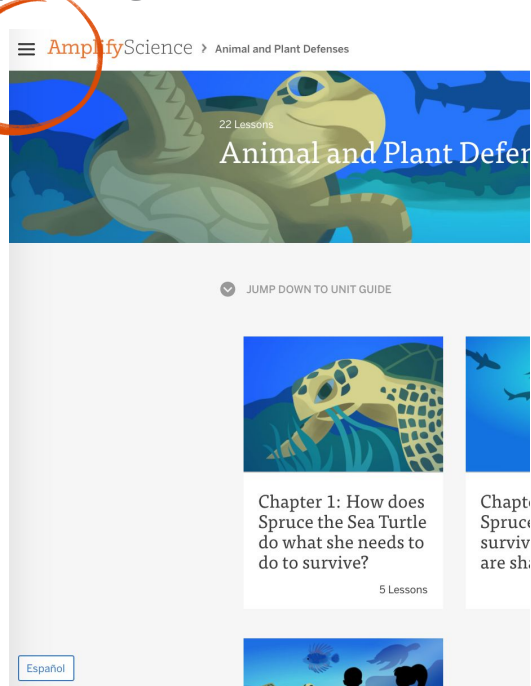
This site contains supporting resources designed for the LAUSD Amplify Science adoption for grades TK–8.

- Access the [Amplify Science Program Hub](#) (To help orient you to the new design, watch this [video](#) and view this [reference guide](#).)
- Find out more about [Amplify Science@Home](#)
- Share the [Caregiver Hub](#) (Eng/Span) with your families
- For LAUSD ES Teachers- [Amplify Science & Benchmark Advance Crosswalk](#)
- Instructional guidance for a [Responsive Relaunch of Amplify Science in 21-22](#)

Click the button below to preview the digital Teacher's Guide, and check back for exciting updates to this site!

Program Hub

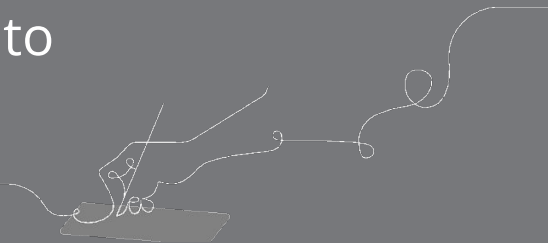
Use the Amplify Science Program Hub to find useful resources for implementing Amplify Science, including unit overview videos and planning tools.



Overarching goals

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

- ☑ Navigate the Amplify Science curriculum.
- ☑ Describe what teaching and learning look like in Amplify Science.
- ☑ Apply the program essentials to prepare to teach.



Closing reflection

Based on our work today in Part 2, share:

Head: something you'll keep in mind

Heart: something you're feeling

Feet: something you're planning to do

Additional resources and ongoing support

Customer Care

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support, weekdays 7AM-10PM EST and weekends 10AM-6PM EST.



help@amplify.com



800-823-1969



Amplify Chat



Please provide feedback!

Presenter name:

Workshop title:

Part 1: Relaunching the Standard Curriculum

Part 2: Guided Planning (Planning for a Lesson)

Modality:

Remote

