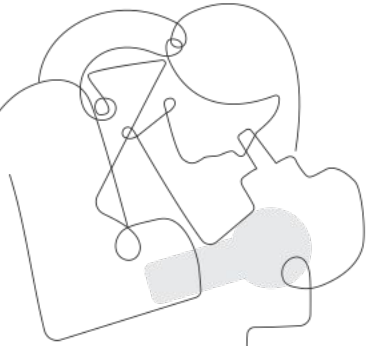
Do Now: *Please use the chat to share where you are with teaching Amplify Science. (1= I have not started. 3= I'm currently teaching unit 1. 5= I'm ready to start, or have started, unit 2.)*

Amplify Science CALIFORNIA

Standard Curriculum Relaunch / Guided Planning Part 1

Wondering About Buildings, TK



LAUSD
12/x/2020
Presented by Your Name

Norms: Establishing a culture of learners

Please keep your camera on, if possible.
Take some time to orient yourself to the platform

- *"Where's the chat box? What are these squares at the top of my screen?, where's the mute button?"*

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

The chat box is available for posting questions or responses to during the training

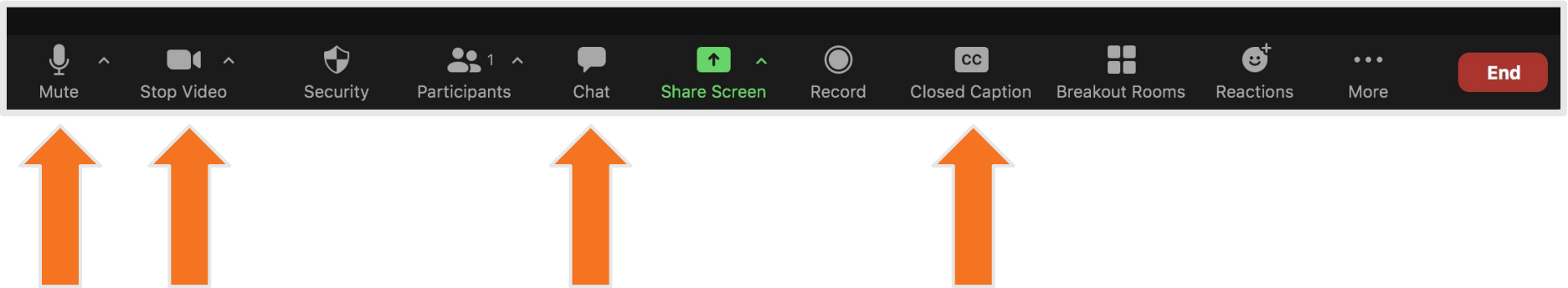
Make sure you have a note-catcher present

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

Tech tool orientation

Zoom

- Mute and unmute yourself
- Stop and start your video
- Send a chat message to the WHOLE group
- Enable closed captions



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

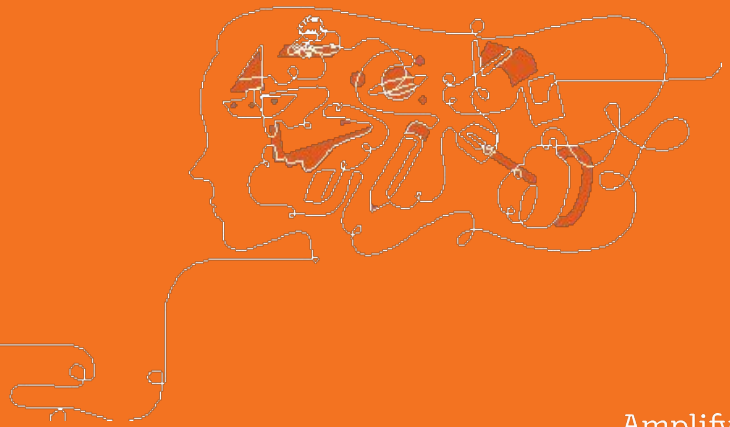
- **Take risks:** Ask any questions, provide any answers.
- **Participate:** Share your thinking, participate in discussion and reflection.
- **Be fully present:** Unplug and immerse yourself in the moment.
- **Physical needs:** Stand up, get water, take breaks.

Join Amplify Science Schoology Group

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

Part 1:

Amplify Science
Standard Curriculum Relaunch



Workshop goals

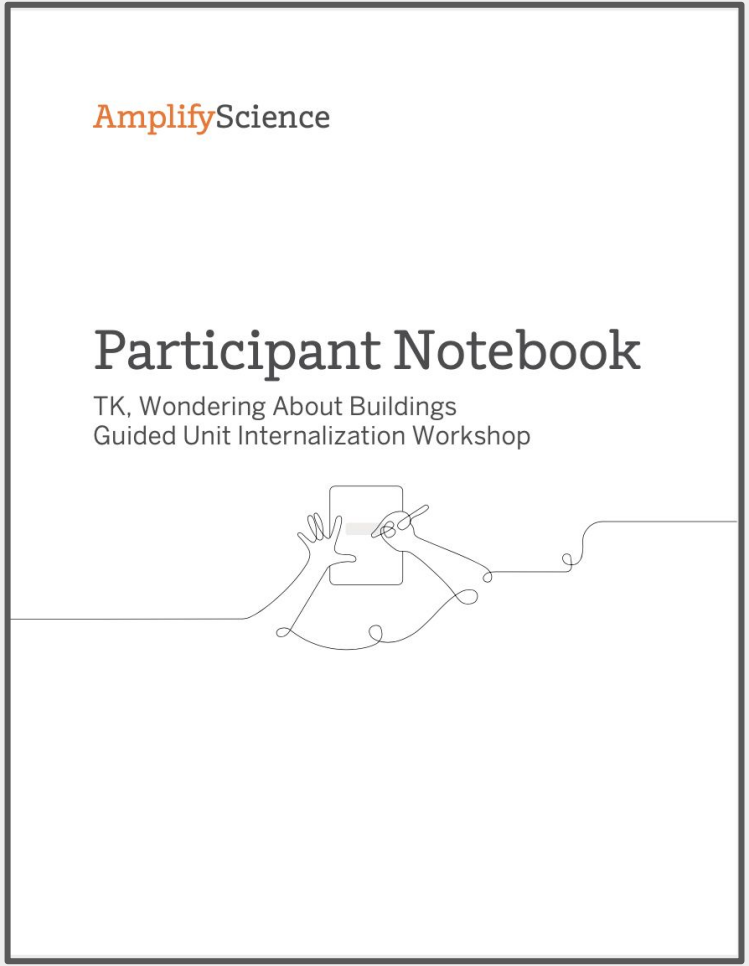
By the end of this workshop, you will be able to:

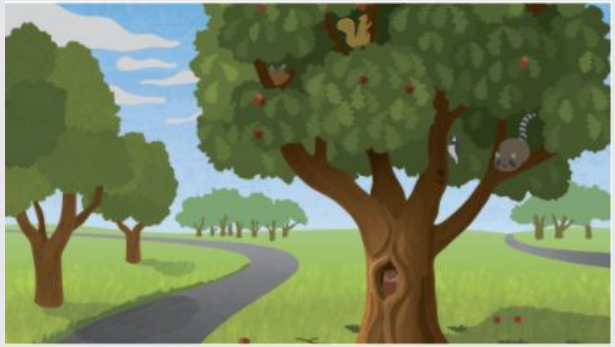
- ❑ Navigate the full Amplify Science standard curriculum.
- ❑ Understand the program's phenomenon-based approach.
- ❑ Apply the program essentials to prepare to teach.

Asking Questions

Participant Notebook

Materials





Plan for the day: Part 1

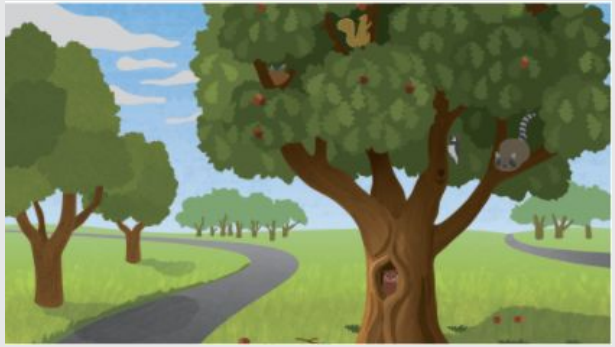
- Introduction and Framing
- Phenomenon-based Instruction
- Program Essentials
- Closing

Jamboard

What successes have you had teaching TK Science?

What did you learn from remote instruction that will help you with in-person instruction?

Questions?



Plan for the day: Part 1

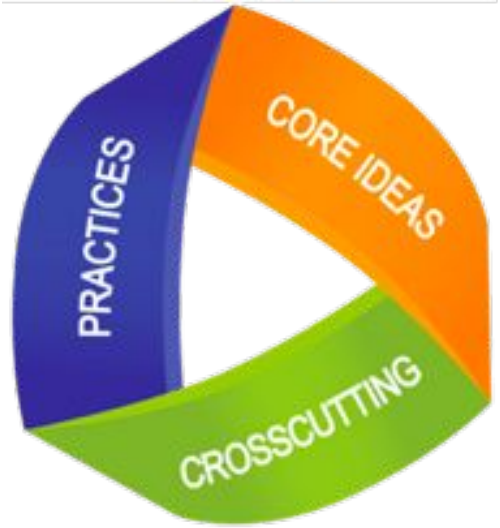
- **Introduction and Framing**
- Phenomenon-based Instruction
- Unit Internalization
- Closing

THE LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

+ Amplify.

Amplify Science

Providing a Foundation to the NGSS



Disciplinary Core Ideas — What students figure out

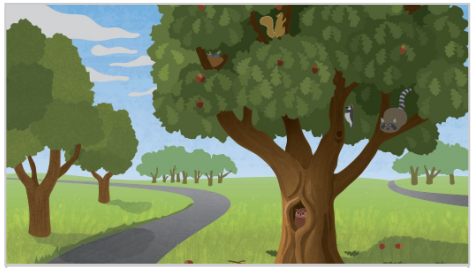
Science and Engineering Practices — How students figure out the science

Crosscutting Concepts — The habits of thinking that help students organize information

Amplify Science TK is designed to support students to be successful when they enter kindergarten and begin engaging with the NGSS, while being intentional not to duplicate content they will work with in kindergarten.

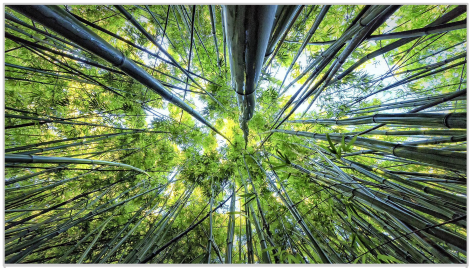
Amplify Science TK

Course Structure



Life Science:
Wondering About Trees

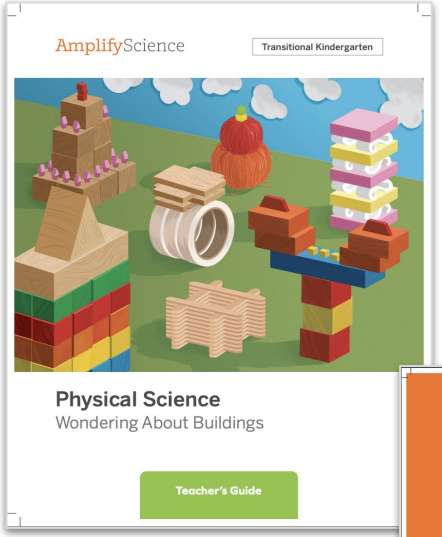
Physical Science:
Wondering About Buildings



Earth Science:
Wondering About Puddles

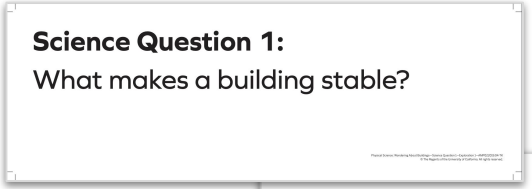
Number of Lessons: 20 lessons per unit
Time: 15 mins per lessons
Instructional Time: 4 - 6 weeks per unit

TK Curriculum Materials

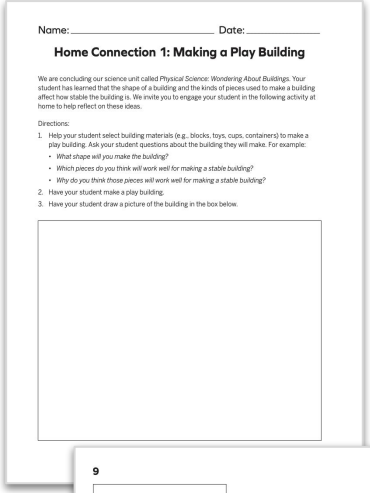


Print Teacher's Guide

Science Wall Materials



Home Connections Copymasters


Name: _____ Date: _____

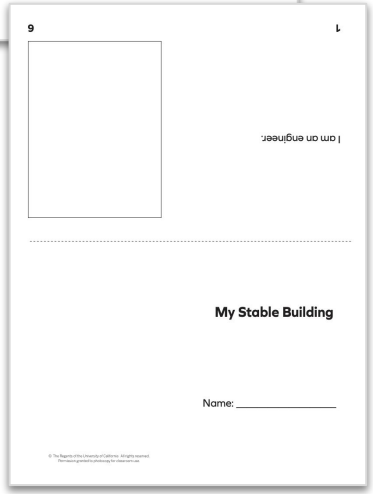
Home Connection 1: Making a Play Building

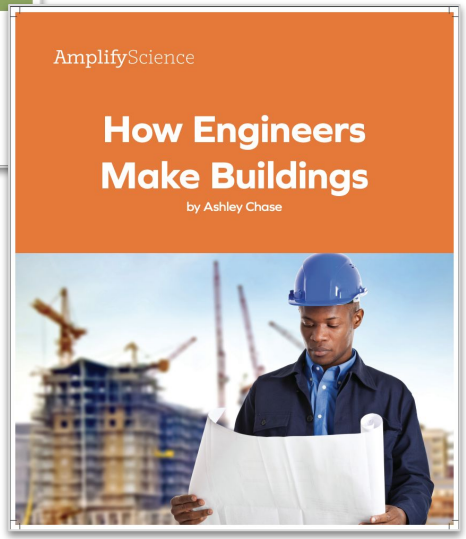
We are concluding our science unit called *Physical Science: Wondering About Buildings*. Your student has learned that the shape of a building and the kinds of pieces used to make a building affect how stable the building is. We invite you to engage your student in the following activity at home to help reflect on these ideas.

Directions:

1. Help your student select building materials (e.g., blocks, toys, cups, containers) to make a play building. Ask your student questions about the building they will make. For example:
   - *What shape will you make the building?*
   - *Which pieces do you think will work well for making a stable building?*
   - *Why do you think those pieces will work well for making a stable building?*
2. Have your student make a play building.
3. Have your student draw a picture of the building in the box below.

Student Copymasters





Unit Big Book

Picture Cards

Science Question 1:
What makes a building stable?

Science Question 2:
What are stable buildings made of?

Science Question 3:
How can we make sure our buildings are stable?

Physical Science: Wondering About Buildings

Introductory Activity: Let's Be Engineers of a Play City

Exploration 1: What Makes a Building Stable?

- **Kickoff Discussion:** Sharing Initial Ideas About Stability
- **Activity 1:** Embodying Stability
- **Activity 2:** Reading *How Engineers Make Buildings*
- **Activity 3:** Exploring Stability with Objects
- **Activity 4:** Making Tall and Stable Towers
- **Shared Drawing and Discussion:** The Shape of Stable Buildings

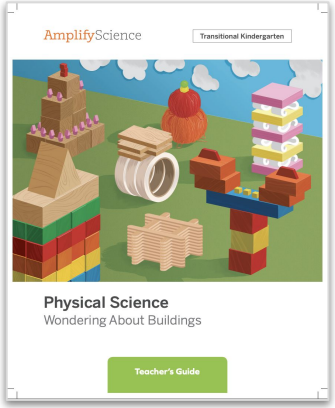
Exploration 2: What Are Stable Buildings Made Of?

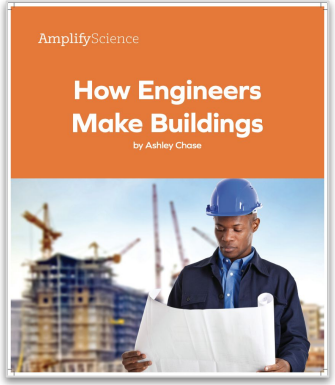
- **Kickoff Discussion:** Considering Pieces of Buildings
- **Activity 1:** Observing a Time-Lapse Video
- **Activity 2:** Reading *How Engineers Make Buildings*
- **Activity 3:** Comparing Pieces
- **Activity 4:** Making Towers with Different Kinds of Pieces
- **Shared Drawing and Discussion:** Recording Engineer's Notes About the Pieces of Stable Buildings

Exploration 3: How Can We Make Sure Our Buildings Are Stable?

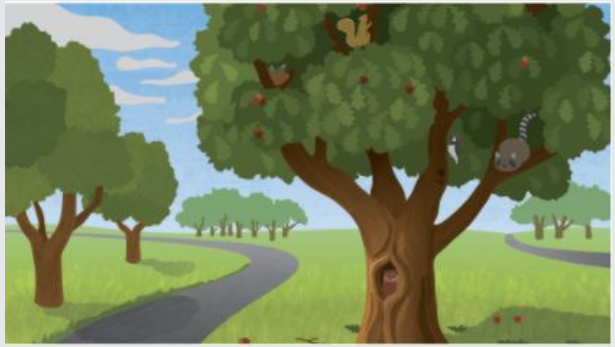
- **Kickoff Discussion:** Reflecting on Stable Buildings
- **Activity 1:** Putting Together Ideas
- **Activity 2:** Reading *How Engineers Make Buildings*
- **Activity 3:** Putting Together Ideas to Make Towers
- **Activity 4:** Engaging in the Design Cycle
- **Shared Drawing and Discussion:** Using Engineer's Notes to Put Together Ideas

Culminating Activity: Making a Play City





Questions?



Plan for the day: Part 1

- Introduction and Framing
- **Phenomenon-based Instruction**
- Program essentials
- Closing

TK Instructional Approach

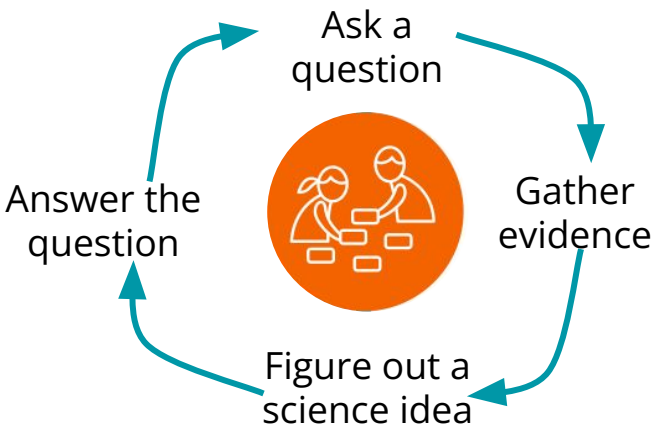
Find out about a phenomenon

Gather evidence to figure out science ideas

Explain the phenomenon

TK Instructional Approach

Introduction to the unit phenomenon

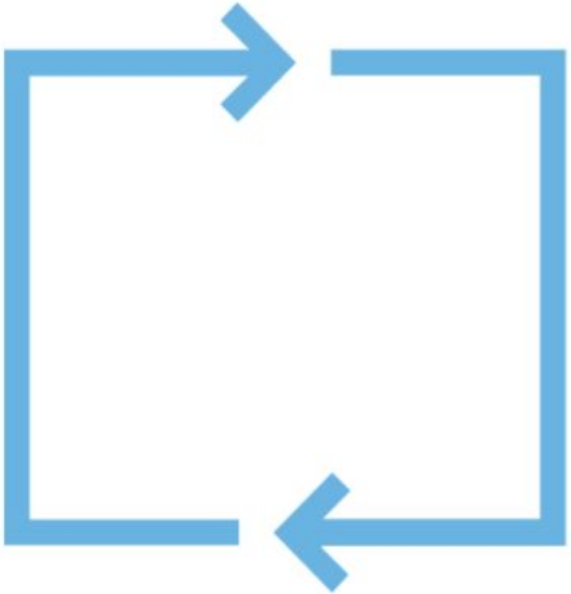


Gather evidence to figure out science ideas.

Explain the phenomenon & APPLY new understanding

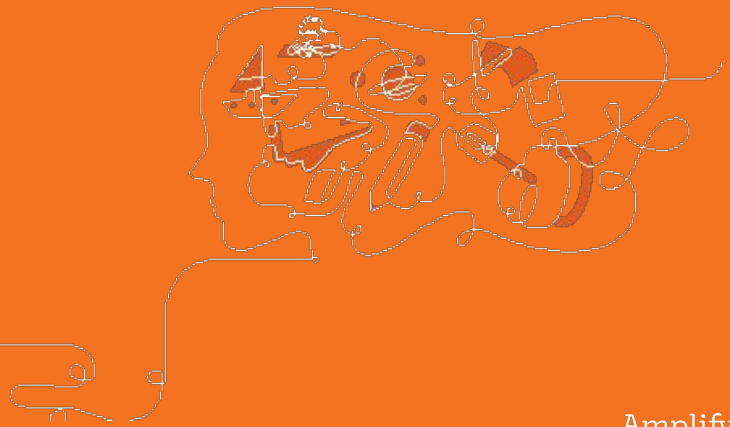
Multimodal Instruction

Figuring out and making sense of ideas like scientists & engineers!



Do,
Talk,
Read,
Write,
Visualize

Phenomenon-based instruction



Next Generation Science Standards

Phenomenon-based learning and teaching

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

SCIENTIFIC INQUIRY STRAND	CA NGSS SCIENCE & ENGINEERING PRACTICES
At around 48 months of age	*At around 60 months of age*
1.2 Observe objects and events in the environment and describe them.	**1.2 Observe objects and events in the environment and describe them in greater detail.**
	an evidence-based account for natural phenomena. **SEP-8 Obtaining, evaluating, and communicating information** • Describe how specific images (e.g., a diagram showing how a machine works) support a scientific or engineering idea. • Use information from observations to construct an evidence-based account. • Communicate information in oral form using models and drawings that provide detail.

Topic-based vs. Phenomenon-based

In the Chat: How might learning be different?

Topic-based	Phenomenon-based
Animals in trees	Why are there noises coming from the tree in the park?
All about buildings	How can we make a play city with stable buildings?
Rocks and water	Why are there puddles in some places on the ground, but not in other places?

Comparing topics and phenomena

A shift in science instruction

from learning about

(like a student)

to figuring out

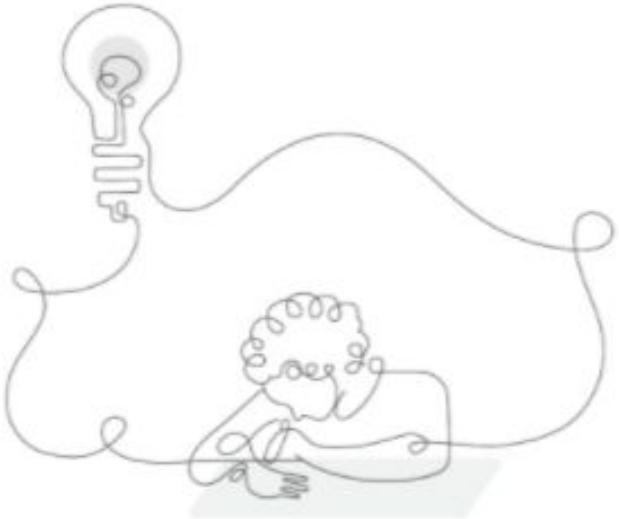
(like a scientist)

Previewing the unit

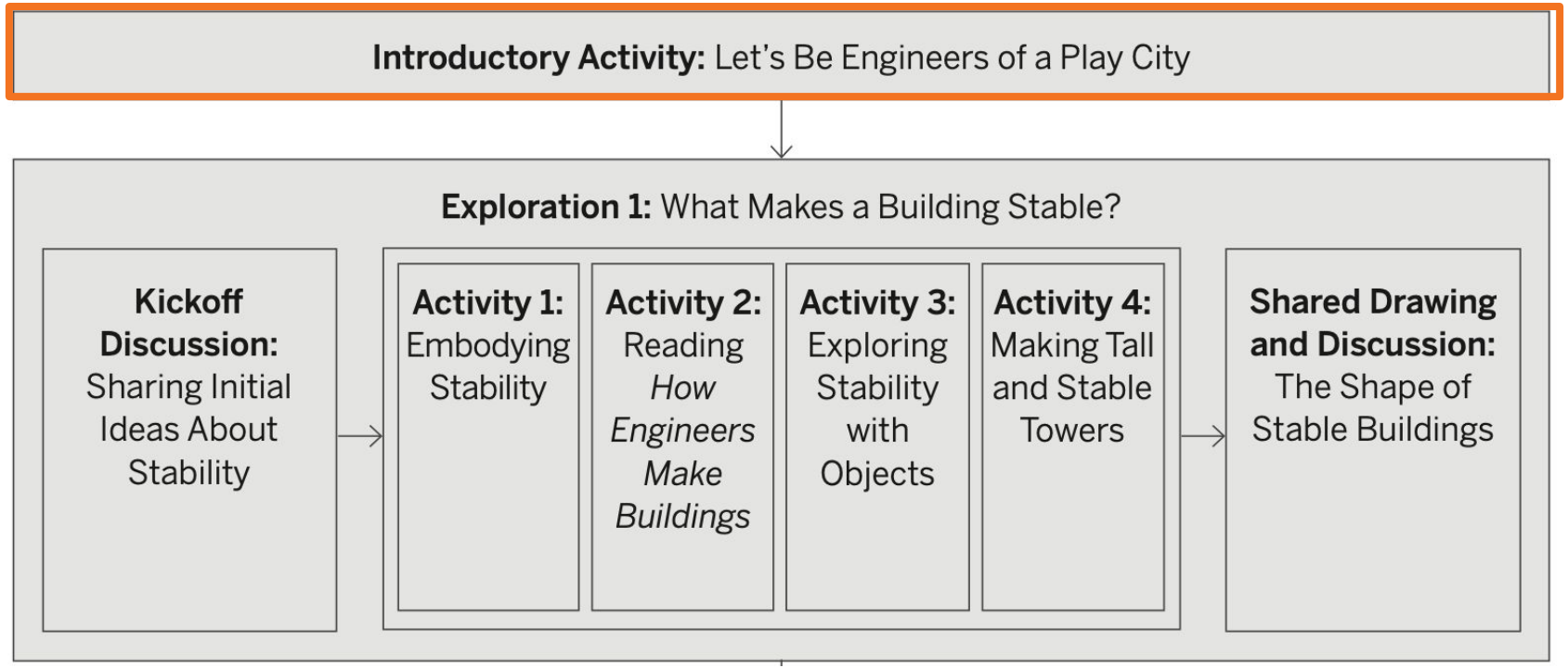
Introducing the phenomenon

Amplify Science units are designed around complex phenomena that drives student learning through the unit.

Pay attention to the phenomenon, or observable event, students will figure out in your unit.



Unit Experience



Introductory Activity: Let's Be Engineers of a Play City

What?

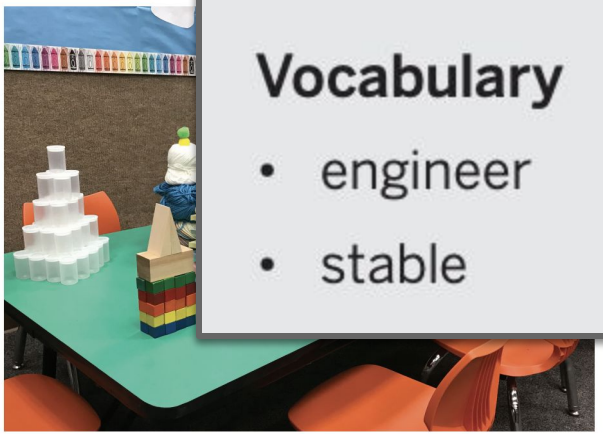
The teache s in which
some build es 4–12 of
How Engine s. Students
share their

Students learn

- Engineers make things to solve problems.
- Engineers learn as they work to solve problems.

Vocabulary

- engineer
- stable

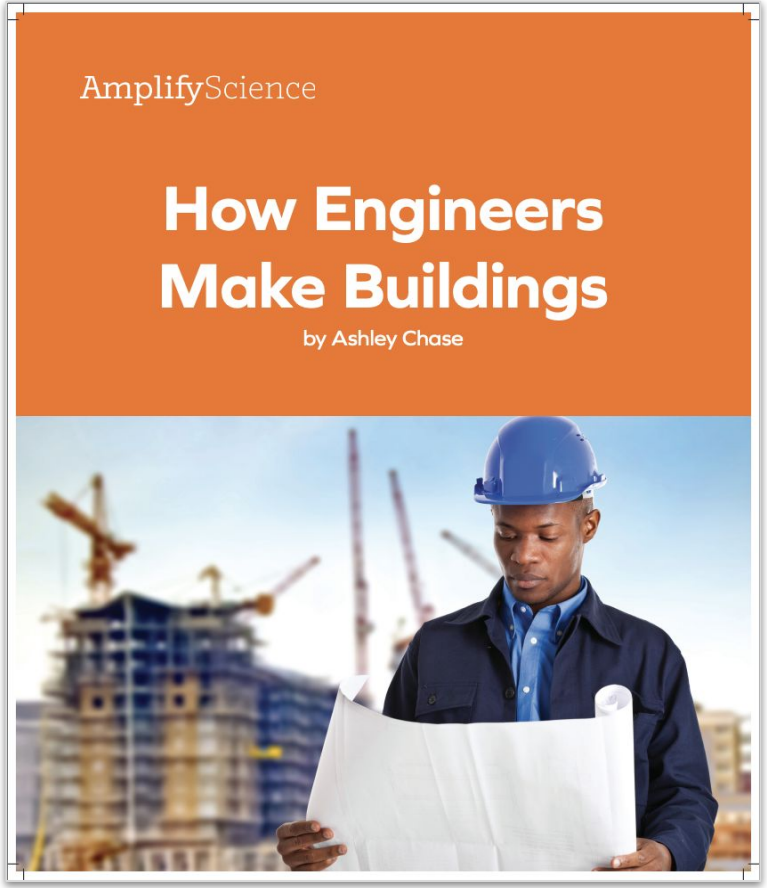


This is a picture of a play city that was made by a class at another school.

This is a picture of the play city a little later.

Why do you think some buildings in the play city stayed up, and other buildings fell down?

Introducing the Phenomenon



1. Show the front cover of the book and invite students to share their observations.
2. Explain that this book will help the class learn about buildings and how people make buildings.

Today, we will read a book called ***How Engineers Make Buildings*** by Ashley Chase.

Introducing the Phenomenon

What Engineers Do

Engineers are people who make things to solve problems. Engineers make all kinds of things. An engineer might work on bike helmets, **buildings**, cars, robots, or even foods.

4 What Engineers Do

engineer

This is the word ***engineer.***

An engineer is a person who makes something to solve a problem.

In this city, there are not enough places for people to live. That's a problem. This engineer wants to help solve the problem. He wants to make homes for more people.

Engineers make things to solve problems.

What problem is this engineer working to solve?

An apartment building is a place where many families can live. Some apartment buildings are big enough for two or three families to live in. Some are big enough for more than a hundred families to live in!

The engineer decides to make an apartment building. The apartment building will be big enough for many families to live in it.

The engineer learns how many people will live in the apartment building. That tells him how big the building needs to be. A lot of people need new homes, so this engineer is going to have to make a very big building.

One way to make a big building is to make it very tall. A tall building needs to be **stable** so that it will stay up. The engineer learns about the **materials** he can use to make the building. He finds out what materials will make the building stable enough.

To figure out the best way to make the building, the engineer puts together everything he learned. He figures out how to make a building that is big enough to fit lots of people. He figures out how to make a building that is stable enough to stay up, even though it is tall.

He works with lots of other people to make the apartment building. Finally they finish. Now people can move into the apartments. There are more places where people can live.

We are going to work as engineers. We will learn about buildings. We will use what we learn to make our own play city with stable buildings.

We are going to make our own play city. Buildings in play cities sometimes fall down, but we want the buildings in our play city to stay up. **The problem we need to figure out is how to make a play city with buildings that stay up.**

We don’t want the buildings in our play city to fall down. We need to make stable buildings. Stable buildings will stay up.

stable

Physical Science: Wondeirng About Buildings—Vocabulary—Introductory Activity—AMP022019.05-TK

Use the vocabulary routine to introduce the word “stable”. Then place the word on your science wall.

Remember that engineers learn so they can help solve problems.

You and your partner will take turns sharing what you think we need to learn so we can help solve our problem.

Reflecting on the Experience

We were just introduced to a **phenomenon**, then we got started in trying to **figure it out.**

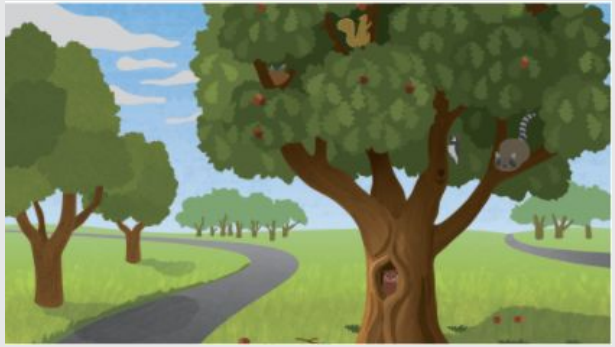
What evidence did we start to collect from the activities that you just experienced?

Multimodal Instruction

What kind of evidence have we gathered so far?

Figuring out and making sense of ideas like scientists do

Do
Talk
Read
Write and draw
Visualize



Plan for the day: Part 1

- Introduction and Framing
- Phenomenon-based Instruction
- **Program Essentials**
- Closing

TK Program Overview Website

AmplifyScience

Transitional Kindergarten (TK)

Program overview

Program developers

Program components and features

Access and equity

Resources

Resources

- FAQs
- Correlations

BIG BOOKS

- Life Science (*The Noisy Tree*) read aloud
- Earth Science *(Puddles Almost Everywhere*) read aloud
- Physical Science (*How Engineers Make Buildings*) read aloud

COPYMASTERS

- Life Science Copymasters
- Earth Science Copymasters
- Physical Science Copymasters

my.amplify.com/programguide/content/national/tk-resources/tk/

Unit Structure

TRANSITIONAL KINDERGARTEN CURRICULUM STRUCTURE

Structure of a year of TK (includes three units)

- Life Science unit
- Physical Science unit
- Earth Science unit

Structure of a unit (includes an Introductory Activity, three Explorations, and a Culminating Activity)

- Introductory Activity
- Exploration 1
- Exploration 2
- Exploration 3
- Culminating Activity

Structure of an Exploration (includes six activities—Activities 1–4 can be implemented in any order)

- Kickoff Discussion
- Activity 1
- Activity 2
- Activity 3
- Activity 4
- Shared Drawing and Discussion

Unit Architecture and Timing

Entire Unit
300 minutes
(5 hours)

- **Introductory Activity** (15 minutes)
- **Exploration 1** (90 minutes)
- **Exploration 2** (90 minutes)
- **Exploration 3** (90 minutes)
- **Culminating Activity** (15 minutes)

Exploration Timing

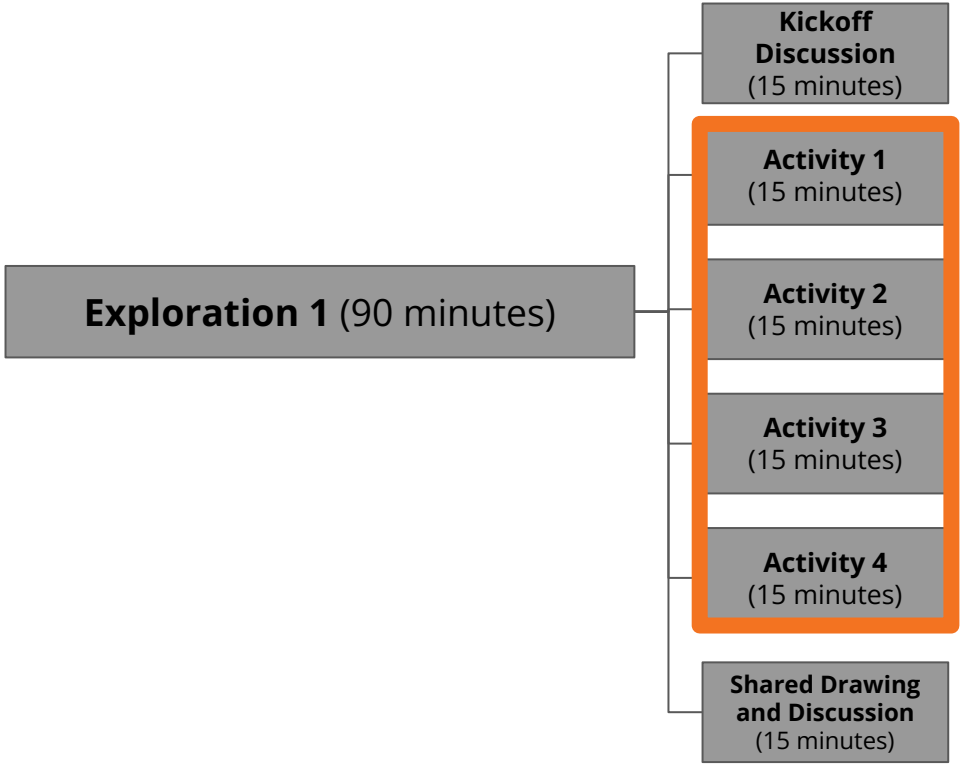
Entire Unit
300 minutes
(5 hours)

- **Introductory Activity** (15 minutes)
- **Exploration 1** (90 minutes)
  - **Kickoff Discussion** (15 minutes)
  - **Activity 1** (15 minutes)
  - **Activity 2** (15 minutes)
  - **Activity 3** (15 minutes)
  - **Activity 4** (15 minutes)
  - **Shared Drawing and Discussion** (15 minutes)
- **Exploration 2** (90 minutes)
- **Exploration 3** (90 minutes)
- **Culminating Activity** (15 minutes)

Explorations can be taught flexibly

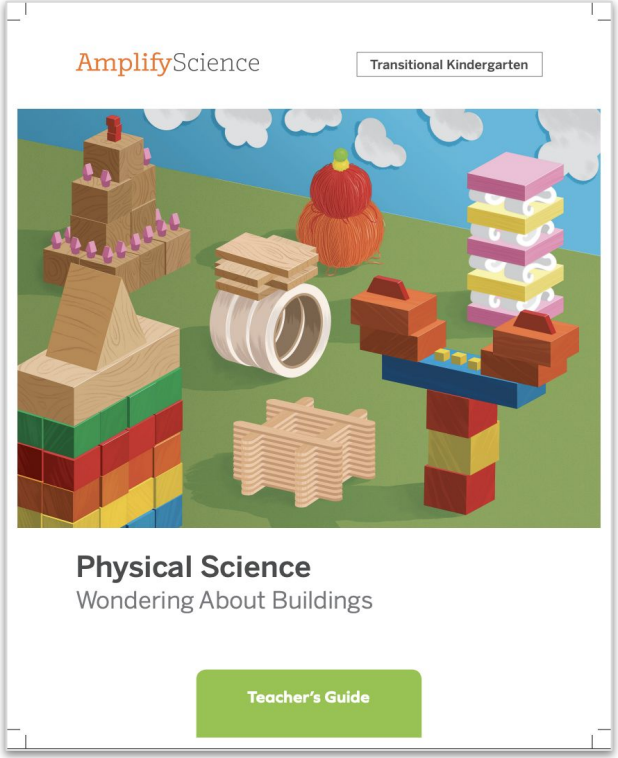
The four Activities in an Exploration can:

- be taught full-group, small-group, or in centers
- be taught in any order
- be supplemented by additional instruction



Part 1: Unit-level Internalization

TK Resource Reference Sheet



Unit resources	
Unit overview	Brief description of the what, the why, and the how of the unit. It also gives an overview of the structure of the unit.
Instructional resources	Includes references, flexible implementation, description of routines, assessment opportunities, and supports.
Getting Ready to Teach	Snapshot of all the things you will need to prepare ahead of time that will save you time once you get going.
Materials and Prep	What materials you need and what is provided, as well as what you need to prepare before the start of the unit.
Preparation at a Glance	What you need to get ready broken down by activity as well as how long you can expect it to take.
Lesson-level resources	
Lesson Overview	Brief description of what the activity will cover, the how and the why
Materials and Prep	Detailed instructions on how to prepare for this specific activity.
Activity Notes	The what, the why, and the how, including all steps you will go through and recommended teacher talk.
Teacher support	Instructional suggestions including extension opportunities and home connections
Flexible Implementation	Notes on how to structure the activities in the classroom
Model set ups	Set-ups for investigation materials, shared writing and shared drawings
Formative assessments	How to perform the assessment and what to look for in student performance, one per exploration

Page 1

Unit Overview

Page 2

AmplifyScience

Transitional Kindergarten

Physical Science

Wondering About Buildings

Teacher's Guide

Planning for the Unit

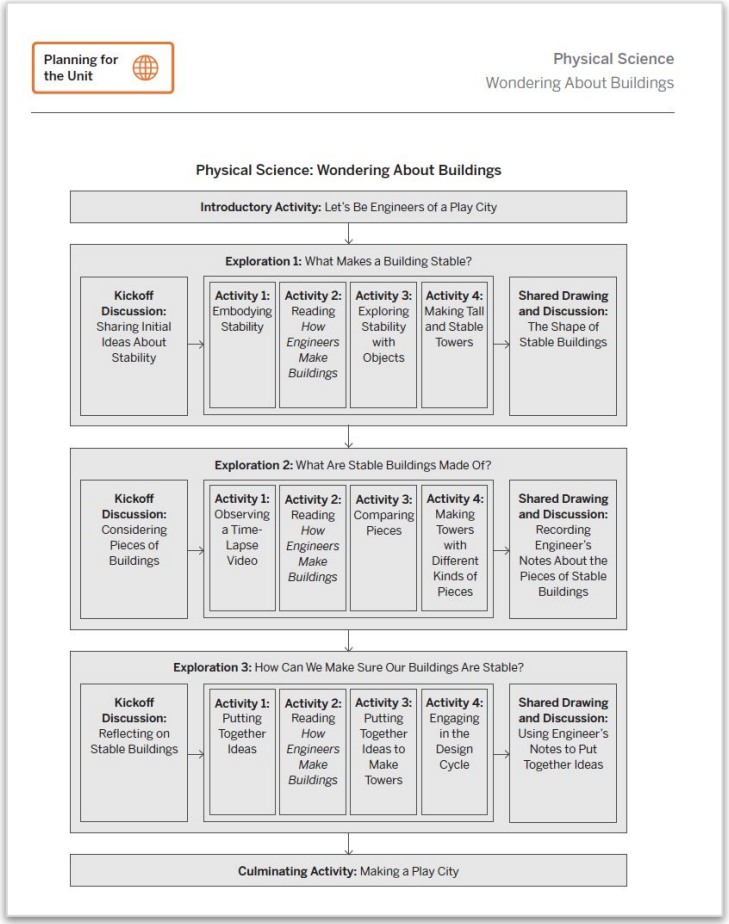
Physical Science
Wondering About Buildings

Unit Overview

In the *Physical Science: Wondering About Buildings* unit, students investigate an exciting phenomenon: in a play city made by a class at another school, some buildings stayed up, while other buildings fell down. Students are challenged to create their own play city with stable buildings. In order to create this city, students must figure out what makes a building stable. First, students discover that the shape of a building affects its stability (e.g., many stable buildings have flat bottoms and are bigger at the bottom). Next, students investigate what stable buildings are made of. They figure out that buildings are made of pieces and that the kinds of pieces a building is made of can affect its stability. Students synthesize ideas about how a building's shape and the kinds of pieces used to make a building affect its stability. Students use these ideas to make stable buildings for the play city. In the course of figuring out how to create a play city with stable buildings, students are introduced to core ideas in physical science and engineering—including the observable properties of materials and the idea that objects are made of pieces. The unit includes an emphasis on designing solutions to problems by engaging in a cycle of learning and making, as engineers do. Students gather evidence for these ideas from a variety of sources, including the unit's book, hands-on experiences making buildings, kinesthetic investigations, and a time-lapse video. Students share their developing ideas through discussion, drawing, writing, movement, and activities in which they make buildings. Through the activities, students are exposed to the crosscutting concepts of *Stability and Change* and *Patterns*. The context of making buildings for a play city provides a familiar and engaging starting point for students to engage in engineering.

Unit Structure

Page 3



Guided Unit Internalization Planner

Page 4 Of the Participant Notebook

Part 1: Unit-level internalization

Unit title: Wondering About Buildings

What is the phenomenon students are investigating in your unit?

In a play city made by a class at another school, some buildings stayed up, while other buildings fell down.

Exploration Questions:

1. What makes a building stable? 2. What are stable buildings made of? 3. How can we make sure our buildings are stable?

Student challenge:

to create their own play city with stable buildings

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

Students discover that the shape of a building affects its stability (e.g., many stable buildings have flat bottoms and are bigger at the bottom). They figure out that buildings are made of pieces and that the kinds of pieces a building is made of can affect its stability. Students synthesize ideas about how a building's shape and the kinds of pieces used to make a building affect its stability.

What evidence sources do students enage with across the unit?

the unit big book, hands-on experiences making buildings, kinesthetic investigations, a time-lapse video, discussion, and drawing/writing

Unit Overview:

- Unit Title
- Phenomenon
- Student Challenge

Unit Structure:

- Exploration questions
- Science Ideas
- Evidence Sources

Questions?

Part 2: Exploration-level Internalization

Introductory Activity: Let's Be Engineers of a Play City

What?

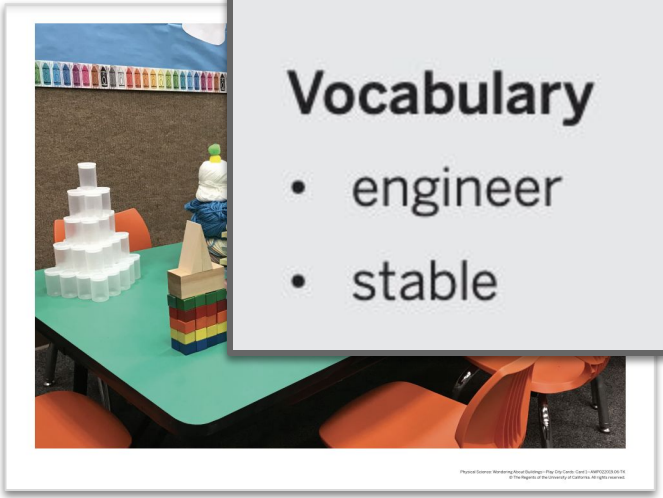
The teache s in which
some build es 4–12 of
How Engine s. Students
share their

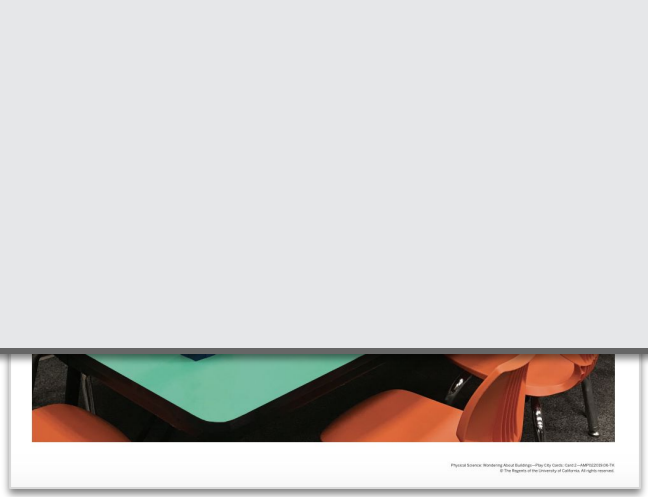
Students learn

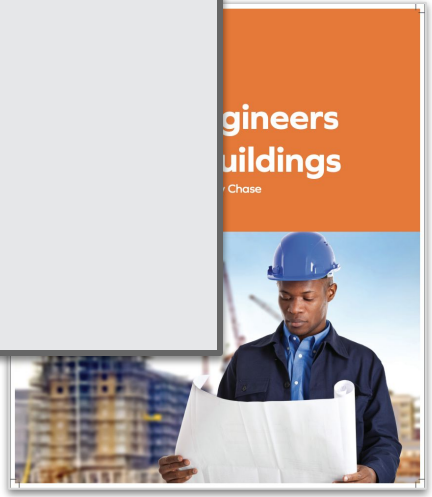
- Engineers make things to solve problems.
- Engineers learn as they work to solve problems.

Vocabulary

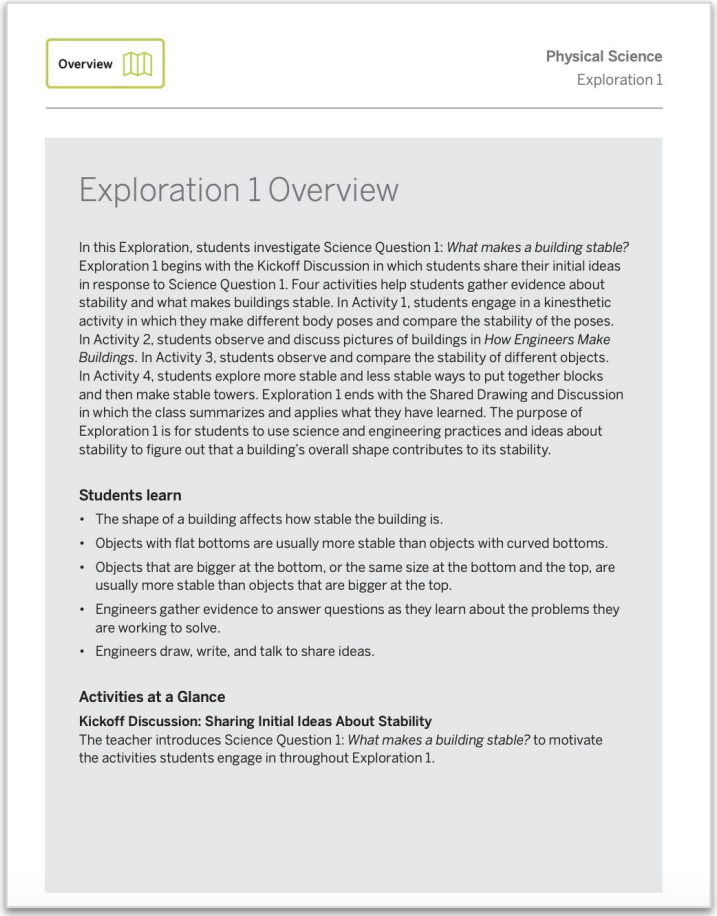
- engineer
- stable







Exploration 1 Overview



Overview

Physical Science
Exploration 1

Exploration 1 Overview

In this Exploration, students investigate Science Question 1: *What makes a building stable?* Exploration 1 begins with the Kickoff Discussion in which students share their initial ideas in response to Science Question 1. Four activities help students gather evidence about stability and what makes buildings stable. In Activity 1, students engage in a kinesthetic activity in which they make different body poses and compare the stability of the poses. In Activity 2, students observe and discuss pictures of buildings in *How Engineers Make Buildings*. In Activity 3, students observe and compare the stability of different objects. In Activity 4, students explore more stable and less stable ways to put together blocks and then make stable towers. Exploration 1 ends with the Shared Drawing and Discussion in which the class summarizes and applies what they have learned. The purpose of Exploration 1 is for students to use science and engineering practices and ideas about stability to figure out that a building's overall shape contributes to its stability.

Students learn

- The shape of a building affects how stable the building is.
- Objects with flat bottoms are usually more stable than objects with curved bottoms.
- Objects that are bigger at the bottom, or the same size at the bottom and the top, are usually more stable than objects that are bigger at the top.
- Engineers gather evidence to answer questions as they learn about the problems they are working to solve.
- Engineers draw, write, and talk to share ideas.

Activities at a Glance

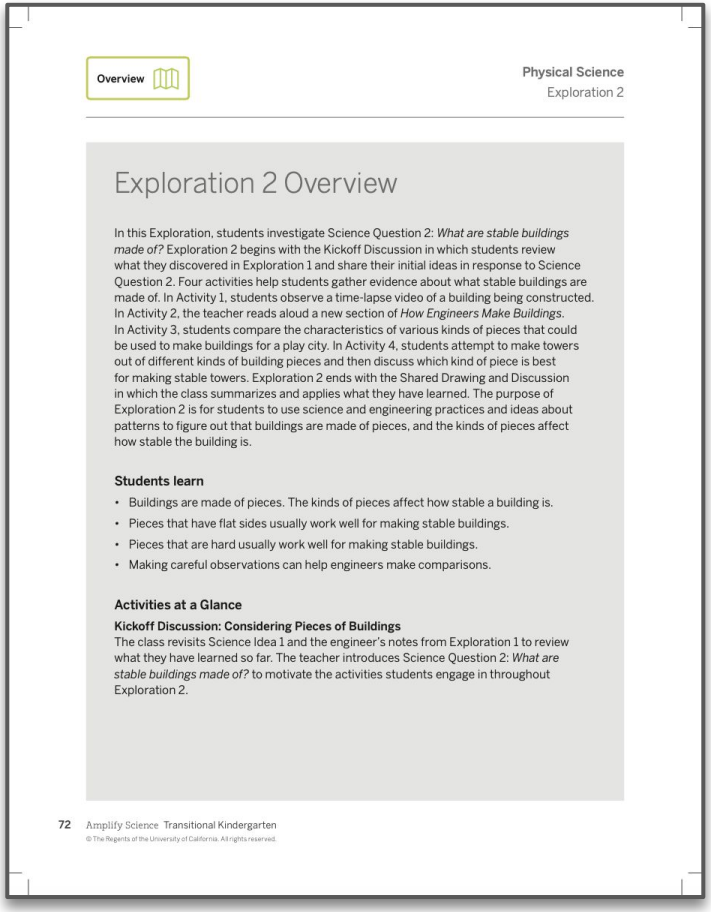
Kickoff Discussion: Sharing Initial Ideas About Stability
The teacher introduces Science Question 1: *What makes a building stable?* to motivate the activities students engage in throughout Exploration 1.

Page 7

Part 2: Exploration-level internalization

Exploration 1 Question:	What makes a building stable?
What do students learn in Exploration 1?	**What is the purpose of Exploration 1?**
The shape of a building affects how stable the building is. • Objects with flat bottoms are usually more stable than objects with curved bottoms. • Objects that are bigger at the bottom, or the same size at the bottom and the top, are usually more stable than objects that are bigger at the top. • Engineers gather evidence to answer questions as they learn about the problems they are working to solve. • Engineers draw, write, and talk to share ideas.	The purpose of Exploration 1 is for students to use science and engineering practices and ideas about stability to figure out that a building's overall shape contributes to its stability.

Exploration 2 Overview



Overview

Physical Science
Exploration 2

Exploration 2 Overview

In this Exploration, students investigate Science Question 2: *What are stable buildings made of?* Exploration 2 begins with the Kickoff Discussion in which students review what they discovered in Exploration 1 and share their initial ideas in response to Science Question 2. Four activities help students gather evidence about what stable buildings are made of. In Activity 1, students observe a time-lapse video of a building being constructed. In Activity 2, the teacher reads aloud a new section of *How Engineers Make Buildings*. In Activity 3, students compare the characteristics of various kinds of pieces that could be used to make buildings for a play city. In Activity 4, students attempt to make towers out of different kinds of building pieces and then discuss which kind of piece is best for making stable towers. Exploration 2 ends with the Shared Drawing and Discussion in which the class summarizes and applies what they have learned. The purpose of Exploration 2 is for students to use science and engineering practices and ideas about patterns to figure out that buildings are made of pieces, and the kinds of pieces affect how stable the building is.

Students learn

- Buildings are made of pieces. The kinds of pieces affect how stable a building is.
- Pieces that have flat sides usually work well for making stable buildings.
- Pieces that are hard usually work well for making stable buildings.
- Making careful observations can help engineers make comparisons.

Activities at a Glance

Kickoff Discussion: Considering Pieces of Buildings
The class revisits Science Idea 1 and the engineer's notes from Exploration 1 to review what they have learned so far. The teacher introduces Science Question 2: *What are stable buildings made of?* to motivate the activities students engage in throughout Exploration 2.

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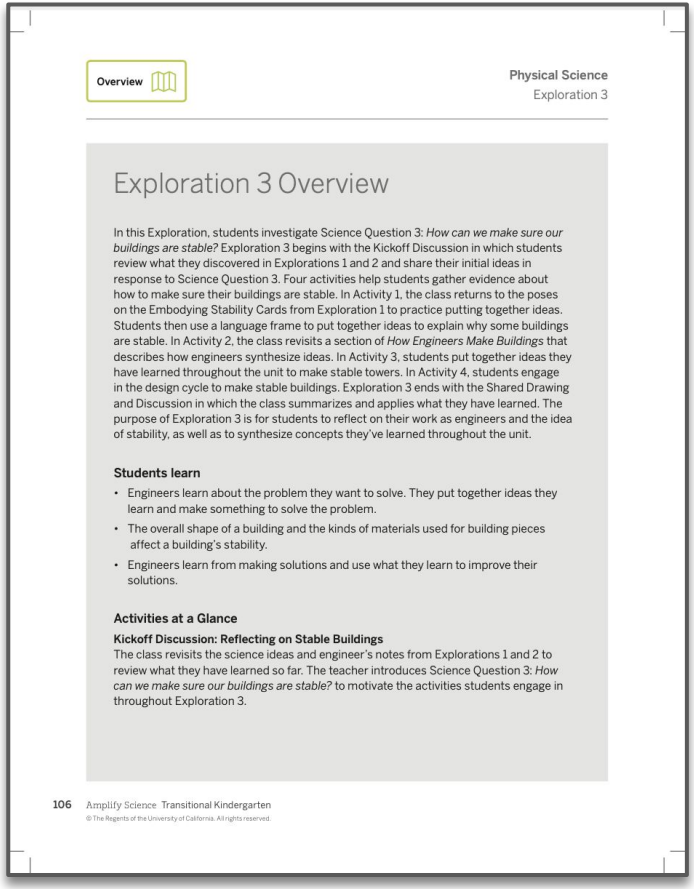
Page 5a

Page 5b

Part 2: Exploration-level internalization

Exploration 2 Question:	What are stable buildings made of?
What do students learn in Exploration 2?	What is the purpose of Exploration 2?
Buildings are made of pieces. The kinds of pieces affect how stable a building is. Buildings that have flat sides usually work well for making stable buildings. Pieces that are hard usually work well for making stable buildings. Making careful observations can help engineers make comparisons.	The purpose of Exploration 2 is for students to use science and engineering practices and ideas about patterns to figure out that buildings are made of pieces, and the kinds of pieces affect how stable the building is.

Exploration 3 Overview



Overview

Physical Science
Exploration 3

Exploration 3 Overview

In this Exploration, students investigate Science Question 3: *How can we make sure our buildings are stable?* Exploration 3 begins with the Kickoff Discussion in which students review what they discovered in Explorations 1 and 2 and share their initial ideas in response to Science Question 3. Four activities help students gather evidence about how to make sure their buildings are stable. In Activity 1, the class returns to the poses on the Embodying Stability Cards from Exploration 1 to practice putting together ideas. Students then use a language frame to put together ideas to explain why some buildings are stable. In Activity 2, the class revisits a section of *How Engineers Make Buildings* that describes how engineers synthesize ideas. In Activity 3, students put together ideas they have learned throughout the unit to make stable towers. In Activity 4, students engage in the design cycle to make stable buildings. Exploration 3 ends with the Shared Drawing and Discussion in which the class summarizes and applies what they have learned. The purpose of Exploration 3 is for students to reflect on their work as engineers and the idea of stability, as well as to synthesize concepts they've learned throughout the unit.

Students learn

- Engineers learn about the problem they want to solve. They put together ideas they learn and make something to solve the problem.
- The overall shape of a building and the kinds of materials used for building pieces affect a building's stability.
- Engineers learn from making solutions and use what they learn to improve their solutions.

Activities at a Glance

Kickoff Discussion: Reflecting on Stable Buildings
The class revisits the science ideas and engineer's notes from Explorations 1 and 2 to review what they have learned so far. The teacher introduces Science Question 3: *How can we make sure our buildings are stable?* to motivate the activities students engage in throughout Exploration 3.

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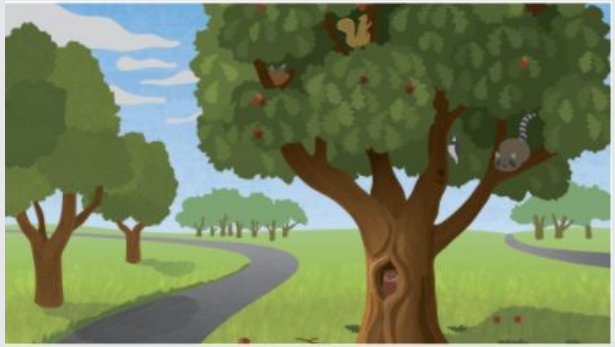
Part 2: Exploration-level internalization

Exploration 3 Question:	How can we make sure our buildings are stable?
What do students learn in Exploration 3?	What is the purpose of Exploration 3?
Engineers learn about the problem they want to solve. They put together ideas they learn and make something to solve the problem. The overall shape of a building and the kinds of materials used for building pieces affect the building's stability. Engineers learn from making solutions and use what they learn to improve their solutions.	The purpose of exploration 3 is for students to reflect on their work as engineers and the idea of stability, as well as to synthesize concepts they've learned throughout the unit.

Questions?



Plan for the day: Part 1

- Introduction and Framing
- Phenomenon-based Instruction
- Program Essentials
- **Closing**

Additional resources

Welcome, caregivers!

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

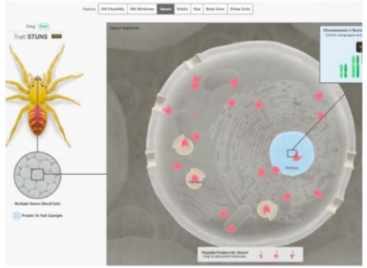
Para acceder a este sitio en español haga clic aquí.

Amplify welcomes you and your learner to the Science program for the new school year. We are very excited to provide you with exceptional learning opportunities through Science. Below are resources and helpful guides for enabling your student to have the most productive experience with our platform throughout the year.

Contact Us

TOP RATED BY EDREPORTS

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!

Workshop goals

By the end of this workshop, were you able to:

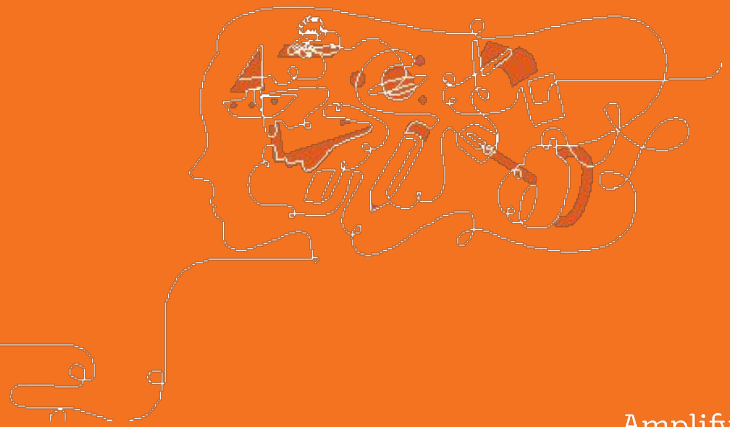
- ✅ Navigate the full Amplify Science standard curriculum?
- ✅ Understand the program's phenomenon-based approach?
- ✅ Apply the program essentials to prepare to teach?

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

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

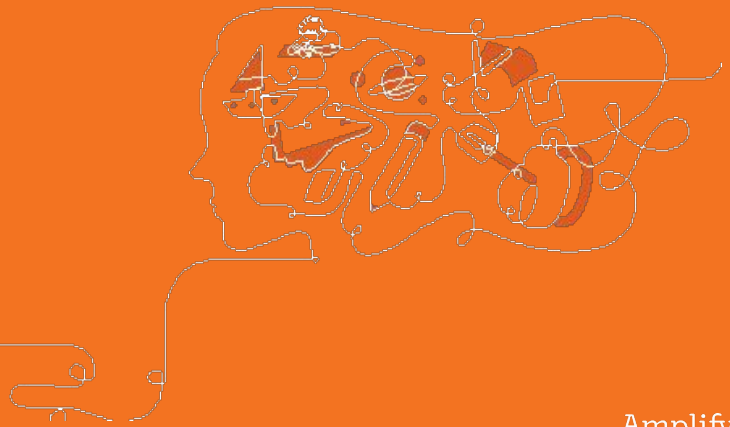
5- I have a solid plan for how to make this work!

End of Part 1



Break

10:00 - 10:30

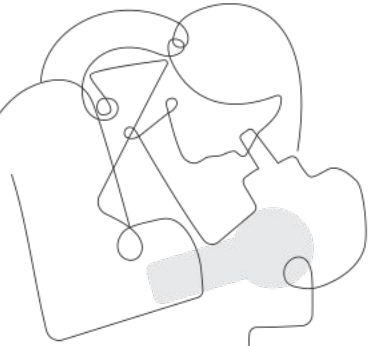


Do Now: *Please use the chat to share where you are with teaching Amplify Science. (1= I have not started. 3= I'm currently teaching unit 1. 5= I'm ready to start, or have started, unit 2.)*

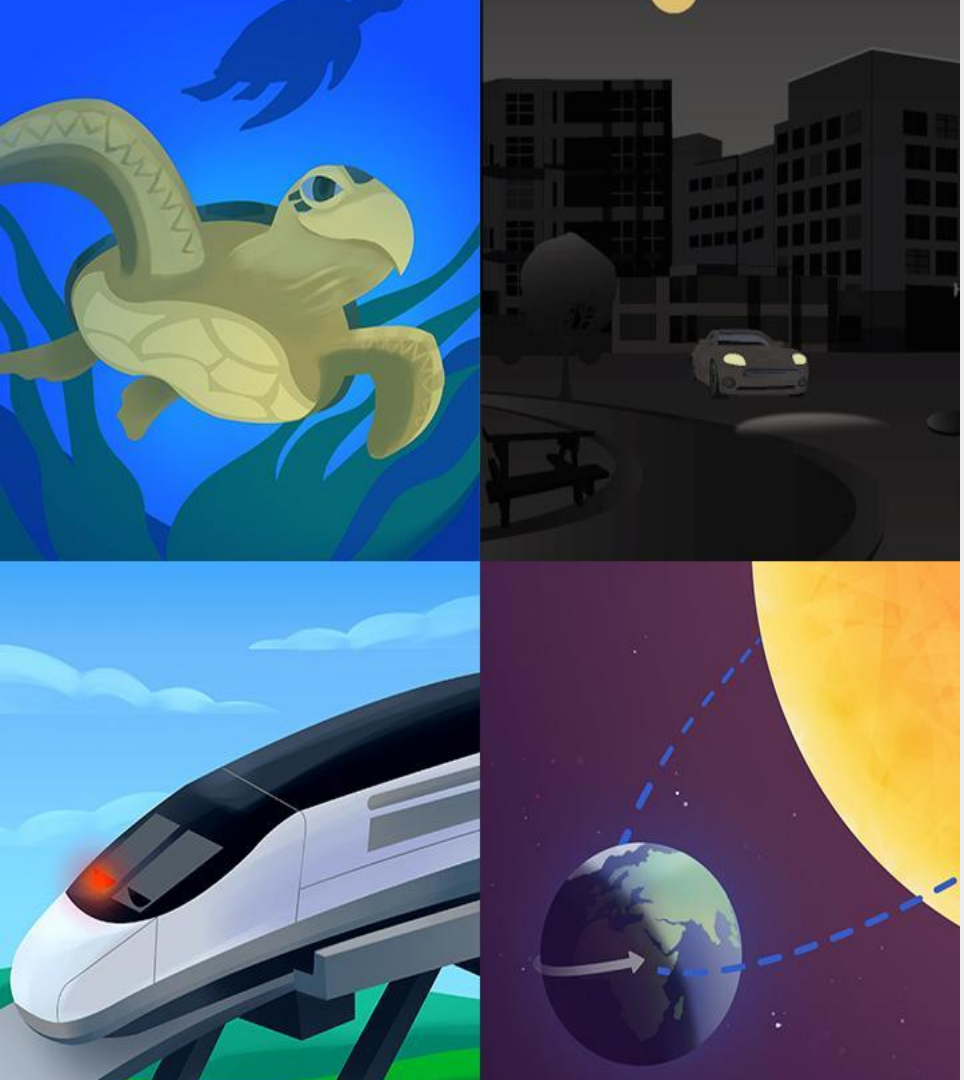
Amplify Science CALIFORNIA

Standard Curriculum Relaunch / Guided Planning Part 2

Wondering About Buildings, TK



LAUSD
12/x/2020
Presented by Your Name



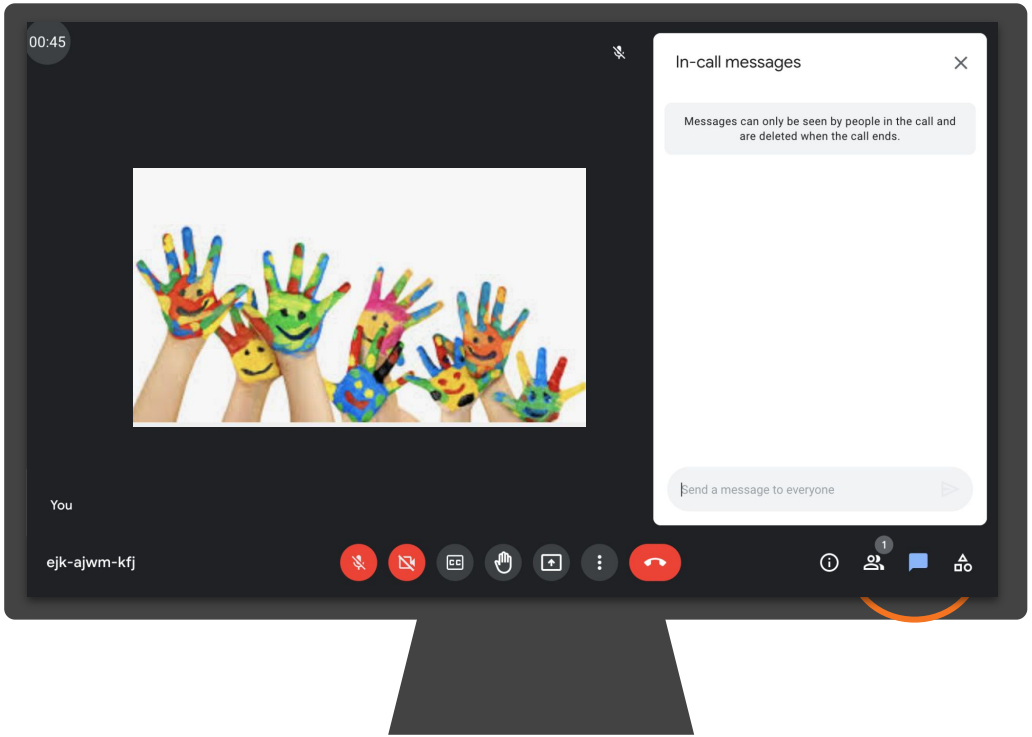
Plan for the day: Part 2

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

Ice Breaker!

Who do we have in the room today?

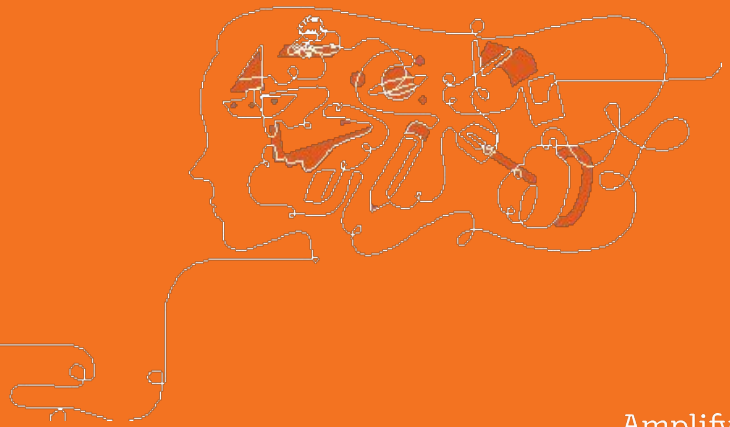
- **Question:** Now that we have gone through Part 1, which aspects of Amplify Science do you feel more comfortable with or have a greater understanding of?



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.

Part 2:
Guided Planning (for a lesson)



Overarching goals

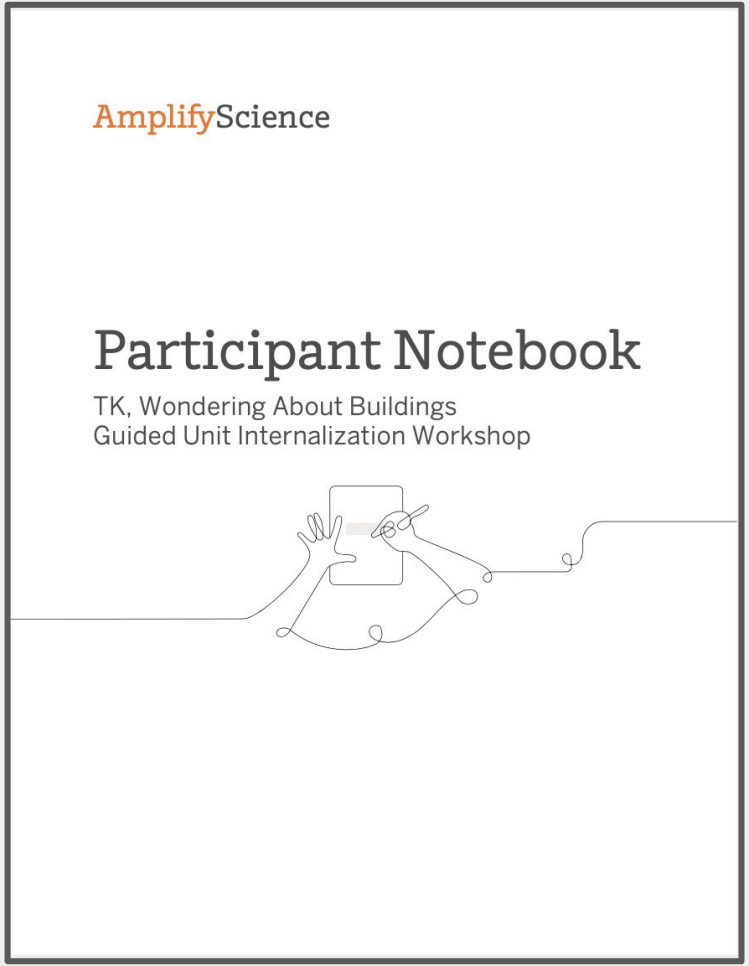
By the end of this workshop, you will be able to:

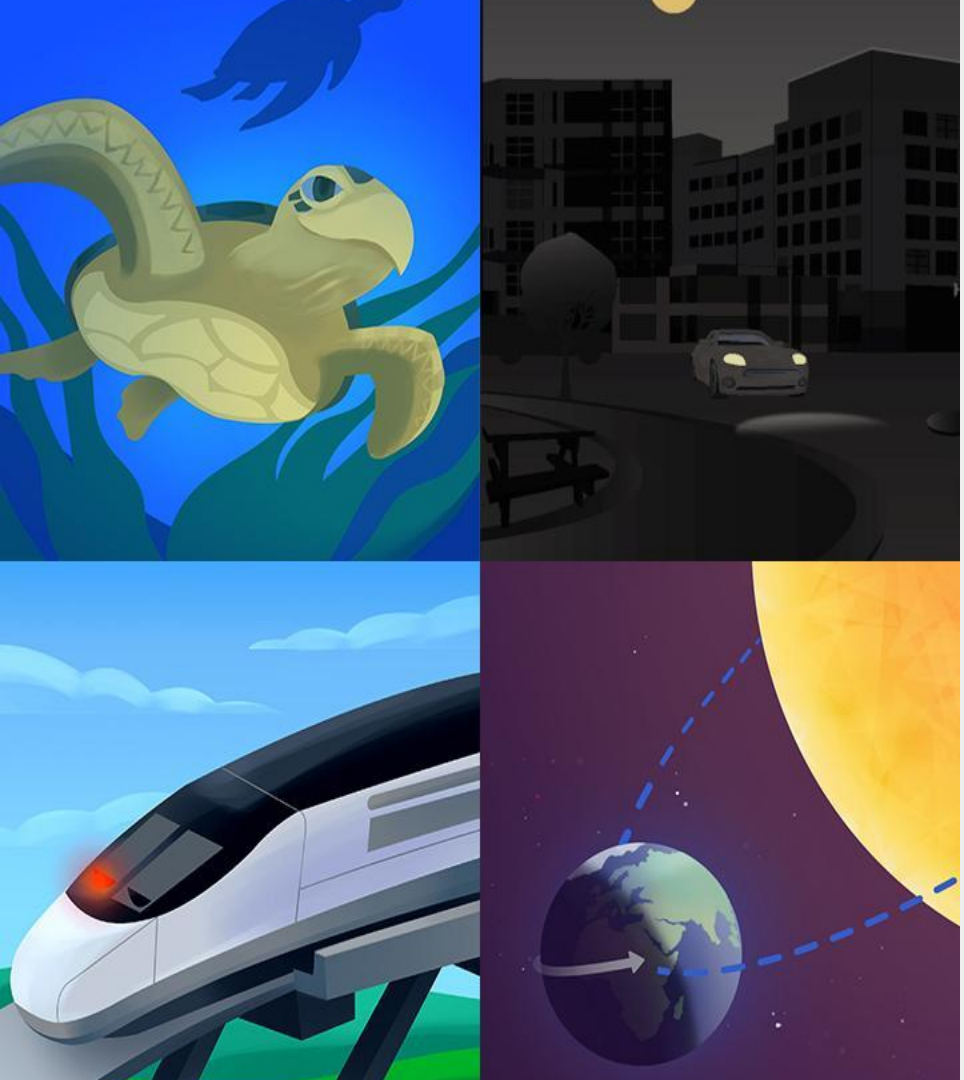
- ❑ Leverage your understanding of your upcoming unit to make instructional decisions about teaching the Amplify Curriculum and the Amplify Science curriculum resources.
- ❑ Develop a multi-day plan for implementation within your class schedule and instructional format.

Asking Questions

Participant Notebook

Materials

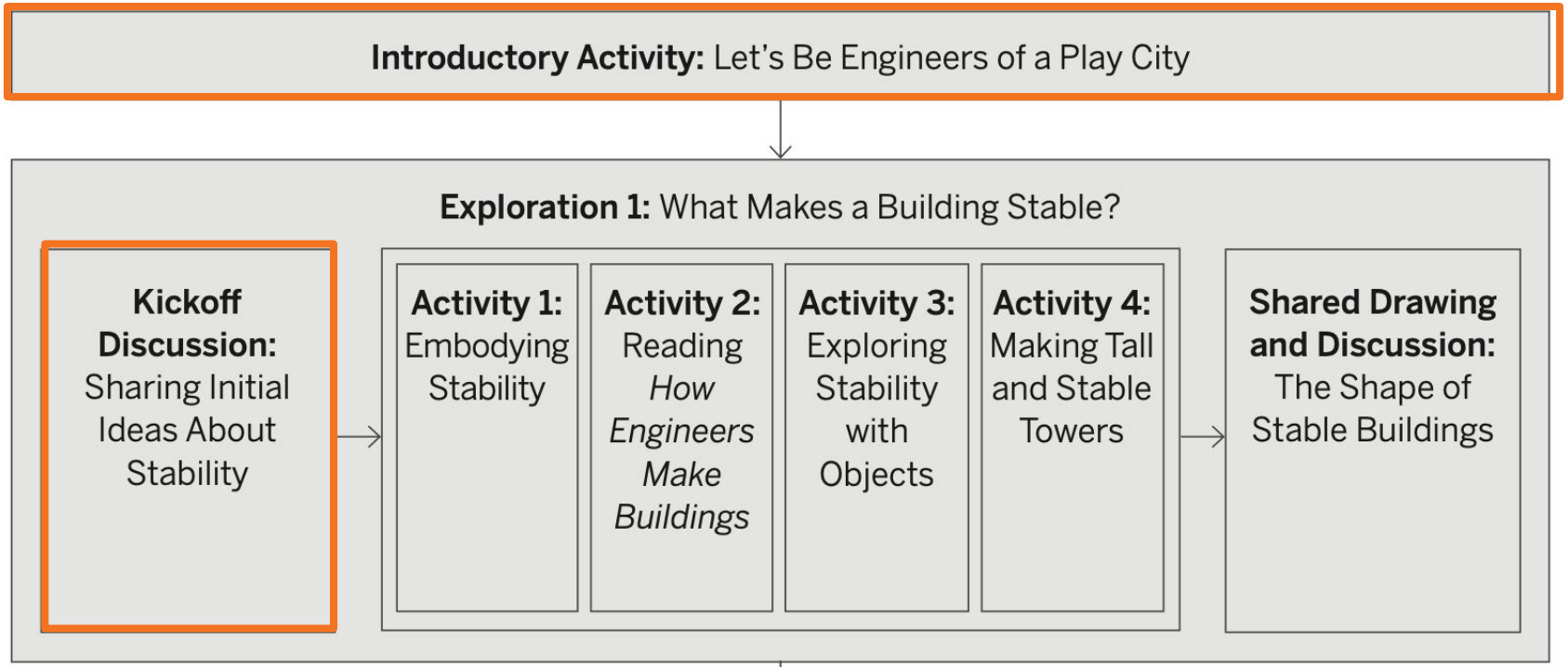




Plan for the day: Part 2

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

Unit Experience



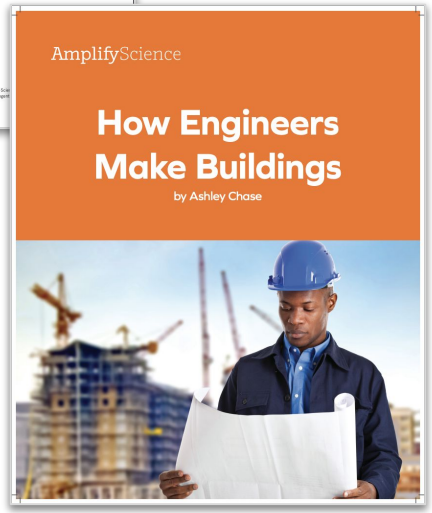
Kickoff Discussion: Sharing Initial Ideas About Stability

What?

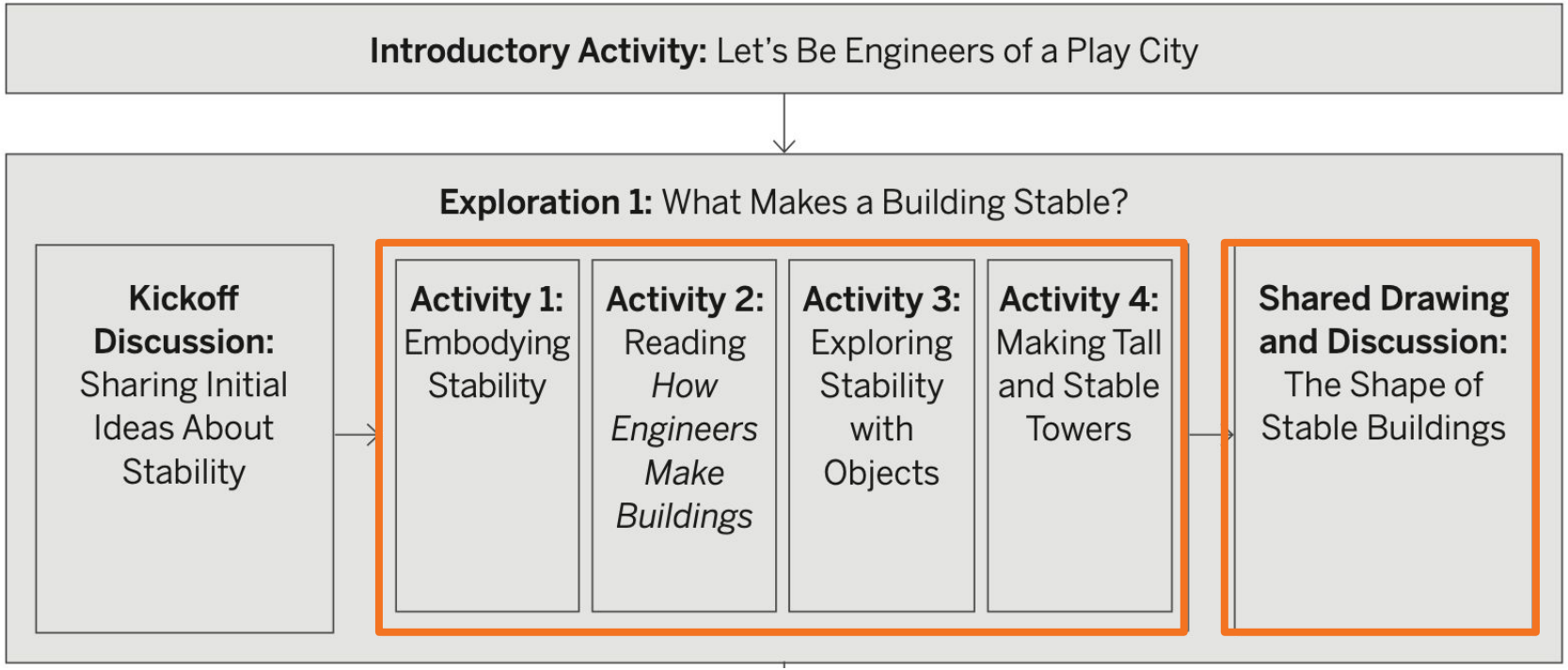
The class reviews what they read about engineers in the first section of *How Engineers Make Buildings*. They are introduced to Science Question 1 and discuss their initial ideas in response to this question.

Science Question 1:

What makes a building stable?



Unit Experience



Summary of Exploration 1

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Activity 1: Embodying Stability
Students make a kinesthetic connection to stability by trying and comparing different poses they make with their bodies.

Activity 2: Reading *How Engineers Make Buildings*
The class observes and discusses pictures of different buildings in a new section of *How Engineers Make Buildings* in order to gather evidence about what stable buildings are like.

Activity 3: Exploring Stability with Objects
Students observe and compare the stability of differently shaped objects, which provides evidence that certain aspects of an object's shape contribute to its stability.

Activity 4: Making Tall and Stable Towers
Using blocks, students figure out how to make stable towers. They then use a language frame to practice sharing their ideas about characteristics of stable buildings.

Shared Drawing and Discussion: The Shape of Stable Buildings
The class participates in a shared drawing and an accompanying discussion to consolidate and apply their understanding of Science Idea 1: *The shape of a building affects how stable the building is*.

Page 19 & 20

Activity 1

Physical Science
Exploration 1

Activity 1: Embodying Stability

What?

Students observe cards with illustrations that show pairs of body po
of the poses is more stable, and then try the poses with their own bo
what they think makes some poses more stable than other poses.

Why?

Observing and trying different body poses gives students a kinesthe
of stability. The activity also provides preliminary evidence about fac
stability, including the size of an object's base and how much contac
the ground, as well as how balanced an object is.

How?

1. **Set purpose.** Let students know that they will use their bodies to
makes something, such as a building, stable.
2. **Display Embodying Stability Cards: Card 1 and discuss the po**
that the card shows a person in two different poses—Pose A and
   - What is different about these two poses?
   [In Pose A, the kid is standing on two feet. In Pose B, the kid i
   - Which pose do you think will be more stable—A or B?

   Give students a moment to observe the pictures on the card. Th
share their ideas.
3. **Students try the poses on Embodying Stability Cards: Card 1.**
and try the two poses on the card.
4. **Compare what the two poses felt like.** Invite volunteers to desc
Pose B felt like. Students may describe Pose A with words and pl
moving, *still*, or *easy*. Students may describe Pose B with words a
stable, *wobbly*, *tippy*, *hard*, or *falling over*.
5. **Repeat Steps 2–4 for the remaining Embodying Stability Card**
increase in complexity, guide students through the poses on Car
6. **Discuss stability of poses.** For each Embodying Stability Card:
   - Display the card.
   - Invite two volunteers to demonstrate the two poses on the ca
   - Ask students to share ideas about why one pose is more stabl

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Activity 1

Physical Science
Exploration 1

7. **Introduce *compare*.**
   - You just shared ideas about why one pose is more stable than another pose.
   - You compared how stable each pose was.

   Use the Vocabulary routine to introduce *compare*: to notice how two or more things are alike or different.
8. **Synthesize ideas about stability.** Highlight the following ideas from the discussion:
   - Having two feet on the ground is more stable than having one foot on the ground.
   - Having feet flat on the ground is more stable than being on tiptoes.
   - Standing straight is more stable than leaning to the side.
9. **Conclude the activity by connecting to the stability of buildings.**
   - We gathered evidence about what makes something stable by making and comparing poses. We will remember these ideas as we continue to think about what makes a building stable.

Teacher Support

Instructional Suggestion

Going Further: Changing Ideas Based on Evidence

Flexible thinking is an important habit of mind necessary for engineers and scientists. Engineers may spend a great deal of time and material on a solution, find that it doesn't meet the design goals, and then revise their solution or start over. In this activity, students share initial ideas about which pose in each pair is more stable. They then try the poses and, in some cases, may find that their initial ideas were not accurate. This low-stakes environment is a great one in which to provide instruction around how scientists and engineers change their minds when presented with additional evidence. This can support students' engagement in science and engineering practices, as well as their ability to think like engineers. If you think your students would benefit from a focus on changing ideas based on evidence, consider modeling this practice before students begin this activity.

- Hold up a card and think aloud to predict that the less stable pose will be more stable.
- Act out both poses for your students.
- Then, think aloud to model realizing that your prediction was not accurate.
- Explain how gathering evidence that proves your initial ideas were not accurate is an important part of science and engineering.

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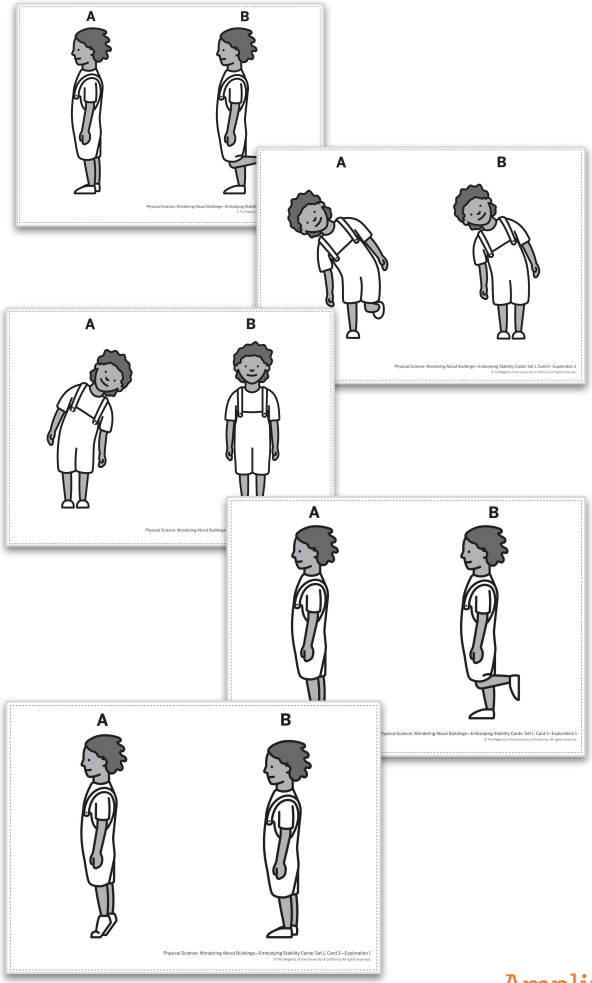


Amplify.

Model of Exploration 1, Activity 1

As you watch the lesson, think about how you might implement this in your classroom.

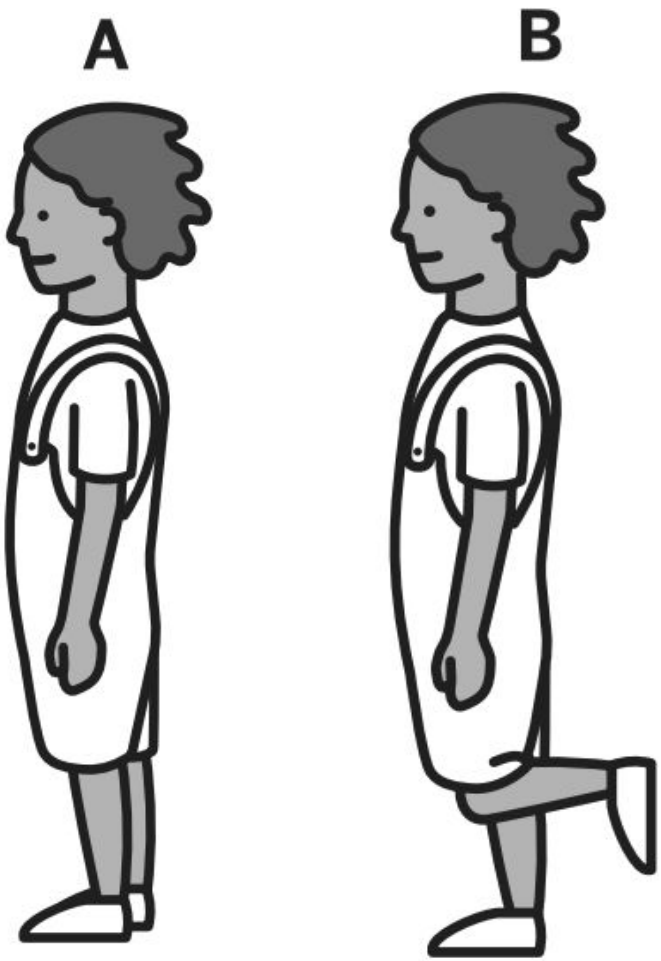
We are going to use our bodies to learn more about what makes something, such as a building, stable.

This is a person with two different poses- Pose A and Pose B.

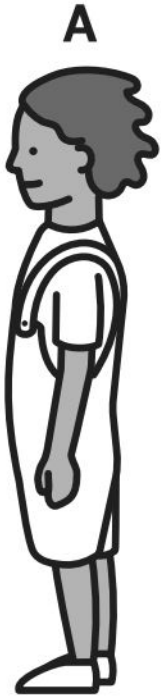
Which pose do you think will be more stable—A or B?

What is different about these two different poses?

Share your ideas.



Now let’s try it! Look at the card and try the poses!



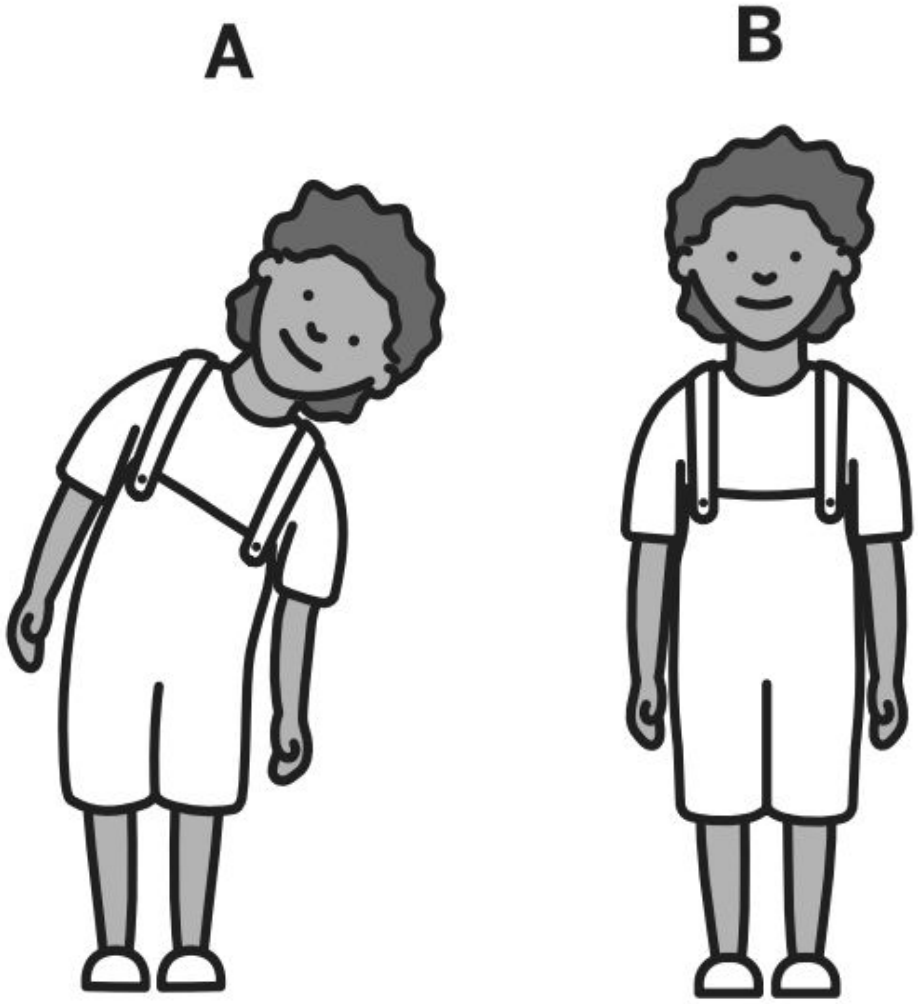
Pose A
What does it feel like?

Pose B
What does it feel like?

What is different about these two poses?

Which pose do you think will be more stable—

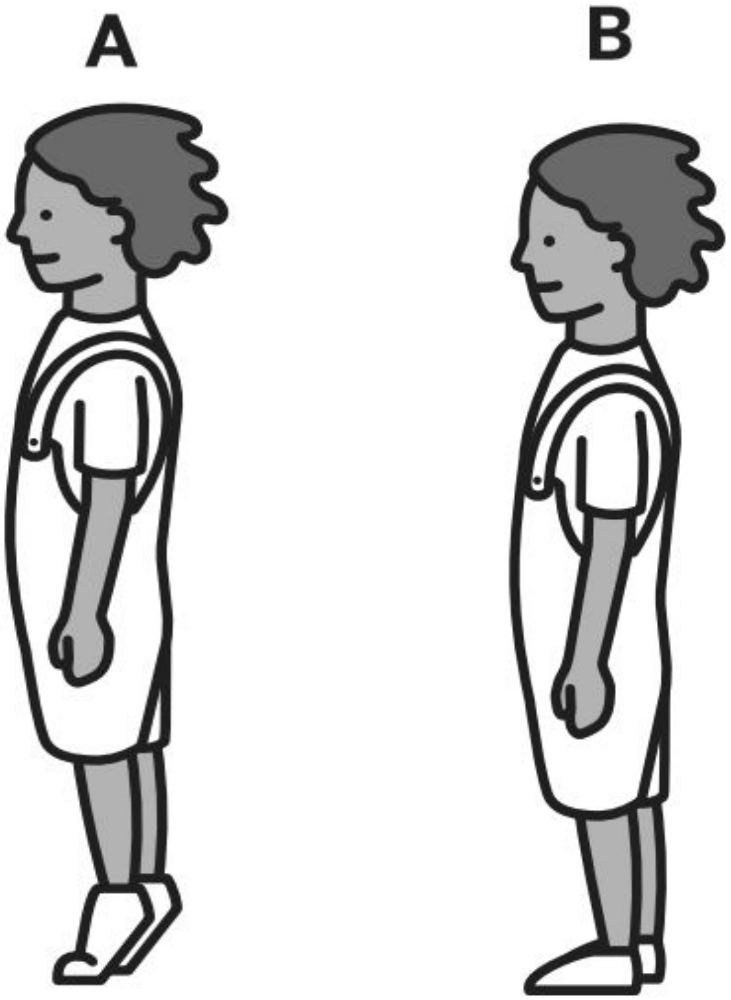
A or B?



What is different about these two poses?

Which pose do you think will be more stable—

A or B?



What is different about these two poses?

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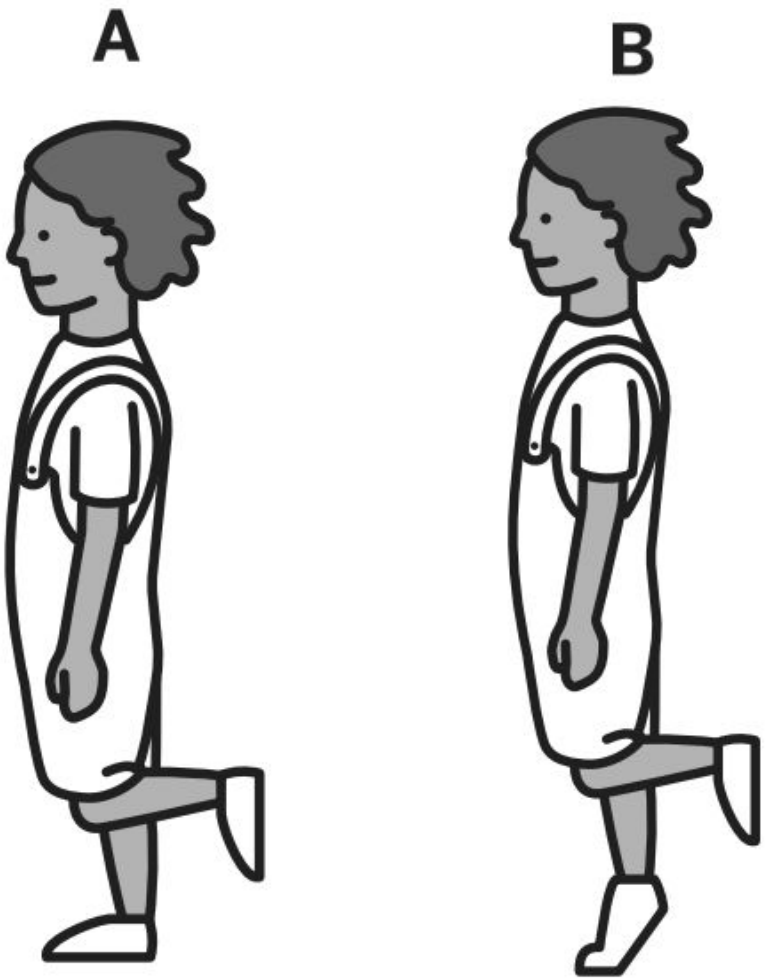
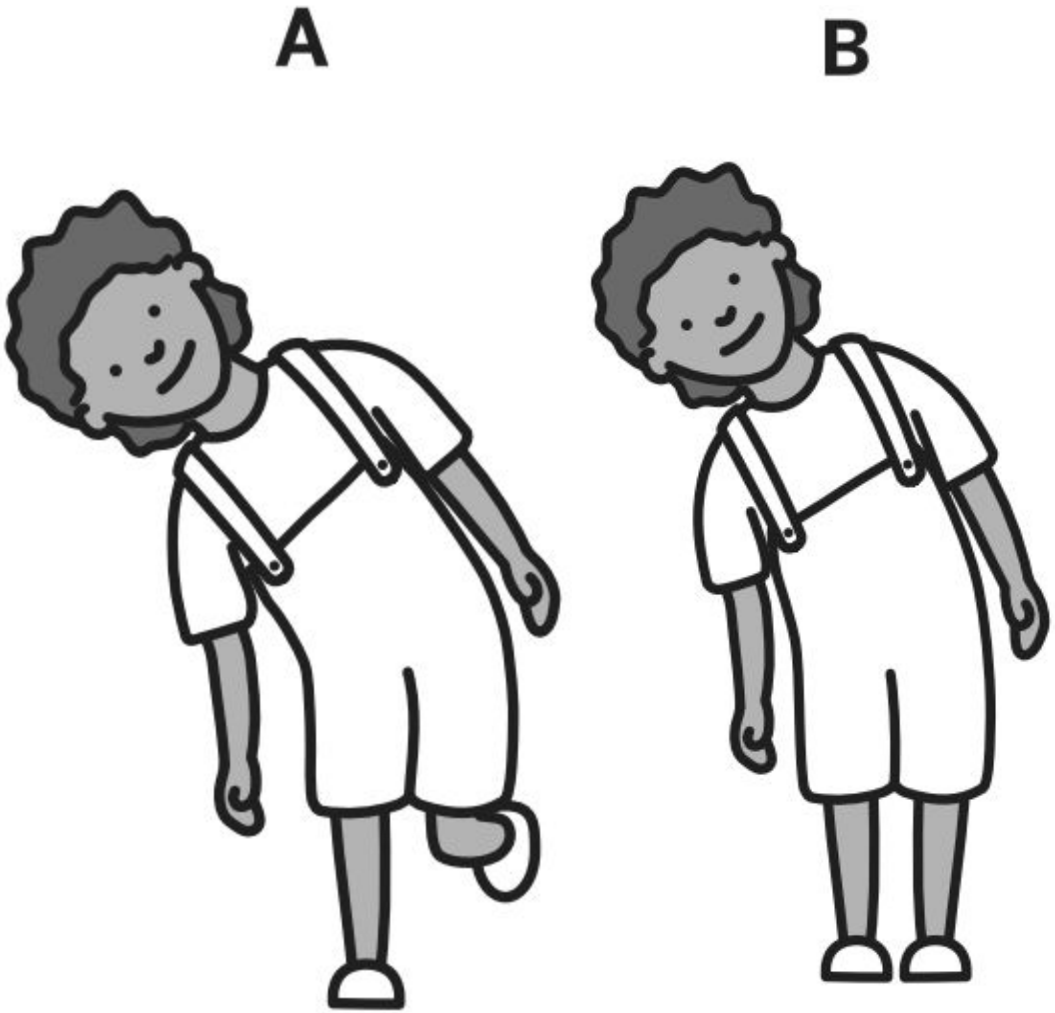


What is different about these two poses?

Which pose do you think will be more stable—

A or B?



Discussion of Stability

Now we will **observe** two volunteers.

1. Display the Card
2. Invite two volunteers to demonstrate the two poses on the card.
3. Ask students to share ideas about why one pose is more stable than the other pose.

You just shared ideas about why one pose is more stable than the other pose.

You **compared** how stable each pose was.

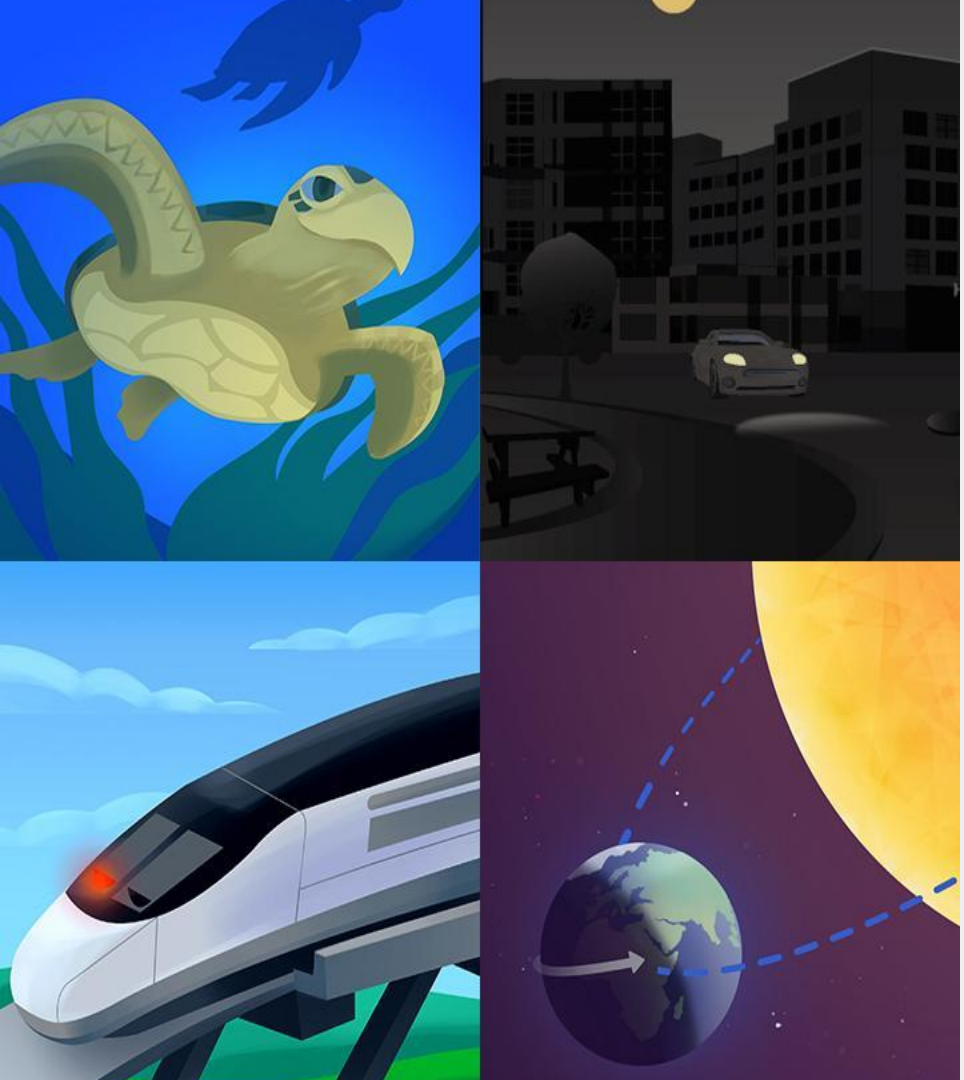
This is the word ***compare.***

Compare means to notice how two or more things are alike or different.

compare

What we learned

- Having two feet on the ground is more stable than having one foot on the ground.
- Having feet flat on the ground is more stable than being on tiptoes.
- Standing straight is more stable than leaning to the side.



Plan for the day: Part 2

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

Reflection:TK Instructional Approach

Find out about a phenomenon

Gather evidence to figure out science ideas

Explain the phenomenon

Ask a question → Gather evidence → Figure out a science idea → Answer the question

Reflecting on the Experience

What evidence did we start to collect from the Activity 1 that you just experienced?

Reflection: Multimodal Instruction

Figuring out and making sense of ideas like scientists do

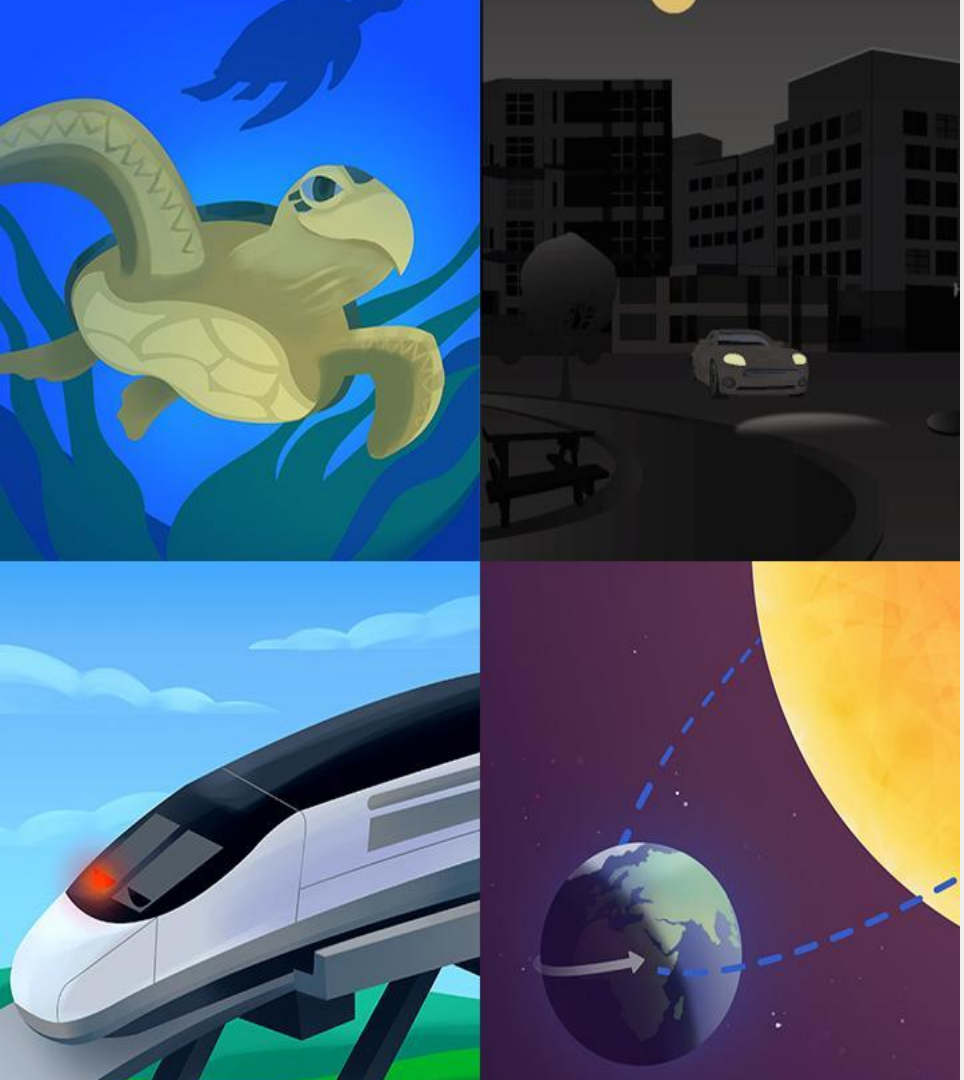
Do

Talk

Read

Write and draw

Visualize



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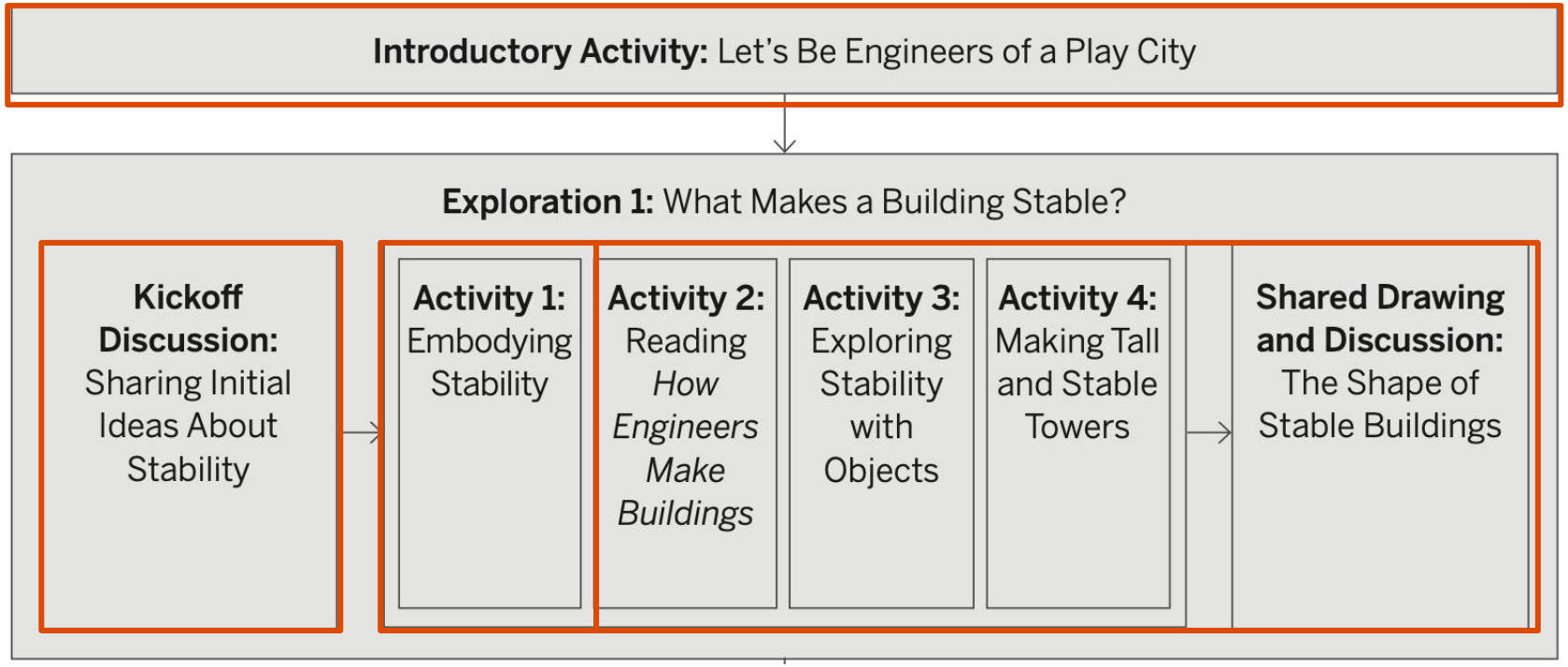


Independent Reading Time

- Read Activities 2, 3, 4, and the Shared Drawing and Discussion.
- Pages 21- 36 of the Participant Notebook
- **20 minutes**

Breakout Rooms- **7 minutes**

Directions for Breakout Rooms:

- Each Room choose a Reporter for sharing out to the larger group.
- In your Breakout Rooms talk about how would you implement this in your classroom?
- What other ideas do you have for modifying this lesson?
- Are there any assessment opportunities in this lesson?

Room 1- Activity 2
Room 2- Activity 3
Room 3- Activity 4
Room 4- Shared Drawing and Discussion

Sharing Ideas

- After reviewing the lesson activity, how would you implement this in your classroom?
- What other ideas do you have for modifying this lesson?
- Are there any assessment opportunities in this lesson?

Room 1- Activity 2

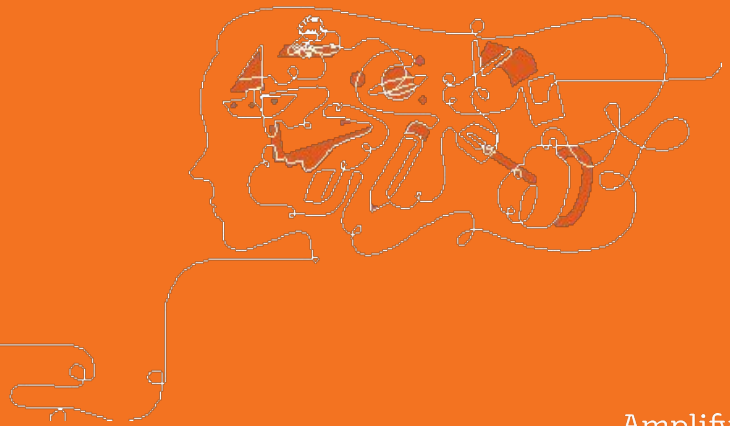
Room 2- Activity 3

Room 3- Activity 4

Room 4- Shared Drawing and Discussion

Questions?

The Family Connection



Family Engagement

Introductory Activity

Name: _____ Date: _____

Home Connection: Observing Buildings

We are beginning a new science unit called *Physical Science: Wondering About Buildings*. In this unit, students will think about how the shape of a building and the pieces a building is made of help make it stable. We invite you to engage your student in the following activity to consider these ideas at home.

Directions:

1. Go on a brief walk with your student to observe buildings. Together, you might observe homes, stores, schools, libraries, or a variety of other building types.
2. Encourage your student to describe the buildings they observe.
3. Have your student choose one building to observe in greater detail.
4. Ask your student to share their observations about the shape of the building.
5. Ask your student to share their observations about what the building is made of.
6. Record your student's responses to the questions below.
7. In the box on the next page, have your student draw the building they chose.

What did you observe about the shape of the building?

_____

_____

_____

_____

_____

What did you observe about what the building is made of?

_____

_____

_____

_____

_____

Physical Science: Wondering About Buildings—Introductory Activity

Name: _____ Date: _____

Home Connection: Observing Buildings (continued)

Physical Science: Wondering About Buildings—Introductory Activity

Family Engagement

Culminating Activity

Name: _____ Date: _____

Home Connection 1: Making a Play Building

We are concluding our science unit called *Physical Science: Wondering About Buildings*. Your student has learned that the shape of a building and the kinds of pieces used to make a building affect how stable the building is. We invite you to engage your student in the following activity at home to help reflect on these ideas.

Directions:

1. Help your student select building materials (e.g., blocks, toys, cups, containers) to make a play building. Ask your student questions about the building they will make. For example:
   - *What shape will you make the building?*
   - *Which pieces do you think will work well for making a stable building?*
   - *Why do you think those pieces will work well for making a stable building?*
2. Have your student make a play building.
3. Have your student draw a picture of the building in the box below.

Physical Science: Wondering About Buildings—Culminating Activity

Family Engagement

Culminating Activity

Name: _____ Date: _____

Home Connection 2:
My Stable Building Mini-Book

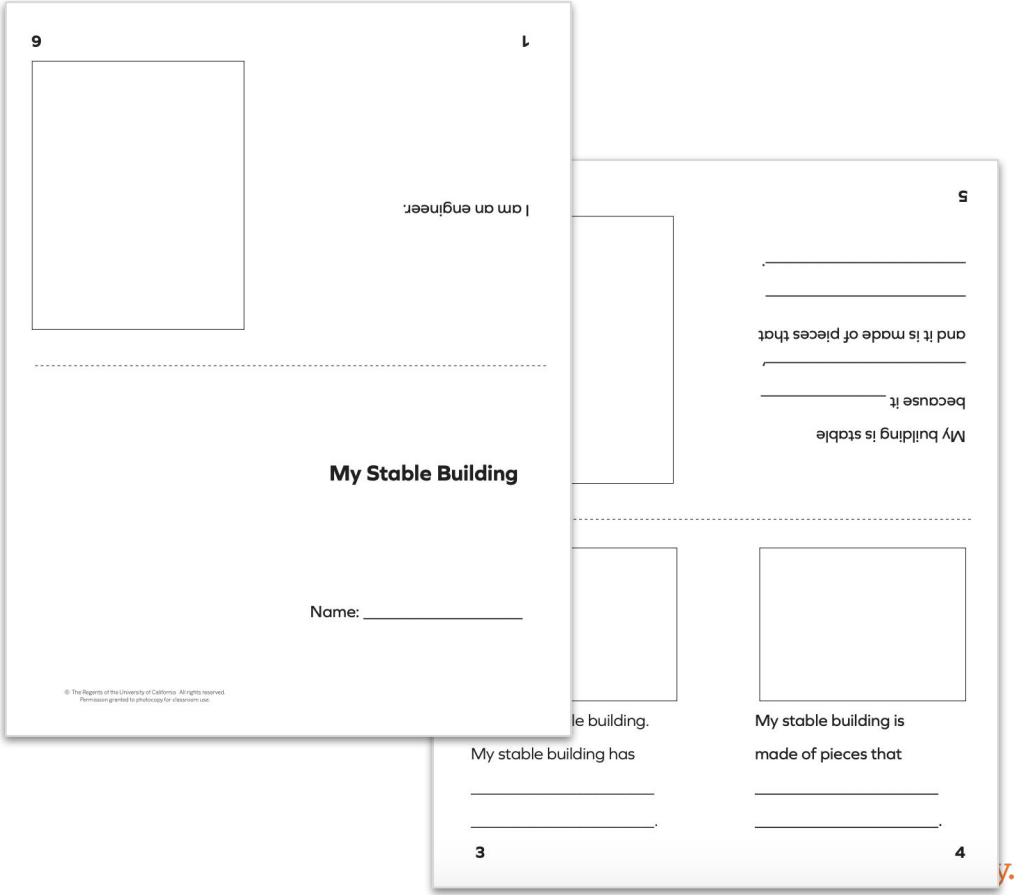
The activity for this Home Connection refers to the play building your student made in Home Connection 1: Making a Play Building.

Directions:

1. Let your student know that they are going to create a book about the play building they made.
2. Read page 1 of the mini-book to your student. Then, have your student draw a picture in the box on page 2 to depict this sentence.
3. On pages 3–5, help your student write a few words to complete each sentence, describing something about the shape of their building and the pieces they used that make their building stable. For example:
   - Page 3: *I made a stable building. My stable building has a flat bottom.*
   - Page 4: *My stable building is made of pieces that fit together.*
   - Page 5: *My building is stable because it has a flat bottom, and it is made of pieces that fit together.*

   Alternatively, have your student dictate to you so you can record what they say. Have your student draw pictures in the boxes on pages 3, 4, and 6 to depict these sentences.
4. Once the mini-book is complete, read it aloud with your student. You might also have your student share the book with friends or other family members.

Physical Science: Wondering About Buildings—Culminating Activity



Final thoughts/questions?

California TK Website

Amplify Science
CALIFORNIA

Welcome to Transitional Kindergarten

BACK TO MAIN TK–5 PAGE

Amplify Science California jump-starts a lifelong love of science with developmentally and pedagogically appropriate instruction featuring:

- Real-world problems and **scientific phenomena**.
- An **experiential approach** with lots of hands-on.
- Explicit support for building **oral language and early literacy** skills.

WHAT STUDENTS LEARN PROGRAM STRUCTURE HOW TEACHERS TEACH RESOURCES

amplify.com/science-california-review-tk/

Amplify.

Welcome to Amplify Science!

This site contains supporting resources designed for the Los Angeles Unified School District Amplify Science adoption for grades TK–8.

All LAUSD schools have access to Amplify Science resources at this time.

Click here for Remote Learning Resources for Amplify Science

Click here to go back to the LAUSD homepage.

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

https://amplify.com/lausd-science/

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

Workshop goals

By the end of this workshop were you able to:

- ✅ Leverage your understanding of your upcoming unit to make instructional decisions about teaching the Amplify Curriculum and the Amplify Science curriculum resources?
- ✅ Develop a multi-day plan for implementation within your class schedule and instructional format?

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

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

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

Please provide feedback!

Presenter name:

Workshop title:

Part 1: Relaunching the Standard Curriculum

Part 2: Guided Planning (Planning for a Lesson)

Modality:

Remote