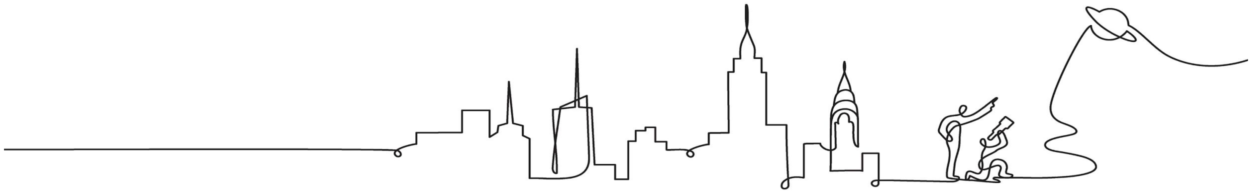
Welcome to Amplify Science!

Follow the directions below as we wait to begin.

1. Please log in to your Amplify Account.

2. Sign in using link dropped in chat.

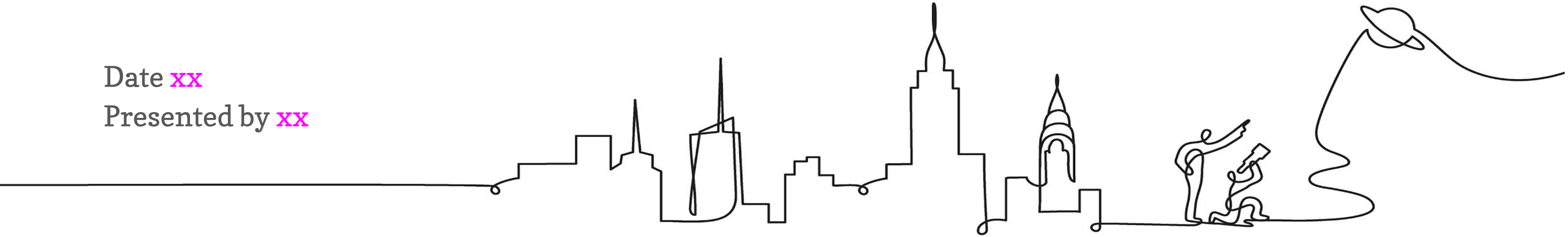
3. In the chat, share your school, your current instructional context (remote/hybrid/in-person), & how long you've been teaching Amplify Science.



Amplify Science
New York City

Engaging English Learners in 3-D Learning
Grade 6

Date xx
Presented by xx



Remote Professional Learning Norms

Take some time to orient yourself to the platform

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

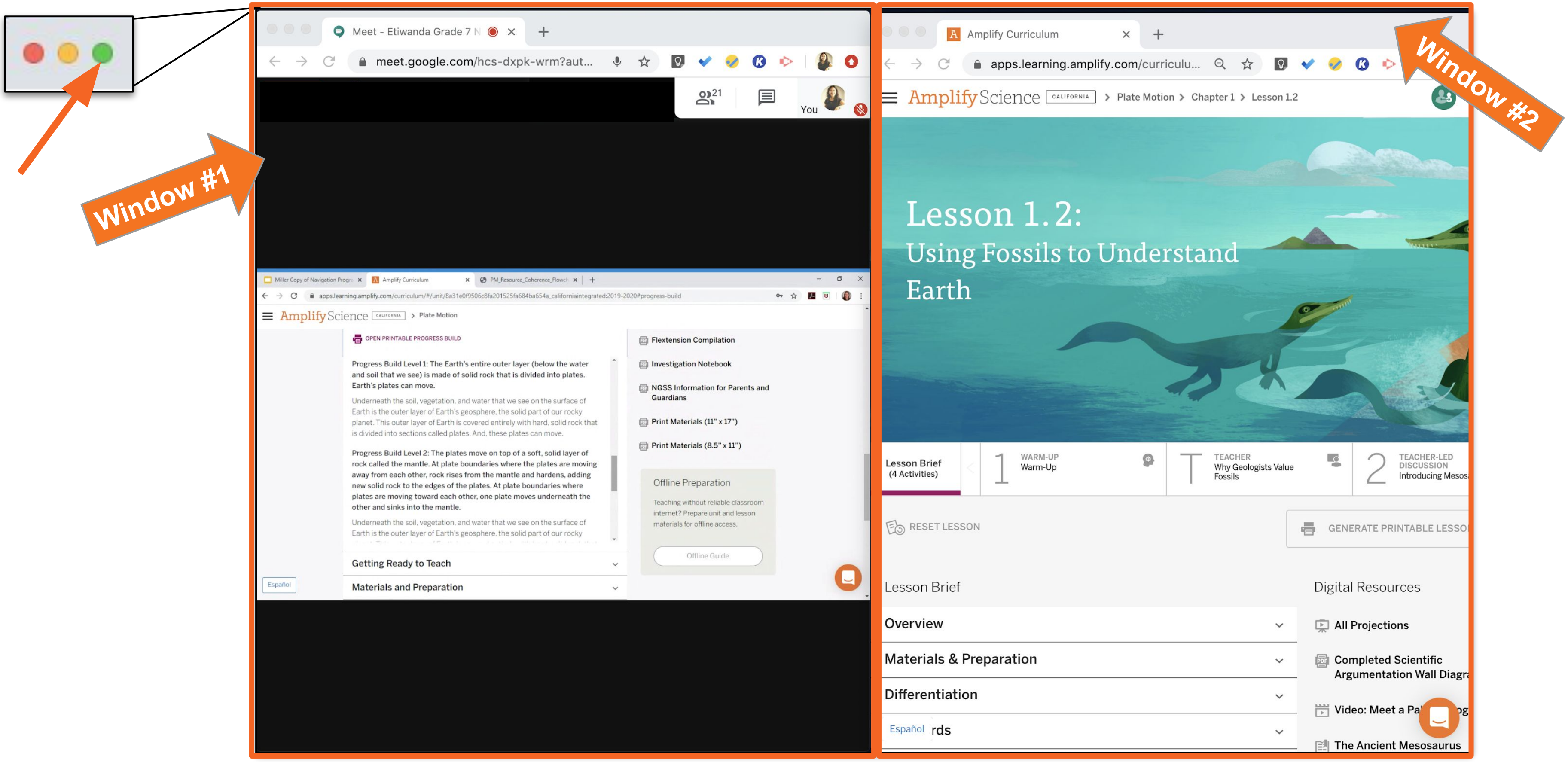
Mute your microphone to reduce background noise unless sharing with the group

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

Make sure you have a note-catcher present

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

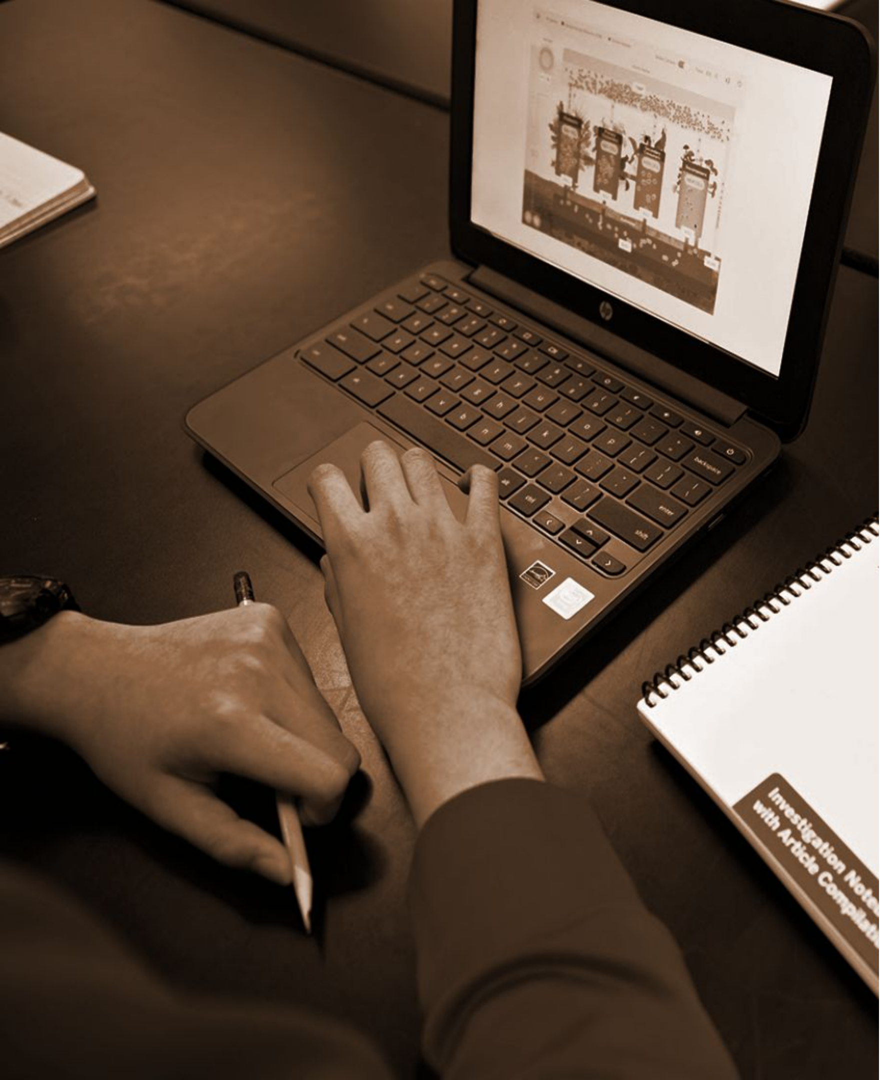
Use two windows for today's webinar



Overarching goals

By the end of this 3-hour workshop, you will be able to:

- Articulate the critical role that language and literacy play in developing scientific understanding.
- Identify strategies that support students' disciplinary literacy and language development.
- Recognize the embedded instructional design and identify additional supports for English learners in an Amplify Science instructional sequence.



Plan for the day

- **Framing the day**
  - Welcome and introductions
  - Anticipatory activity
- The role of language & literacy
  - Language, science, or both activity
  - Science & engineering practices
- Research-based principles
  - Expert groups
- Instructional sequence

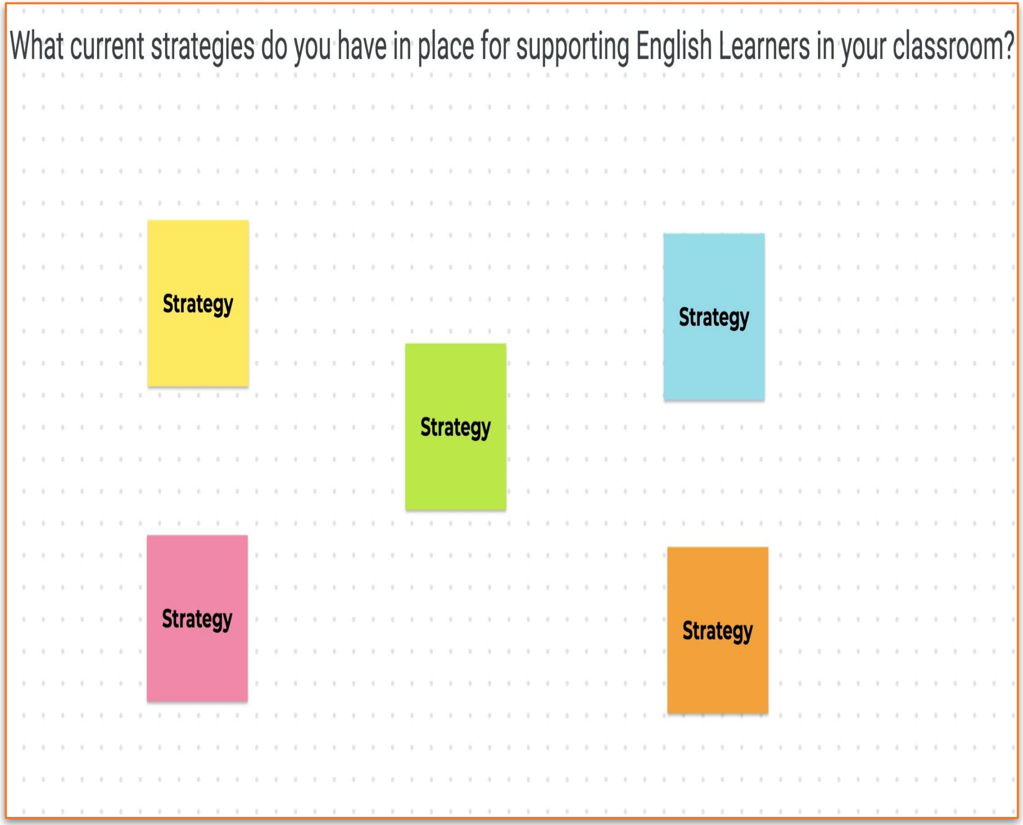
BREAK

- Analyzing an instructional sequence
  - Embedded instructional design & additional supports
- Differentiation for an upcoming lesson
- Individual planning with @Home resources
  - Multimodal approach @Home
- Closing
  - Reflection & additional resources
  - Survey

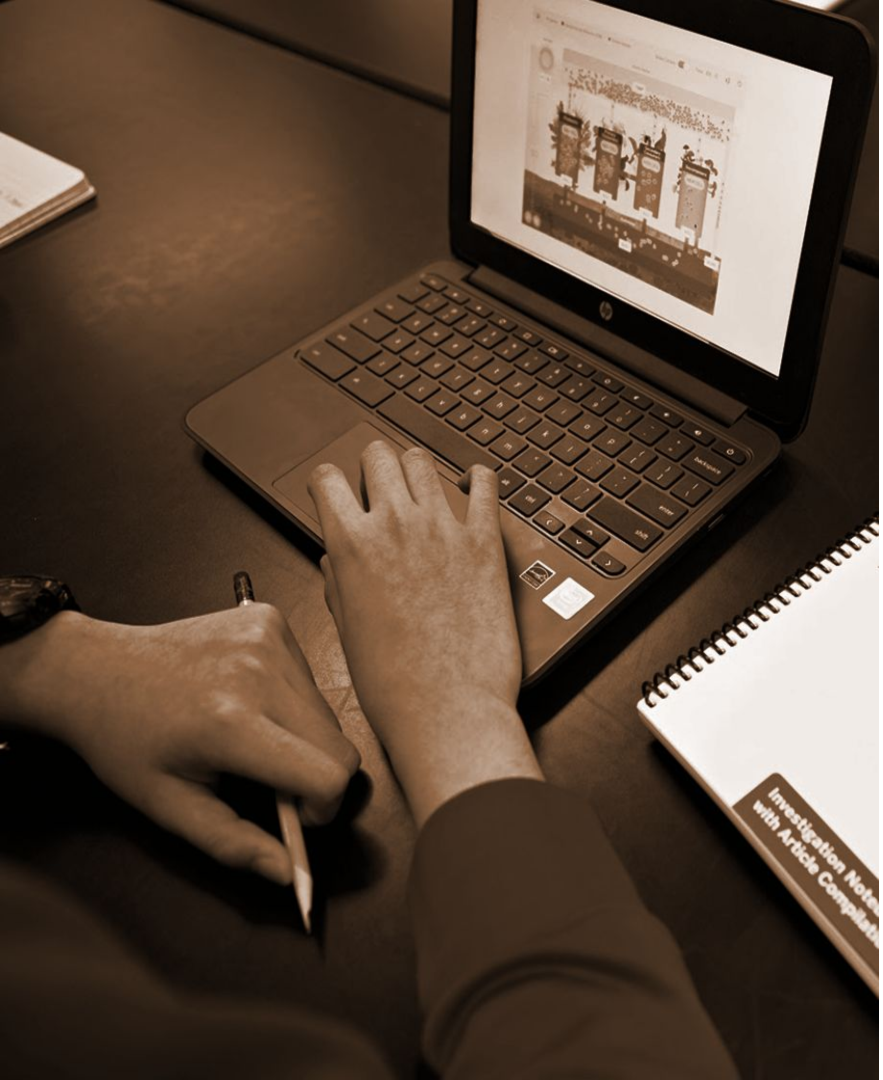
Anticipatory activity

On the Jamboard "post"….

- What current **strategies** do you have in place for supporting **English Learners** in your classroom?




Questions?



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Language of the science classroom

The ways that **students and teachers** use **oral** and **written** language to interact with each other, to **obtain information** from written materials, and to participate in **discourse** to construct understanding about science.

From Lee, O.; Quinn, H.; Valdés, G. *Science and Language for English Language Learners in Relation to Next Generation Science Standards and with Implications for Common Core State Standards for English Language Arts and Mathematics*. EDUCATIONAL RESEARCHER April 2013

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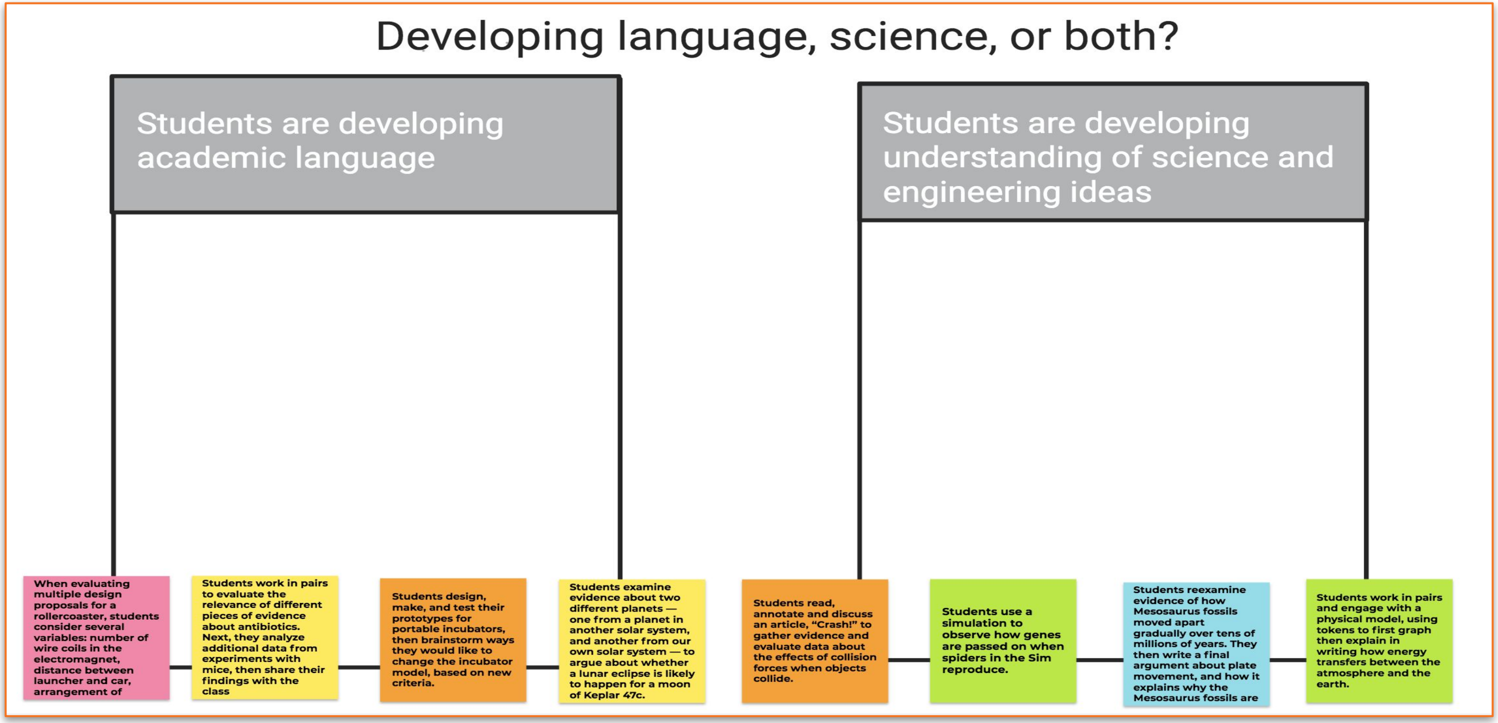
Language, science, or both?

Sort on **Jamboard.** What **trends** do you notice?



Page 5

Standards as three-dimensional performance expectations that integrate **disciplinary core ideas**, **science and engineering practices**, and **crosscutting concepts**

Science and Engineering Practices

inquiry

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations

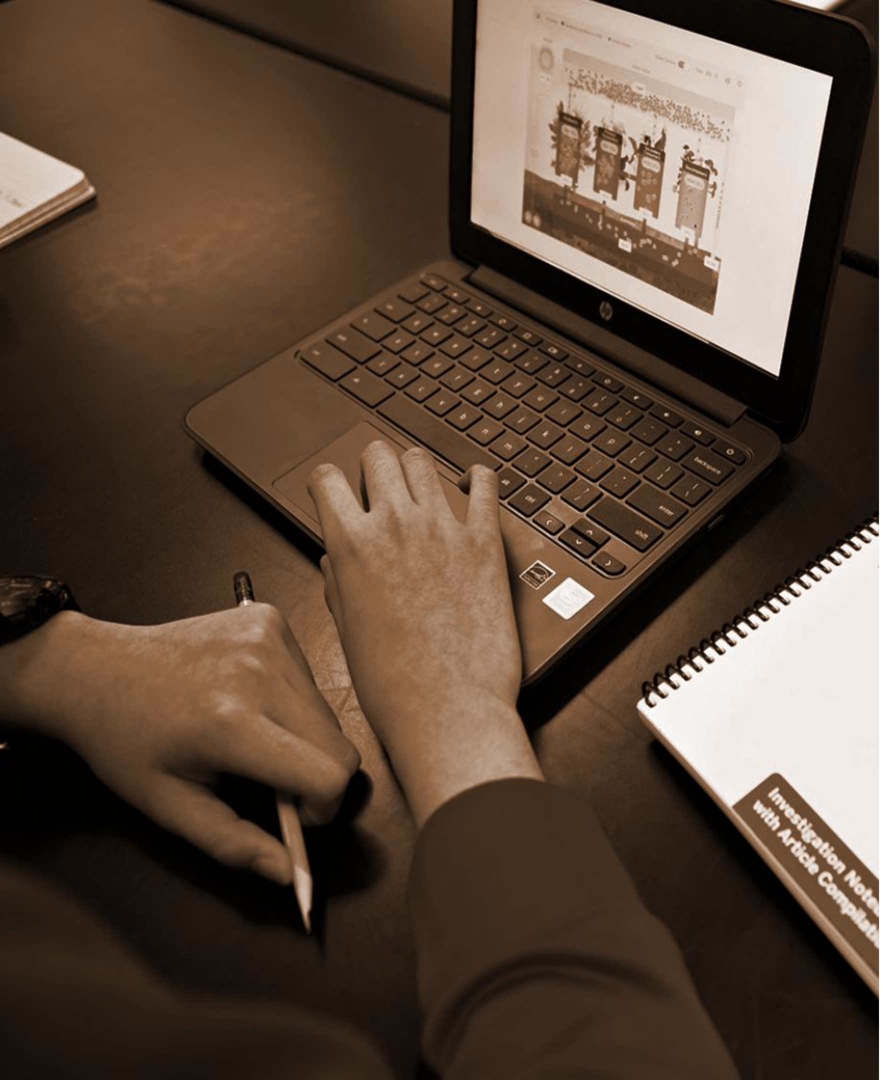
math

4. Analyzing and interpreting data
5. Using mathematics and computational thinking

language

6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information


Questions?



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5 principles for supporting English learners

Page 2

- Principle 1: Leverage and build students' informational background knowledge.
- Principle 2: Capitalize on students' knowledge of language.
- Principle 3: Provide explicit instruction about the language of science.
- Principle 4: Provide opportunities for scaffolded practice.
- Principle 5: Provide multimodal means of accessing science content and expressing language.

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Supports for English learners

5 Principles

- Embedded instructional design
- Additional supports (teacher support tab & differentiation brief)

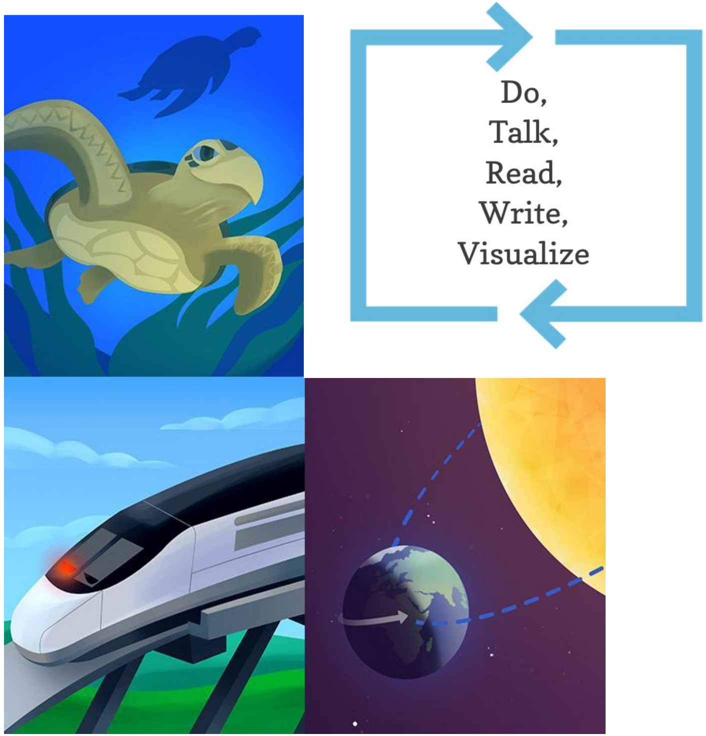
5 principles for supporting English learners

- Principle 1: Leverage and build students' informational background knowledge.
- Principle 2: Capitalize on students' knowledge of language.
- Principle 3: Provide explicit instruction about the language of science.
- Principle 4: Provide opportunities for scaffolded practice.
- Principle 5: Provide multimodal means of accessing science content and expressing language.

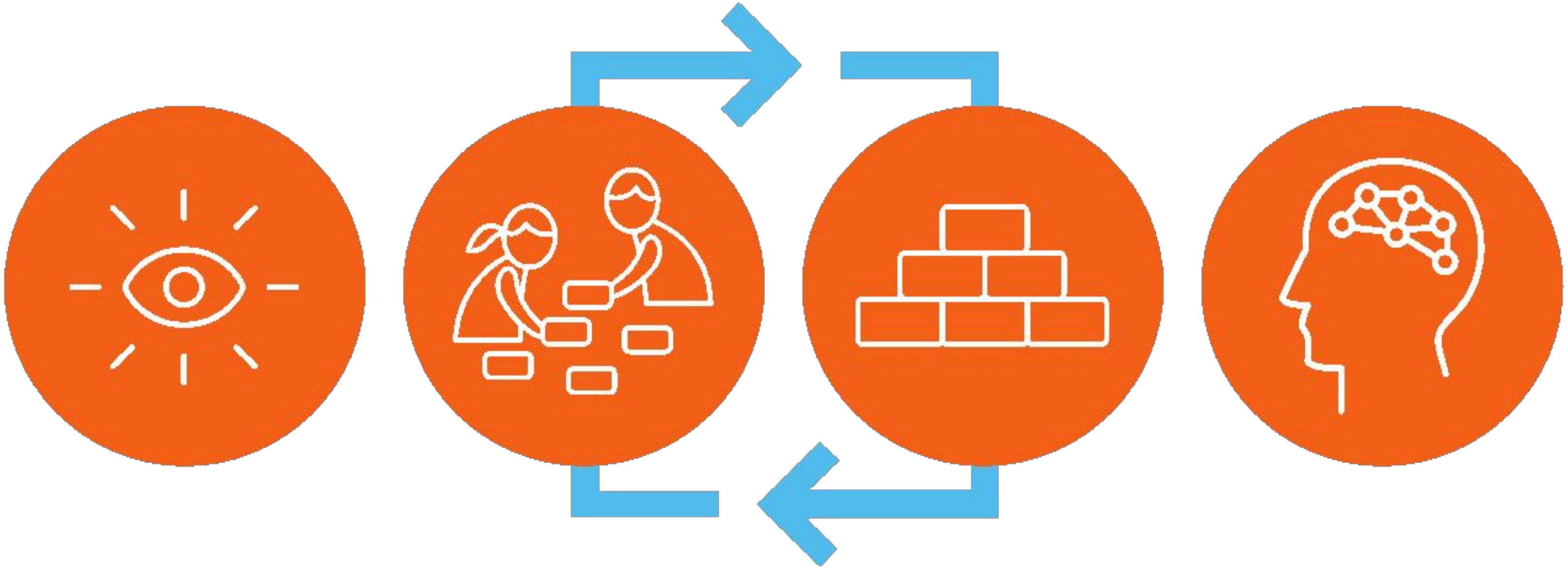
Multimodal, phenomenon-based learning

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

Through problem based deep dives, they gather evidence from multiple sources, using multiple modalities.



Amplify Science approach



Introduce a phenomenon and a related problem

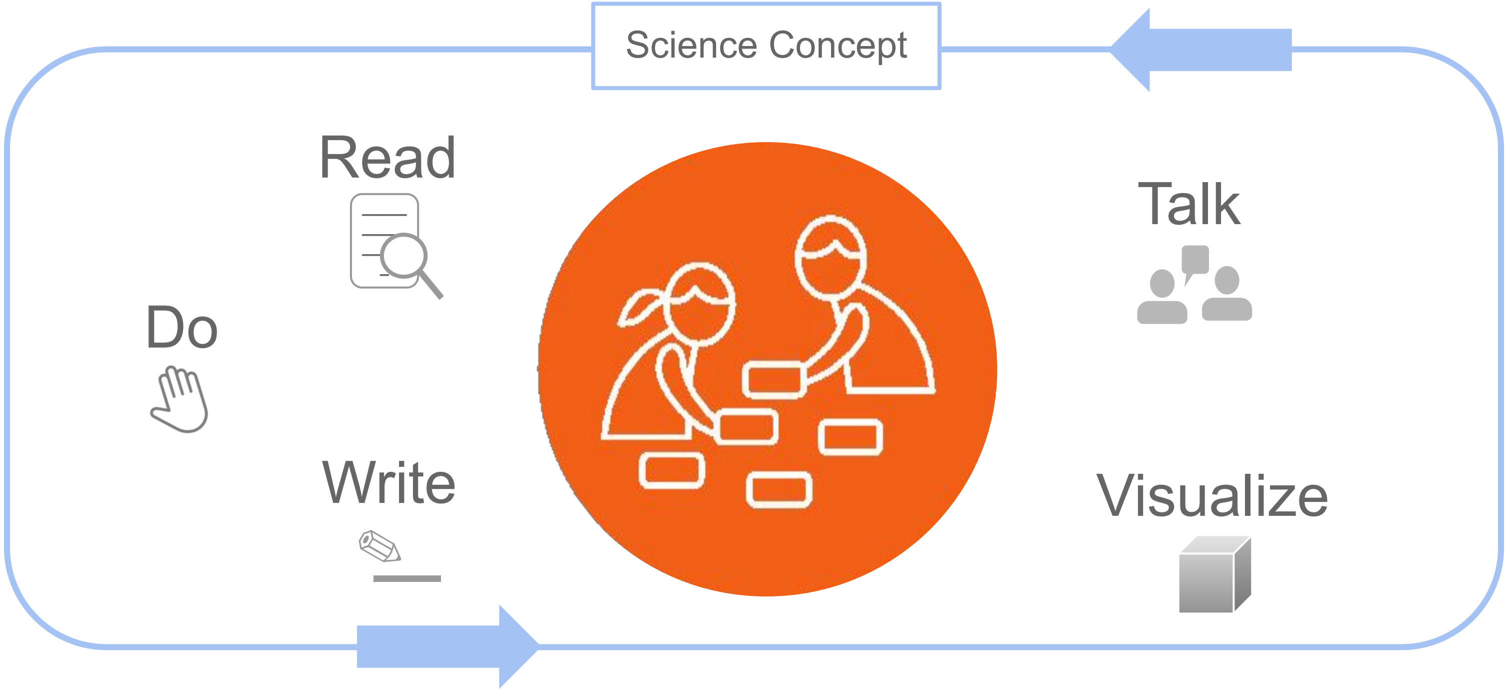
Collect evidence from multiple sources

Build increasingly complex explanations

Apply knowledge to a different context

Multimodal learning

Gathering evidence from different sources



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Expert groups collaborative work time

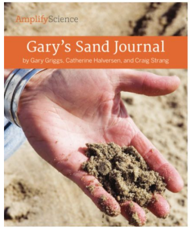
- Form **one group** for each principle (will have to be assigned randomly according to **breakout room**).
- Each group will **read about their principle**.
- Groups will discuss their principle, then create a **Google slide** to highlight key elements of their principle. Be **creative**!
- Each group will **share and discuss** their Google Slide "posters" with the group.

Principle 5: Provide multimodal means of accessing science content and expressing language.

Science Concept

Do

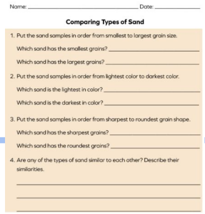
Read



Talk

Work in groups to **compare** the sand samples. Each group member should **complete** their own notebook page.

Write



Name: ______________________ Date: __________

Comparing Types of Sand

1. Put the sand samples in order from smallest to largest grain size.
   Which sand has the smallest grains? ______________
   Which sand has the largest grains? ______________
2. Put the sand samples in order from lightest color to darkest color.
   Which sand is the lightest in color? ______________
   Which sand is the darkest in color? ______________
3. Put the sand samples in order from sharpest to roundest grain shape.
   Which sand has the sharpest grains? ______________
   Which sand has the roundest grains? ______________
4. Are any of the types of sand similar to each other? Describe their similarities.

Visualize

Let's use our observations of this sand to visualize where it comes from.

Where do you think this sand comes from?

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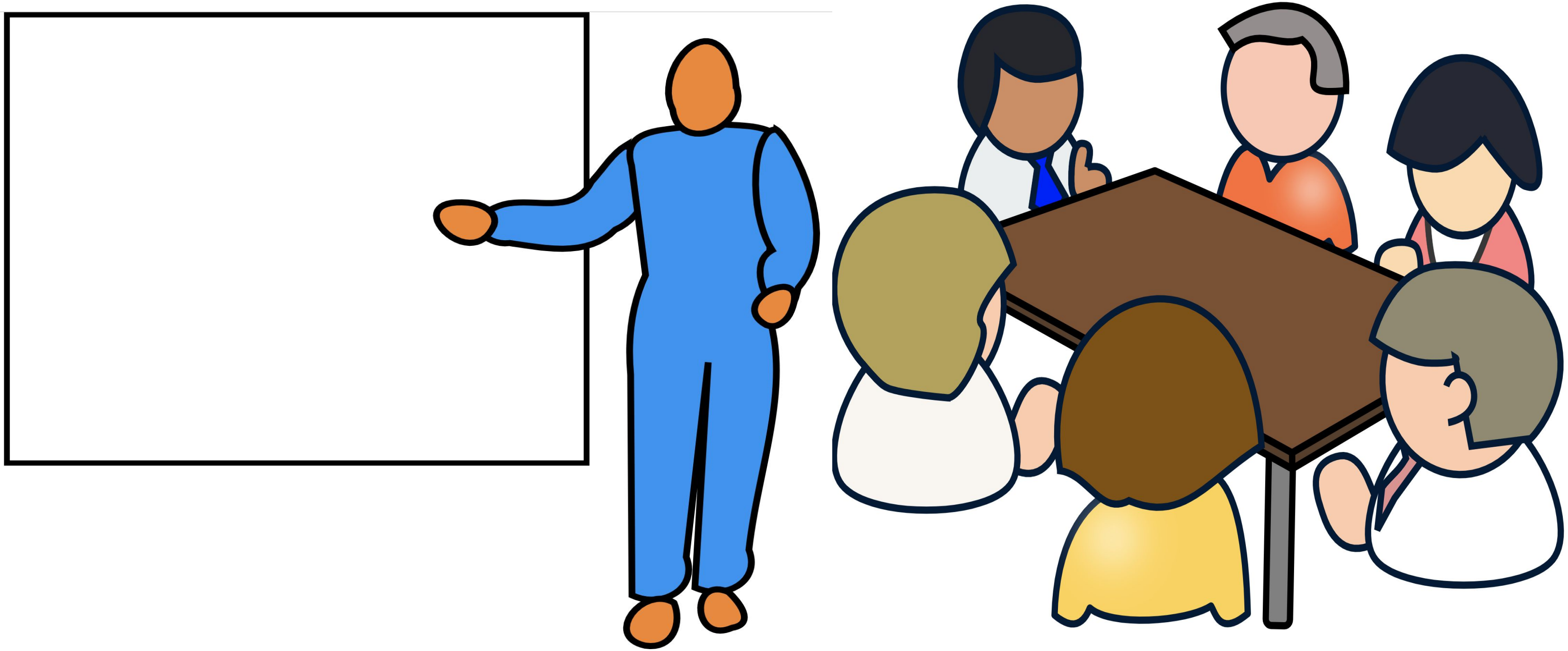
Virtual group presentations round 1

Summarize the key elements of your principle.



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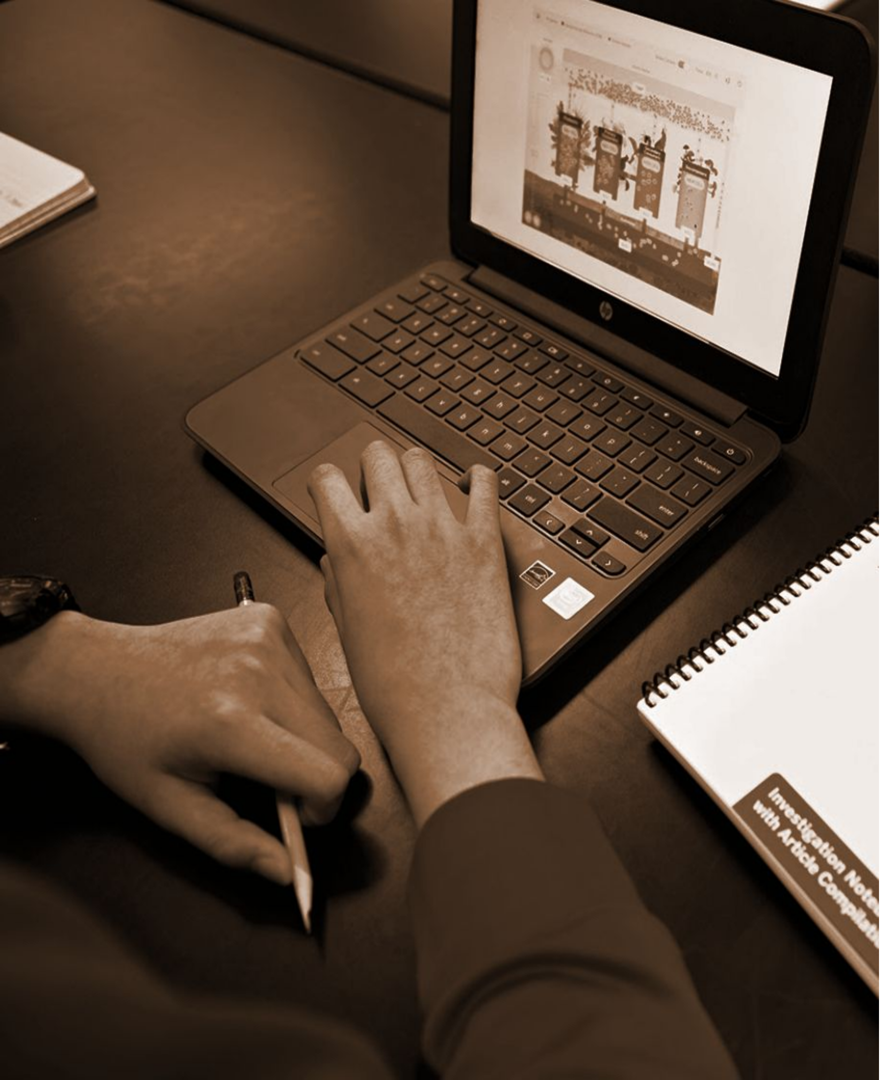
Questions?



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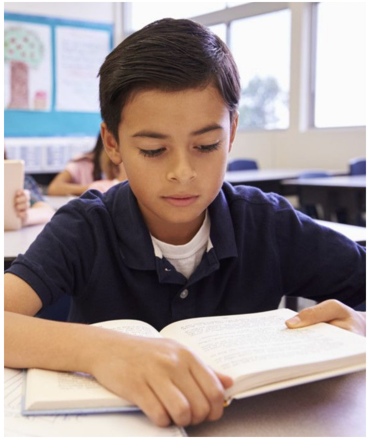
Who are our English learners?



- What language(s) do they speak?
- How long have they been at your school?
- What is their English Proficiency level?
- What are they like as a learner?
- What are they like socially?
- Do they have peers in school who speak their same home language?
- What are their areas of strength?
- Where do they need the most support?

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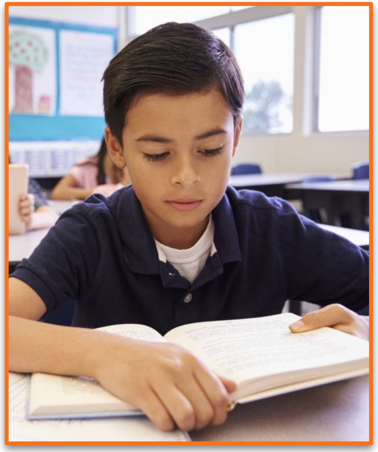
Reflecting with students in mind



Choose **one student** who is an **English learner** who you **currently** teach.

During the **instructional sequence** , reflect on how your focal student is supported by the **embedded instructional design** & additional supports embodied by your **group's principle.**

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Exemplar instructional sequence

During El Niño years, why is Christchurch, New Zealand’s air temperature cooler than usual?

Students act as student climatologists helping a group of farmers near Christchurch, New Zealand figure out the cause of significantly colder air temperatures in New Zealand during the El Niño climate event. To solve the puzzle, students investigate what causes regional climates. They learn about energy from the sun and energy transfer between Earth’s surface and atmosphere, ocean currents, and prevailing winds.

Ocean, Atmosphere, and Climate

@Home Lesson 4

AmplifyScience

Claims

Christchurch, New Zealand's air temperature is cooler than usual during El Niño years because . . .

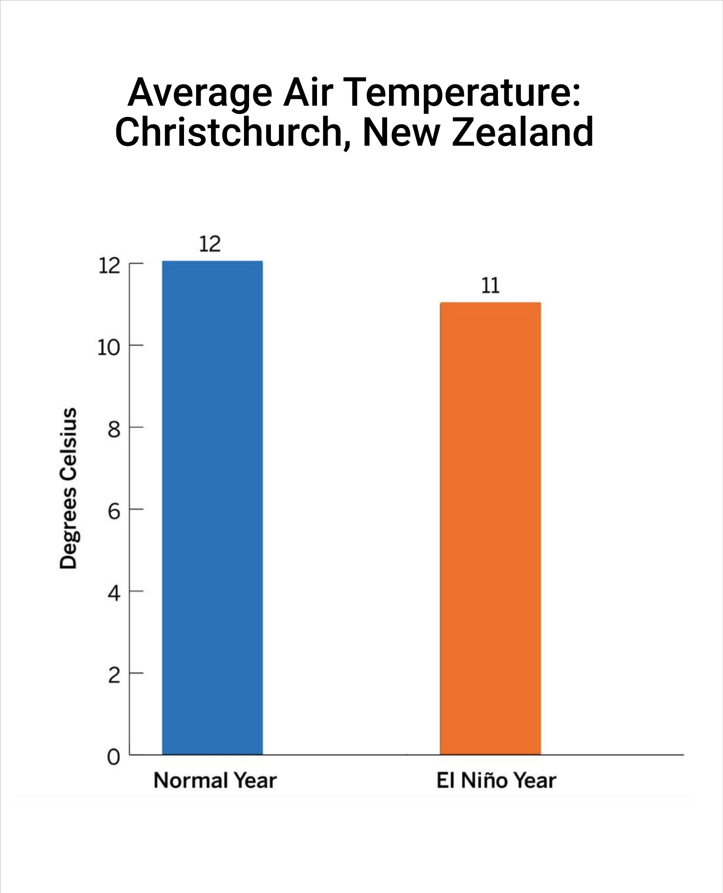
Claim 1: The amount of incoming energy from the sun changes.

Claim 2: Something about the surface changes.

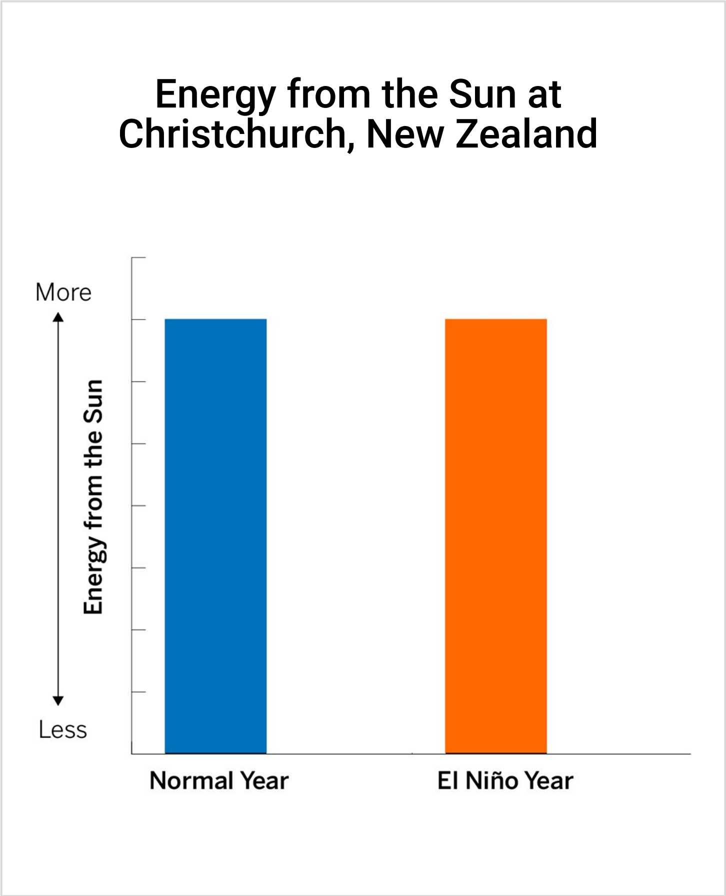
Claim 3: Something about the air changes.

Here are the three claims about why Christchurch's air temperature changes during an El Niño year.

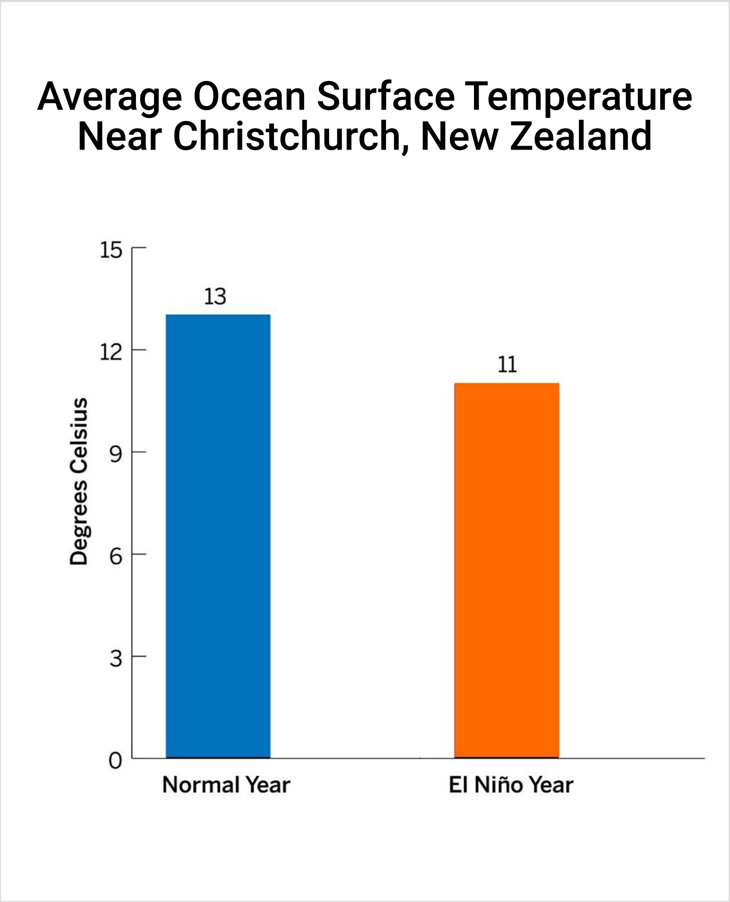
Let's look at some data and see if we can support or eliminate any of the claims.



We know that the air temperature in New Zealand is **cooler** during El Niño years.



This graphs show that energy from the sun stays the same during an El Niño year.



This graphs show that ocean surface temperature decreases during an El Niño year.

Claims

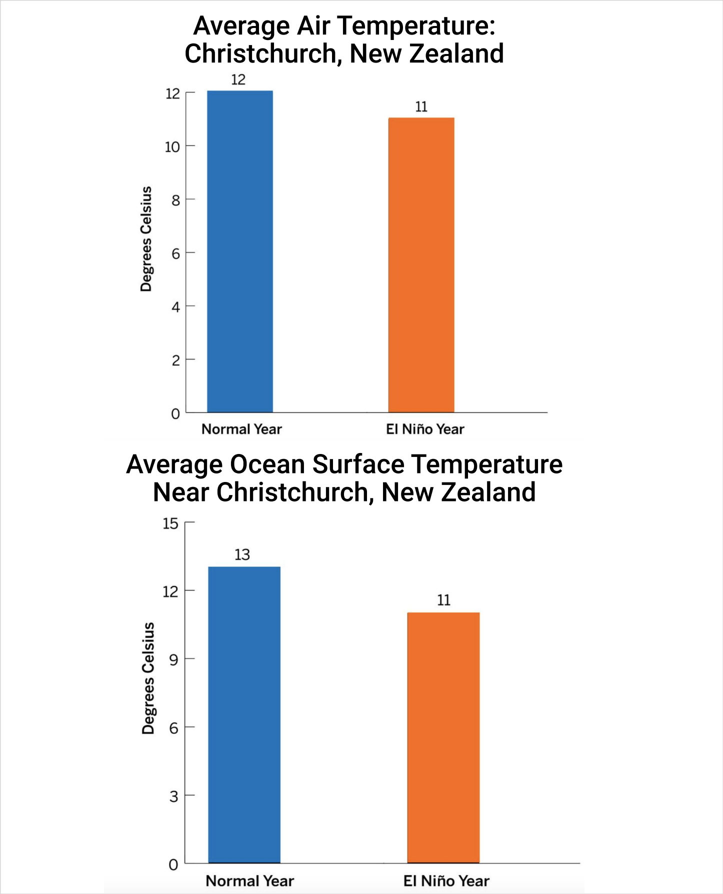
Christchurch, New Zealand's air temperature is cooler than usual during El Niño years because . . .

~~**Claim 1:** The amount of incoming energy from the sun changes.~~

Claim 2: Something about the surface changes.

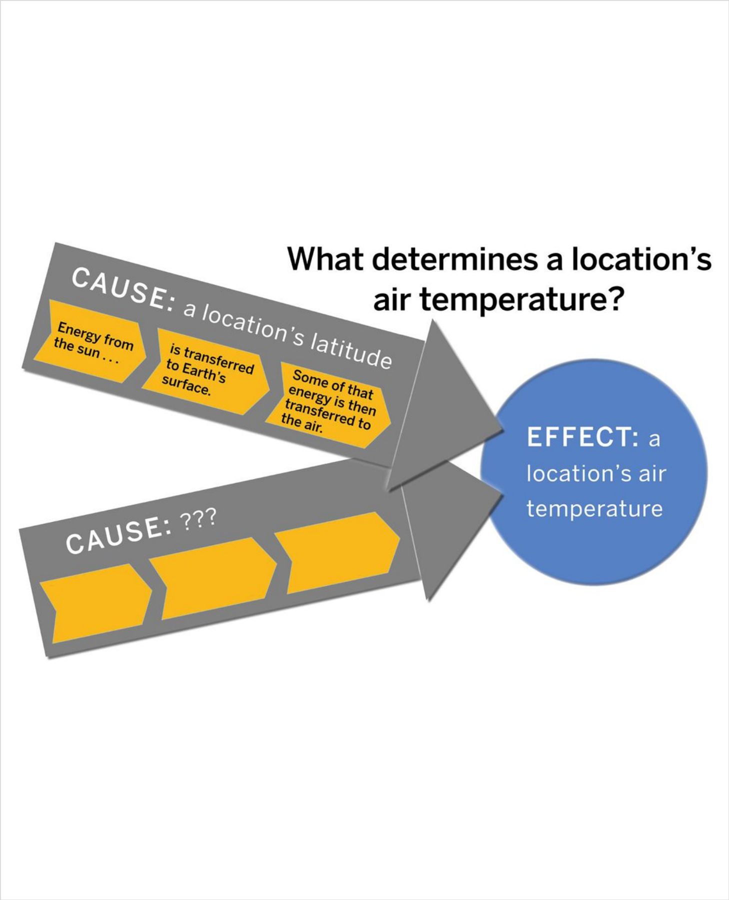
Claim 3: Something about the air changes.

The Energy from the Sun graph shows **no change** in incoming energy from the sun, so it goes against **Claim 1**. We can eliminate that claim.



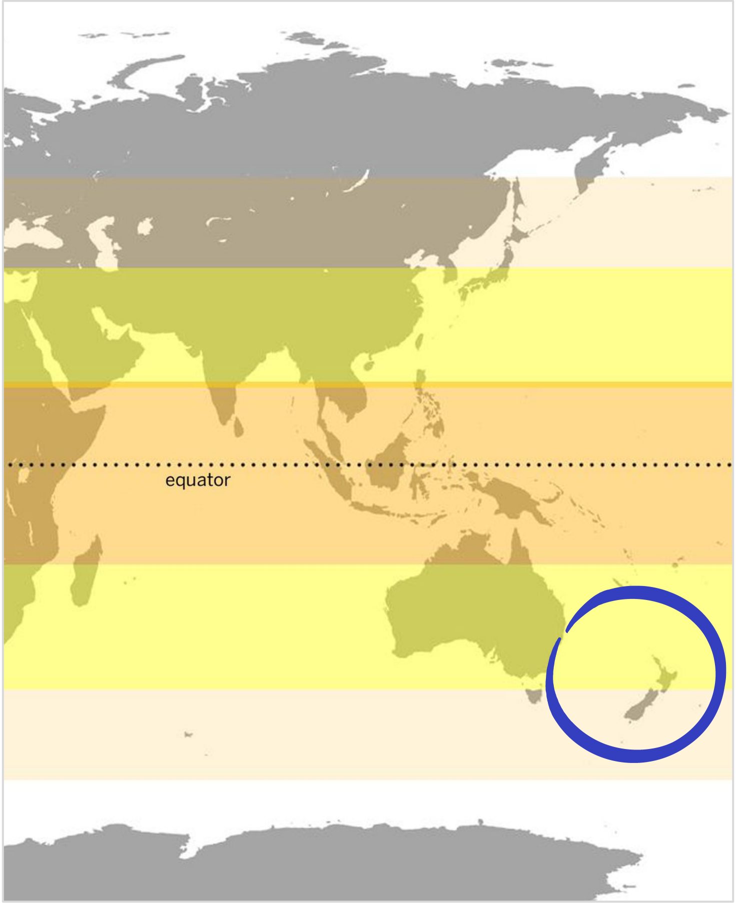
But, both the air temperature and ocean temperature in Christchurch are **cooler during El Niño years.**

Since the latitude does not change we need to consider factors other than latitude to explain this.



We can think of air temperature as an **effect.**

It is the result of some **cause,** or causes, and we are trying to find out what those are.



We know that **latitude** affects a location's air temperature, but this does not explain why Christchurch is cooler during El Niño years—there must be **some other cause.**

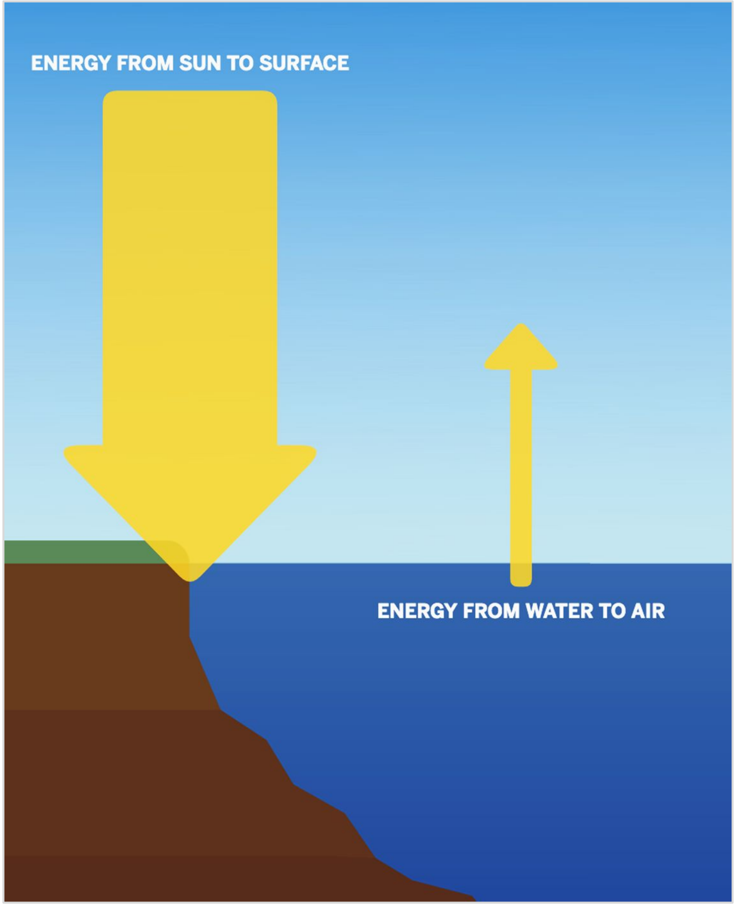
This **key concept** will help us figure out what is happening during El Niño years:

3. An effect may have more than one cause; these may be linked into a chain of causes and effects.

This is the next question we will investigate:

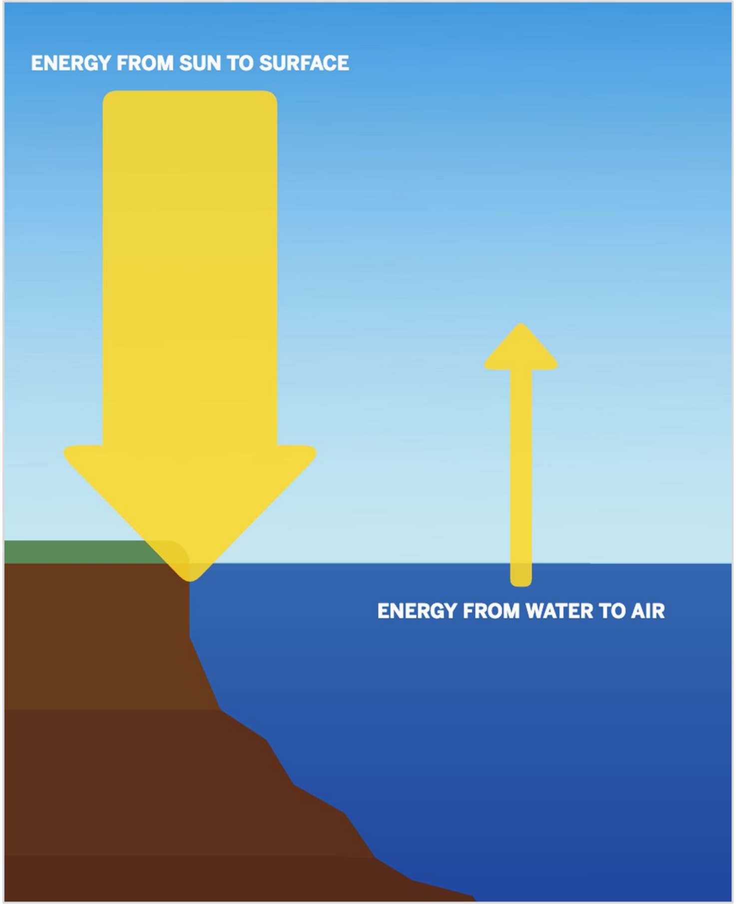
Chapter 2 Question

Other than latitude, what else affects the air temperature of Christchurch?

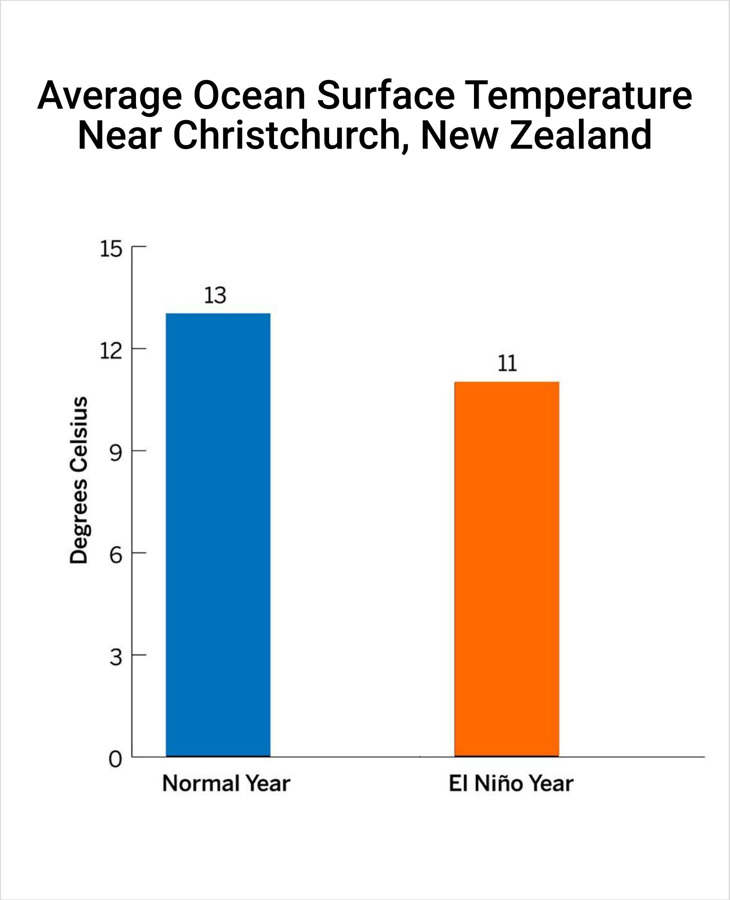


One way air gets energy is when energy is transferred from the ocean to the air.

Over the next few lessons, we will focus on **ocean temperature.**



We will work to figure out how **ocean temperature** might affect the **air temperature** of Christchurch during El Niño years.

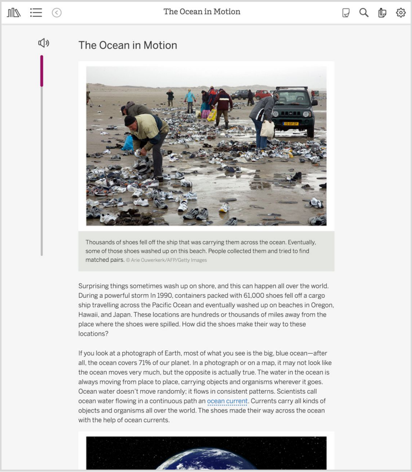


Remember, we saw that the ocean surface temperature near Christchurch is **cooler than normal** during El Niño years. So far, we don’t have information about why that is.

Today, we will investigate this question:

Investigation Question:
Other than latitude, what else affects ocean surface temperature?

Next you will read an article called "The Ocean in Motion." Check with your teacher about how you will access articles in this @Home Unit.


The Ocean in Motion

The Ocean in Motion

Thousands of shoes fell off the ship that was carrying them across the ocean. Eventually, some of those shoes washed up on this beach. People collected them and tried to find matched pairs. © Arie Ouwerkerk/AFP/Getty Images

Surprising things sometimes wash up on shore, and this can happen all over the world. During a powerful storm In 1990, containers packed with 61,000 shoes fell off a cargo ship travelling across the Pacific Ocean and eventually washed up on beaches in Oregon, Hawaii, and Japan. These locations are hundreds or thousands of miles away from the place where the shoes were spilled. How did the shoes make their way to these locations?

If you look at a photograph of Earth, most of what you see is the big, blue ocean—after all, the ocean covers 71% of our planet. In a photograph or on a map, it may not look like the ocean moves very much, but the opposite is actually true. The water in the ocean is always moving from place to place, carrying objects and organisms wherever it goes. Ocean water doesn't move randomly; it flows in consistent patterns. Scientists call ocean water flowing in a continuous path an ocean current. Currents carry all kinds of objects and organisms all over the world. The shoes made their way across the ocean with the help of ocean currents.


Thousands of shoes fell off the ship that was carrying them across the ocean. Eventually, some of those shoes washed up on this beach. People collected them and tried to find matched pairs.

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The ocean covers 71% of Earth and is in constant motion. The movement of the ocean carries energy and objects wherever it goes.

The Ocean in Motion © 2018 The Regents of the University of California. All rights reserved. Image Credit: Arie Ouwerkerk/AFP/Getty Image.

Ocean, Atmosphere, and Climate @Home Lesson 4

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The Ocean in Motion

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Kiri Parata, the director of the New Zealand Farm Council, sent us the article, “The Ocean in Motion.” Reading this will help you determine what factors other than latitude might be affecting Christchurch’s air temperature.

Remember, in this class we use an **Active Reading** approach when we read. You will use this approach today when you read the article about the movement of the ocean.

Science reading can be especially complex. It is important to read science texts **actively**, so you really understand what you read. Active Reading helps you to pay attention and learn when you read.

The following slides show how a 6th grade student named **Reilly made annotations** on a digital version of the article, "The Ocean in Motion."

You will see **what Reilly was thinking** about when reading. You will also see each **annotation** that they made. Making annotations is part of the Active Reading approach to reading science texts.

By looking at Reilly's annotations you will learn more about:

- how to **annotate** to show your thinking.
- some strategies you can use, such as asking questions, making connections, and identifying challenging words.


Major Ocean Currents

moving from place to place, carrying objects and organisms wherever it goes. Ocean water

Thousands of shoes fell off the ship that was carrying them across the ocean. Eventually, some of those shoes washed up on this beach. People collected them and tried to find matched pairs.

The Ocean in Motion

Surprising things sometimes wash up on shore, and this can happen all over the world. During a powerful storm In 1990, containers packed with 61,000 shoes fell off a cargo ship travelling across the Pacific Ocean and eventually washed up on beaches in Oregon, Hawaii, and Japan. These locations are hundreds or thousands of miles away from the place where the shoes were spilled. How did the shoes make their way to these locations?

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Ocean, Atmosphere, and Climate @Home Lesson 4

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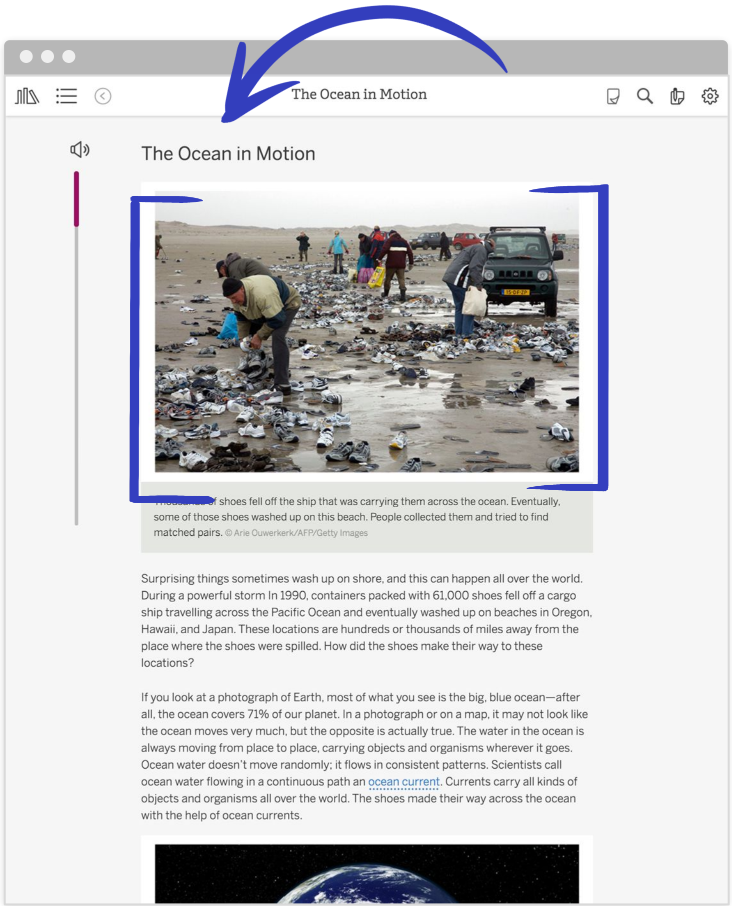
You can **follow along** in your article as you see what Reilly did with their annotations on the next slides. You can also add your own annotations.

"The Ocean in Motion" article or [Lesson 2.1, Activity 2]


The Ocean in Motion

The Ocean in Motion

…of shoes fell off the ship that was carrying them across the ocean. Eventually, some of those shoes washed up on this beach. People collected them and tried to find matched pairs. © Arie Ouwerkerk/AFP/Getty Images

Surprising things sometimes wash up on shore, and this can happen all over the world. During a powerful storm In 1990, containers packed with 61,000 shoes fell off a cargo ship travelling across the Pacific Ocean and eventually washed up on beaches in Oregon, Hawaii, and Japan. These locations are hundreds or thousands of miles away from the place where the shoes were spilled. How did the shoes make their way to these locations?

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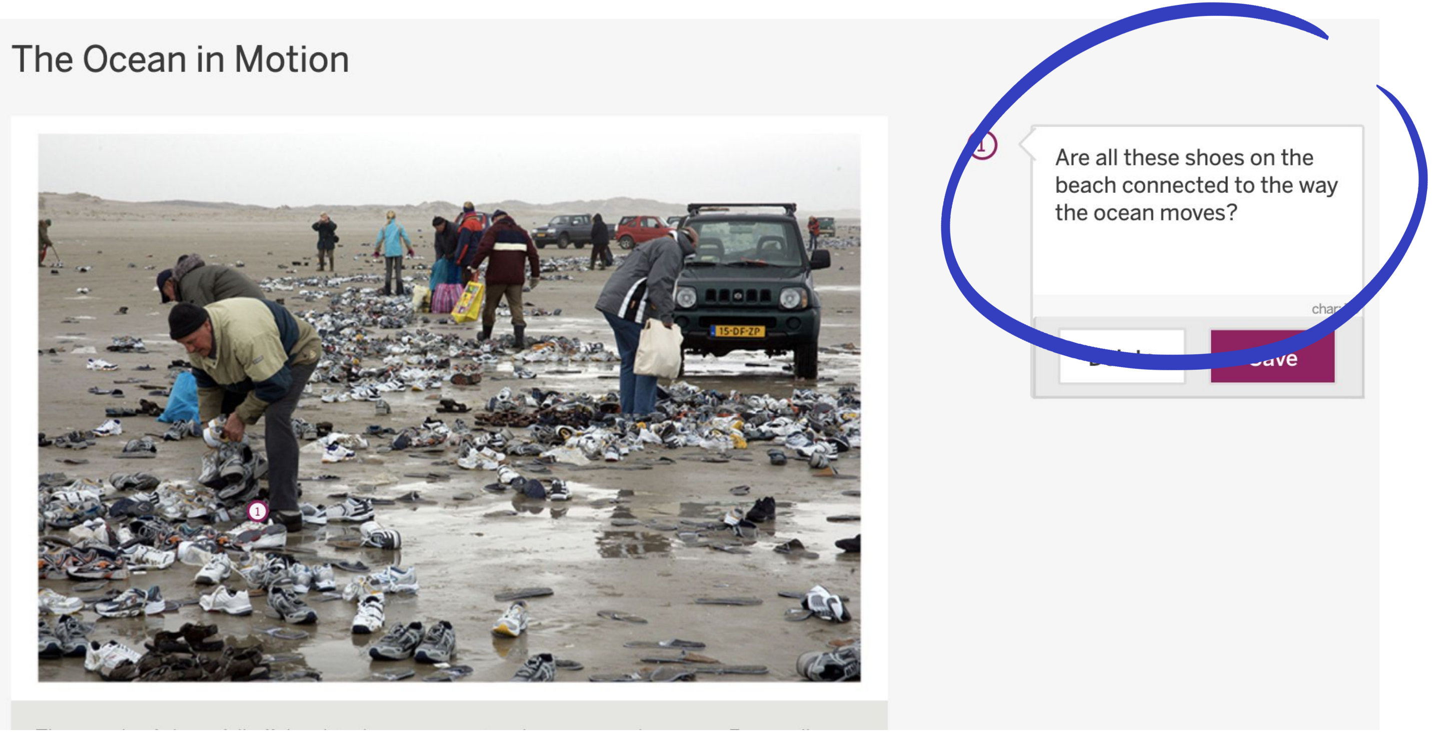
First, Reilly read the **title** of the article: "The Ocean in Motion."

Reilly also **examined the photo** of people picking up shoes on the beach.

Reilly thought, “The photo makes me think that the shoes were in the ocean and then **washed ashore.** But **why** would they be in the ocean in the first place, and **how** did they get to shore? The title of this article makes me think that the explanation for all these shoes on the beach must somehow be **connected to the ocean’s movement.**”

Reilly wanted to remember this important **connection and question**, so they made this annotation:

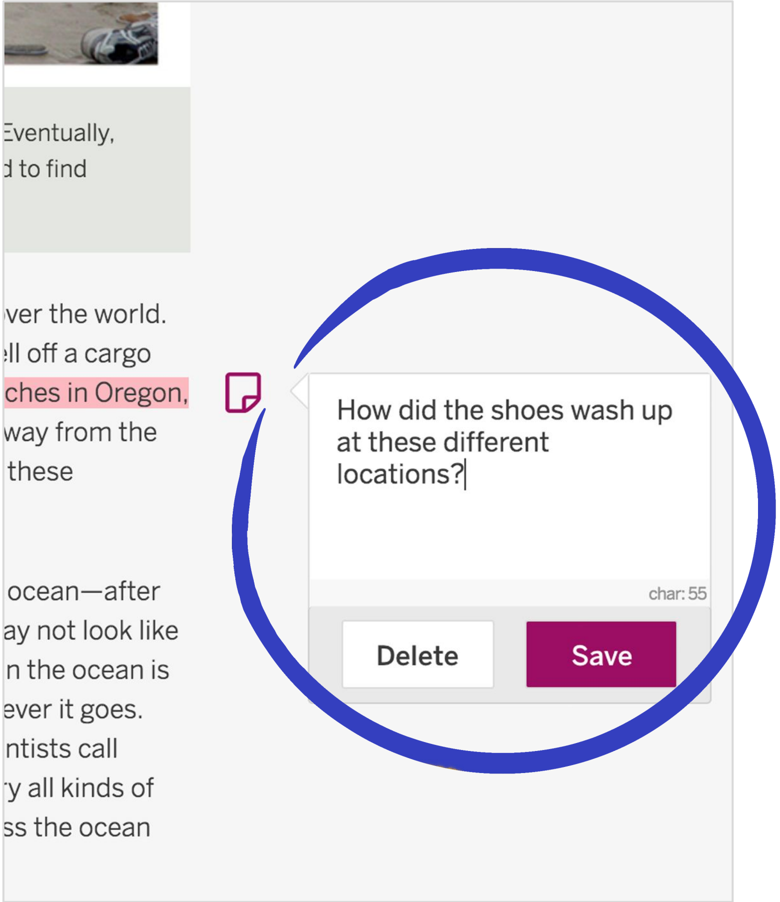


Next, Reilly read the **first paragraph,** then stopped to think about what they read.

Surprising things sometimes wash up on shore, and this can happen all over the world. During a powerful storm In 1990, containers packed with 61,000 shoes fell off a cargo ship travelling across the Pacific Ocean and eventually washed up on beaches in Oregon, Hawaii, and Japan. These locations are hundreds or thousands of miles away from the place where the shoes were spilled. How did the shoes make their way to these locations?

Reilly thought, “Thinking about this paragraph, I wonder how these shoes ended up in these places? I also find it interesting that these shoes washed up in three different places that are far apart.”

“I’ll write a question that will help me remember this and will remind me to come back here, if I find an answer later.”



Reilly added this question near the first paragraph.

moving from place to place, carrying objects and organisms wherever it goes. Ocean water doesn't move randomly; it flows in consistent patterns. Scientists call ocean water flowing in a continuous path an ocean current. Currents carry all kinds of objects and organisms all over the world. The shoes made their way across the ocean with the help of ocean currents.

In addition to objects and organisms, ocean currents carry energy from the sun all around Earth. In fact, the motion of water around Earth's ocean is one of the main ways energy moves around the planet. Energy from the sun is transferred to the ocean surface. As the currents move across Earth's surface, the energy moves with them.

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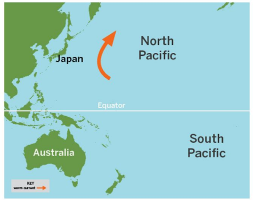
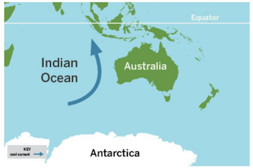


A warm current moving north from the equator keeps Japan warmer than other places at the same latitude.



A cold current traveling north from Antarctica keeps the western coast of Australia cooler than other locations at the same latitude.

In this article, the maps play a very important role in helping you understand the text.

As you read, make sure to **carefully examine** each map and **make annotations** to record your thinking.

Active Reading Guidelines

1. Think carefully about what you read. Pay attention to your own understanding.
2. As you read, annotate the text to make a record of your thinking. Highlight challenging words and add notes to record questions and make connections to your own experience.
3. Examine all visual representations carefully. Consider how they go together with the text.
4. After you read, discuss what you have read with others to help you better understand the text.

How will you use these guidelines when you read today?


Major Ocean Currents

Thousands of shoes fell off the ship that was carrying them across the ocean. Eventually, some of those shoes washed up on this beach. People collected them and tried to find matched pairs.

The Ocean in Motion

Surprising things sometimes wash up on shore, and this can happen all over the world. During a powerful storm In 1990, containers packed with 61,000 shoes fell off a cargo ship travelling across the Pacific Ocean and eventually washed up on beaches in Oregon, Hawaii, and Japan. These locations are hundreds or thousands of miles away from the place where the shoes were spilled. How did the shoes make their way to these locations?

If you look at a photograph of Earth, most of what you see is the big, blue ocean—after all, the ocean covers 71% of our planet. In a photograph or on a map, it may not look like the ocean moves very much, but the opposite is actually true. The water in the ocean is always

The ocean covers 71% of Earth and is in constant motion. The movement of the ocean carries energy and objects wherever it goes.

Ocean, Atmosphere, and Climate @Home Lesson 4

Go to the article, "The Ocean in Motion."

Read and annotate the article.

"The Ocean in Motion" article or Lesson 2.1, Activity 2

Thousands of shoes fell off the ship that was carrying them across the ocean. Eventually, some of those shoes washed up on this beach. People collected them and tried to find matched pairs.

The Ocean in Motion

Surprising things sometimes wash up on shore, and this can happen all over the world. During a powerful storm In 1990, containers packed with 61,000 shoes fell off a cargo ship travelling across the Pacific Ocean and eventually washed up on beaches in Oregon, Hawaii, and Japan. These locations are hundreds or thousands of miles away from the place where the shoes were spilled. How did the shoes make their way to these locations?

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The ocean covers 71% of Earth and is in constant motion. The movement of the ocean carries energy and objects wherever it goes.

Annotations help you **keep track of**, and **remember,** your thinking.

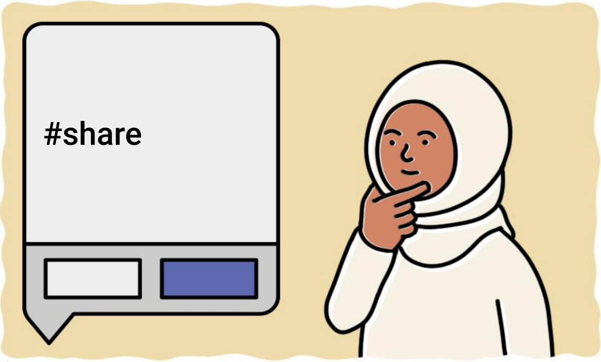
The next step in Active Reading is **discussing** your annotations. Check with your teacher about how to choose your partner for this activity.

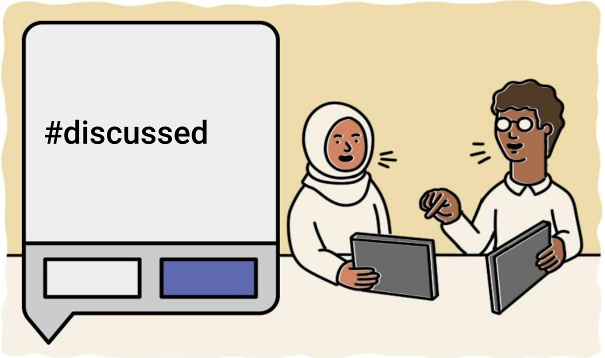
Before you discuss your annotations, review the instructions on the next slide, which explain how to discuss with your partner. Then, begin your discussion.

Discussing Annotations

1. **Choose** several interesting questions, connections, or ideas to share with a partner. Tag each one with **#share.**

2. **Talk about** your chosen annotations with a partner. Tag each annotation with **#discussed** if you were able to resolve your questions, or if you discussed a connection or idea.





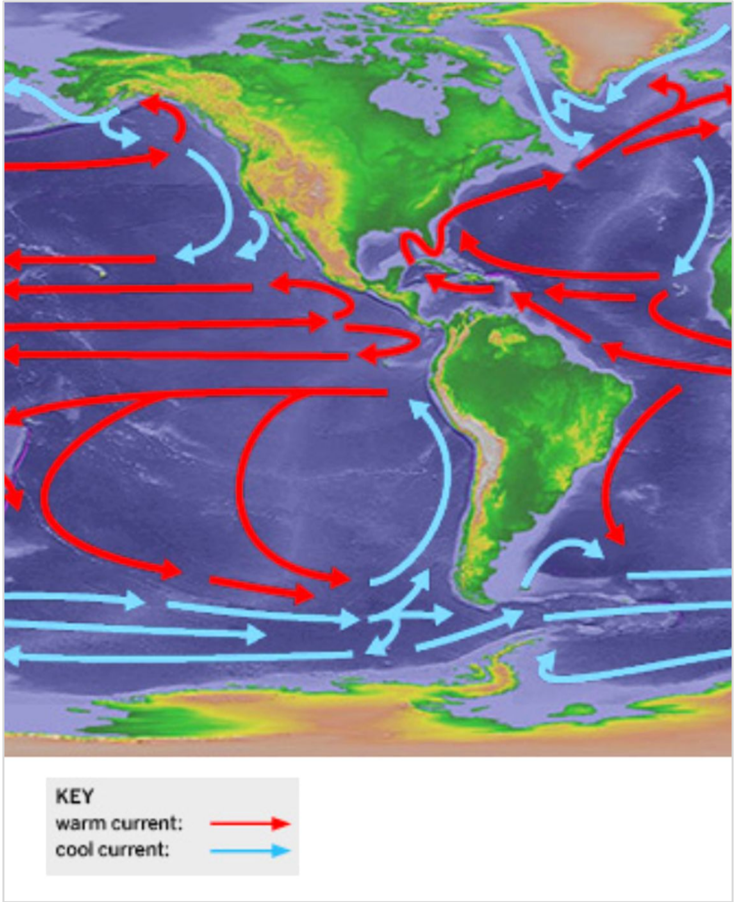
What **interesting** or **unanswered questions** do you still have about the article after talking about your annotations with a partner?

The habit of annotating does not develop overnight. It takes time. Sophisticated readers are always **practicing reading actively.**

The article introduced this term.

ocean current

ocean water flowing in a continuous path



In the article you read today, you saw this map that shows warm and cool ocean currents.

You will learn more about ocean currents in the next lesson.

End of @Home Lesson

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Ocean, Atmosphere, and Climate

@Home Lesson 5

AmplifyScience

Remember, we've been investigating this question:

Investigation Question:
Other than latitude, what else affects ocean surface temperature?

Thousands of shoes fell off the ship that was carrying them across the ocean. Eventually, some of those shoes washed up on this beach. People collected them and tried to find matched pairs.

The Ocean in Motion

Surprising things sometimes wash up on shore, and this can happen all over the world. During a powerful storm In 1990, containers packed with 61,000 shoes fell off a cargo ship travelling across the Pacific Ocean and eventually washed up on beaches in Oregon, Hawaii, and Japan. These locations are hundreds or thousands of miles away from the place where the shoes were spilled. How did the shoes make their way to these locations?

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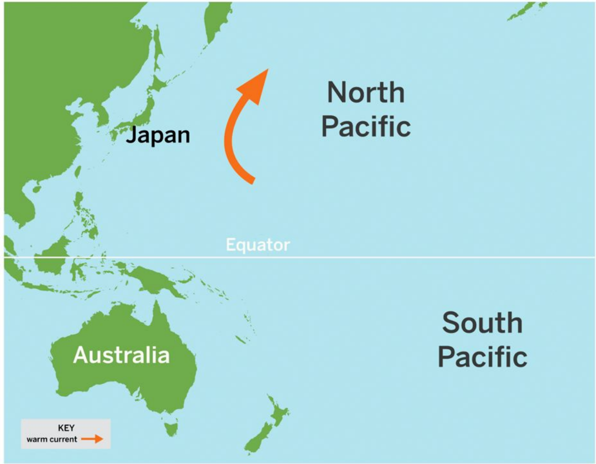
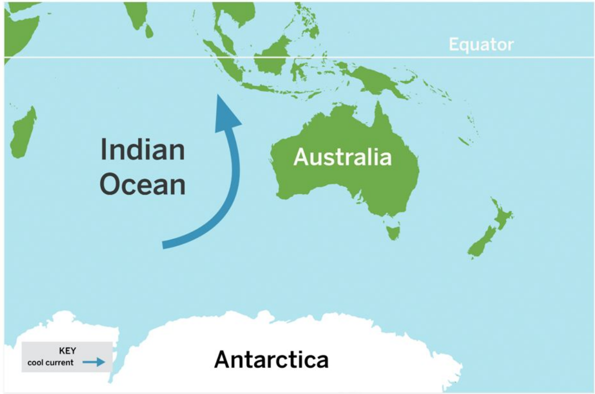
The ocean covers 71% of Earth and is in constant motion. The movement of the ocean carries energy and objects wherever it goes.

Today, we will return to this article with a **new purpose**—understanding factors other than latitude that can affect **ocean surface temperature**.

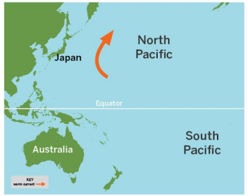




As you reread today, you'll focus on the **maps.**

You will look at each map closely and pay attention to how it works together with the text.

moving from place to place, carrying objects and organisms wherever it goes. Ocean water doesn't move randomly; it flows in consistent patterns. Scientists call ocean water flowing in a continuous path an ocean current. Currents carry all kinds of objects and organisms all over the world. The shoes made their way across the ocean with the help of ocean currents.



A warm current moving north from the equator keeps Japan warmer than other places at the same latitude.

In addition to objects and organisms, ocean currents carry energy from the sun all around Earth. In fact, the motion of water around Earth's ocean is one of the main ways energy moves around the planet. Energy from the sun is transferred to the ocean surface. As the currents move across Earth's surface, the energy moves with them.

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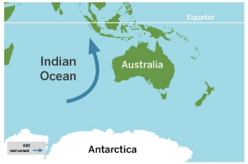


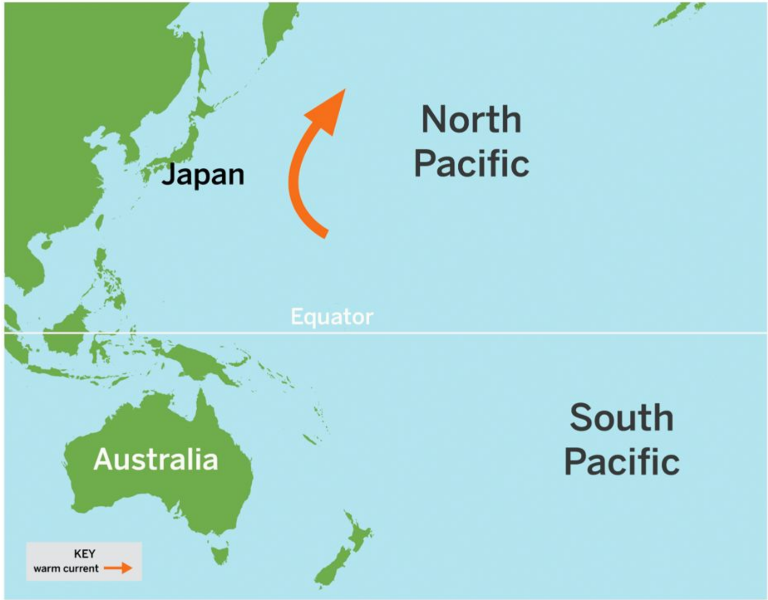
A cold current traveling north from Antarctica keeps the western coast of Australia cooler than other locations at the same latitude.

You'll begin reading with **paragraph 4** and continue through **paragraph 6**.

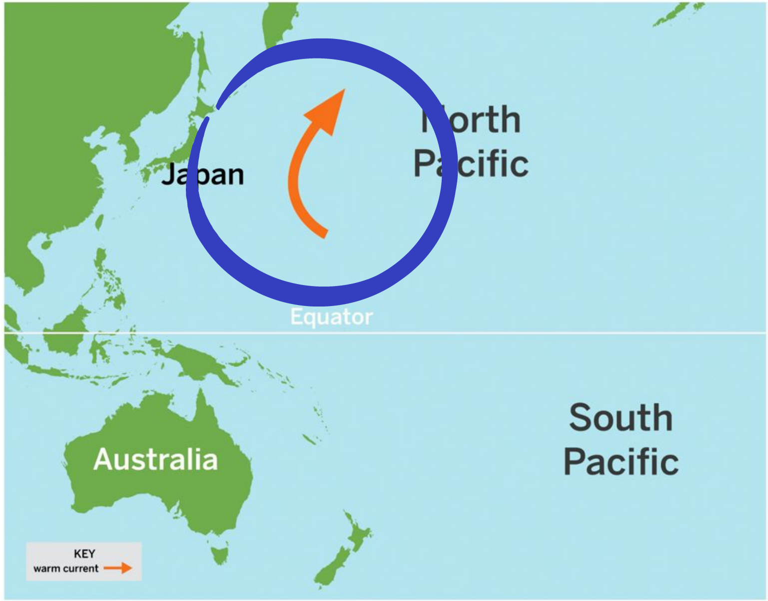
As you read, you will gather information to help answer our **Investigation Question:**

Other than latitude, what else affects ocean surface temperature?

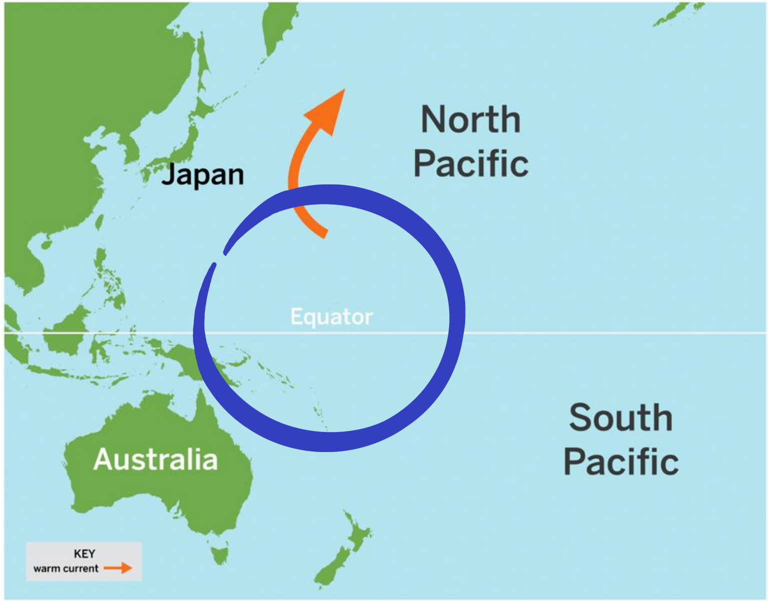
The next few slides show how Reilly annotated one of the **maps** in the article as they gathered information from the text.



Before rereading, Reilly thought, “I know we are trying to figure out what things **other than latitude** affect ocean surface temperature. I am going to use the map to help answer this question.”

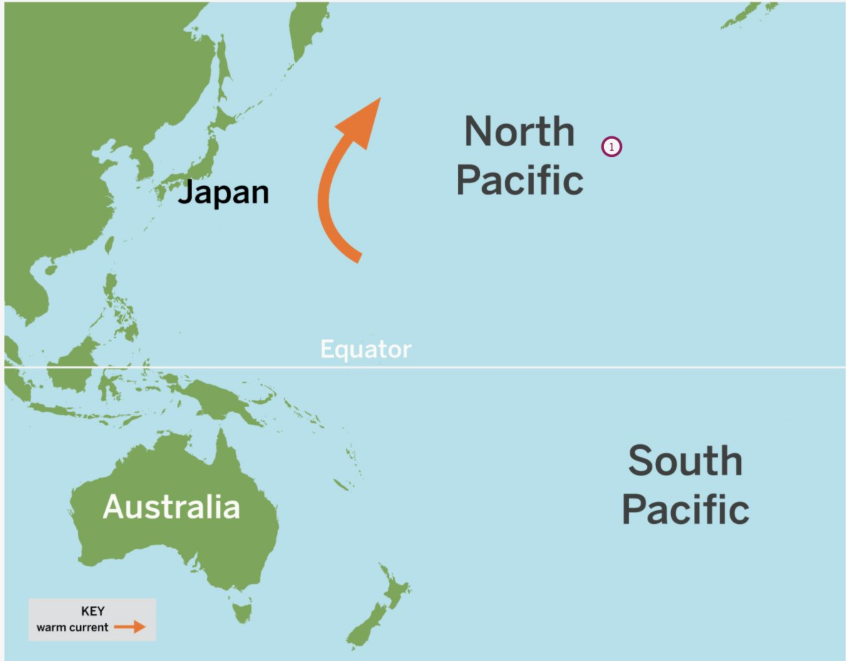


Reilly first looked at the **arrow** on the map of the North Pacific currents and thought, “I know that arrows represent the **direction of currents.** Currents are ocean water that flows in a continuous path.”

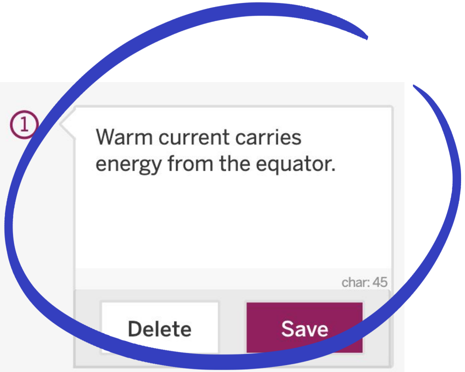


"I see that the current shown here starts close to the **equator**. Locations near the equator have the **most incoming energy** from the sun. I am going to make an annotation near this map to remind me that this current carries energy from the equator."

Reilly added this annotation:



A warm current moving north from the equator keeps Japan warmer than other places at the same latitude.



moving from place to place, carrying objects and organisms wherever it goes. Ocean water doesn't move randomly; it flows in consistent patterns. Scientists call ocean water flowing in a continuous path an ocean current. Currents carry all kinds of objects and organisms all over the world. The shoes made their way across the ocean with the help of ocean currents.

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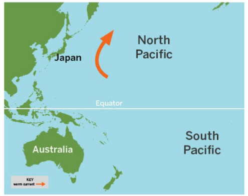

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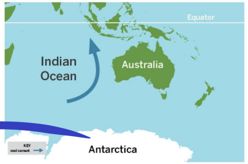
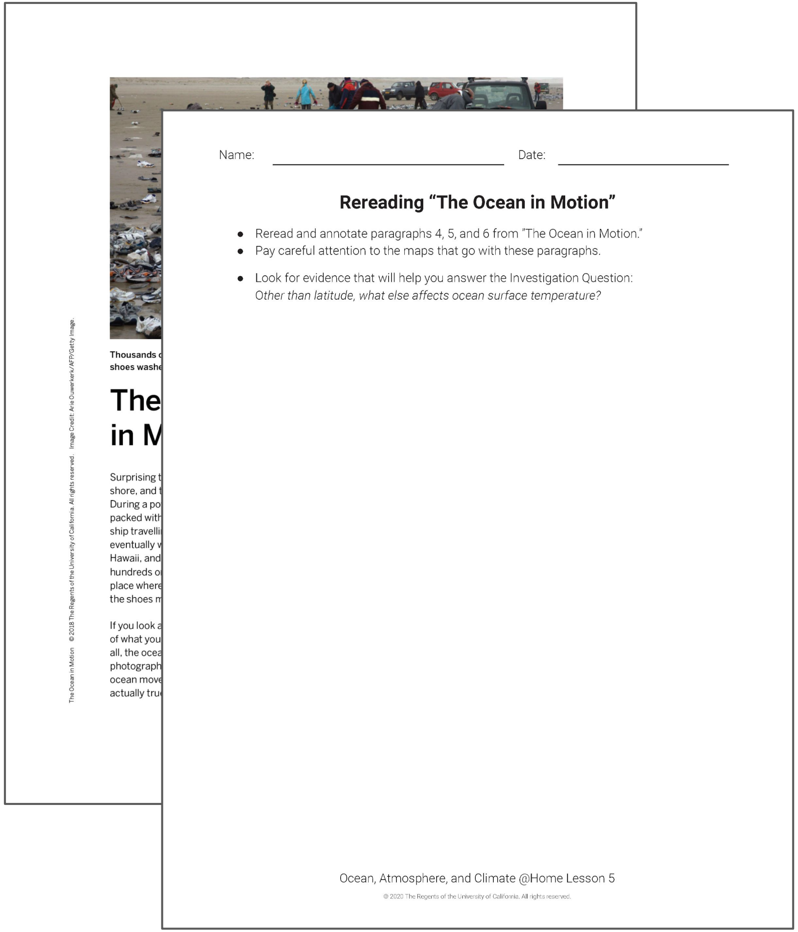


A cold current traveling north from Antarctica keeps the western coast of Australia cooler than other locations at the same latitude.

Next, you will reread part of the article yourself. As you read and annotate, don't forget to go **back and forth** between the maps and the paragraphs that go with them.


Name: ____________ Date: ____________

Rereading "The Ocean in Motion"

- Reread and annotate paragraphs 4, 5, and 6 from "The Ocean in Motion."
- Pay careful attention to the maps that go with these paragraphs.
- Look for evidence that will help you answer the Investigation Question: *Other than latitude, what else affects ocean surface temperature?*

Ocean, Atmosphere, and Climate @Home Lesson 5

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Find your copy of the "The Ocean in Motion" article from Lesson 4 and go to the Rereading of "The Ocean in Motion" activity.

Reread and **highlight** information that helps to answer the question, *Other than latitude, what else affects ocean surface temperature?*

"The Ocean in Motion" article, the **Rereading of "The Ocean in Motion"** page or Lesson 2.2, Activity 2

What evidence did you find in the article to help answer our question:

Investigation Question:
Other than latitude, what else affects ocean surface temperature?

The **key concept** on the next slide **summarizes important ideas** from “The Ocean in Motion” that help us to answer the question:

Other than latitude, what else affects ocean surface temperature?

Key Concept

4. When an ocean current comes from the equator, it brings warmer-than-expected water to the places it passes.

   When an ocean current comes from a pole, it brings colder-than-expected water to the places it passes.

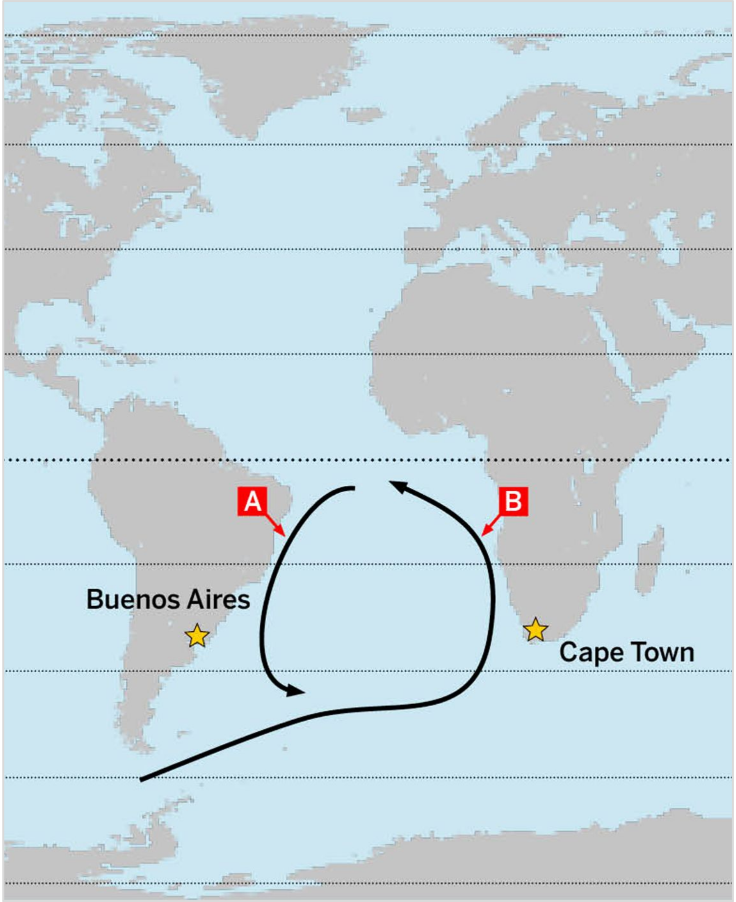
In the next activity, we will again examine maps to collect data. You will need a partner for this activity.

Your partner could be a classmate
on the phone or someone at home with you.

You will begin by looking carefully at the map on the next slide.

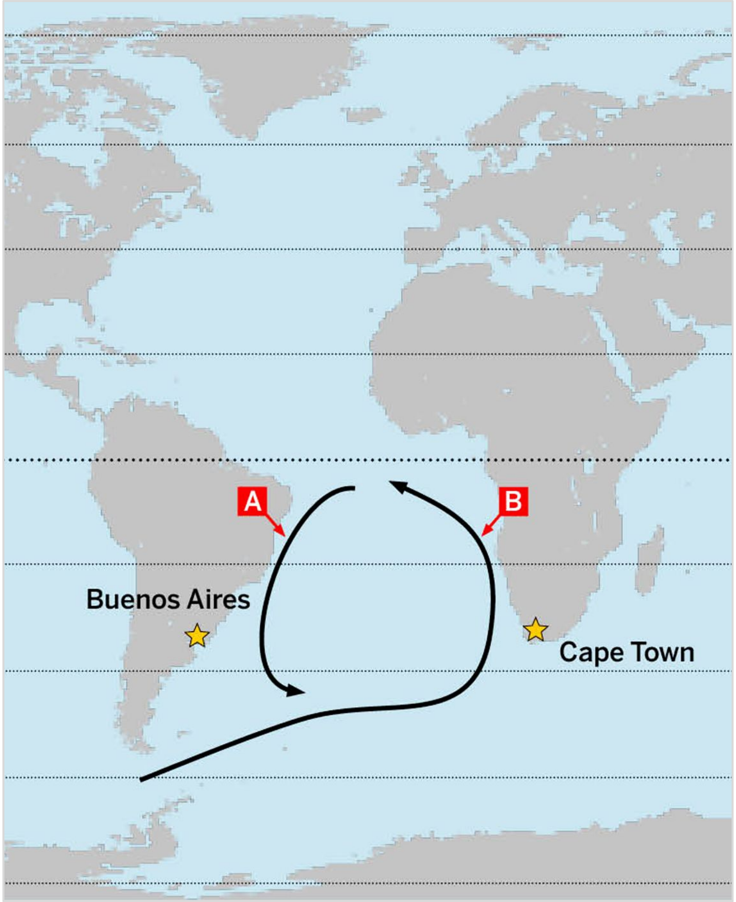
Do you think the ocean surface temperature near Buenos Aires is the same or different from the ocean surface temperature near Cape Town?


80º N
60º N
40º N
20º N
0º
equator
20º S
40º S
60º S
80º S
Buenos Aires
Cape Town



We've determined that **currents** affect ocean surface temperature.

Let's take a closer look at the currents that pass near Buenos Aires and Cape Town.

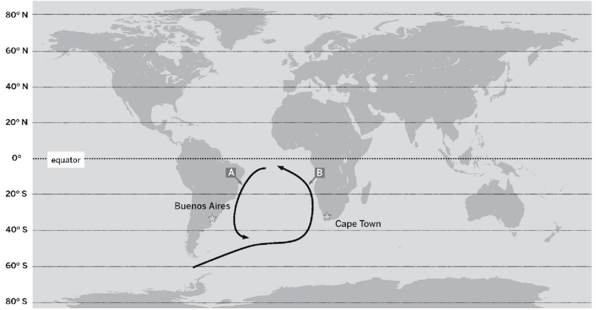


Comparing the currents will help us determine whether these currents cause the ocean surface temperature near Buenos Aires and Cape Town to be the same or different. Remember, the arrows show us the direction of the current.

Name: ______________________ Date: ________________

Investigating Ocean Surface Temperature: Part 1

Currents Near Buenos Aires and Cape Town



Compare the two ocean currents (A and B) shown on the map. Match the current with the phrase that best describes it.

Current A (near Buenos Aires) _______________. (circle one)

carries no energy **carries more energy** **carries the same energy** **carries less energy**

Current B (near Cape Town) _______________. (circle one)

carries no energy **carries more energy** **carries the same energy** **carries less energy**

Discuss the following questions with your partner:

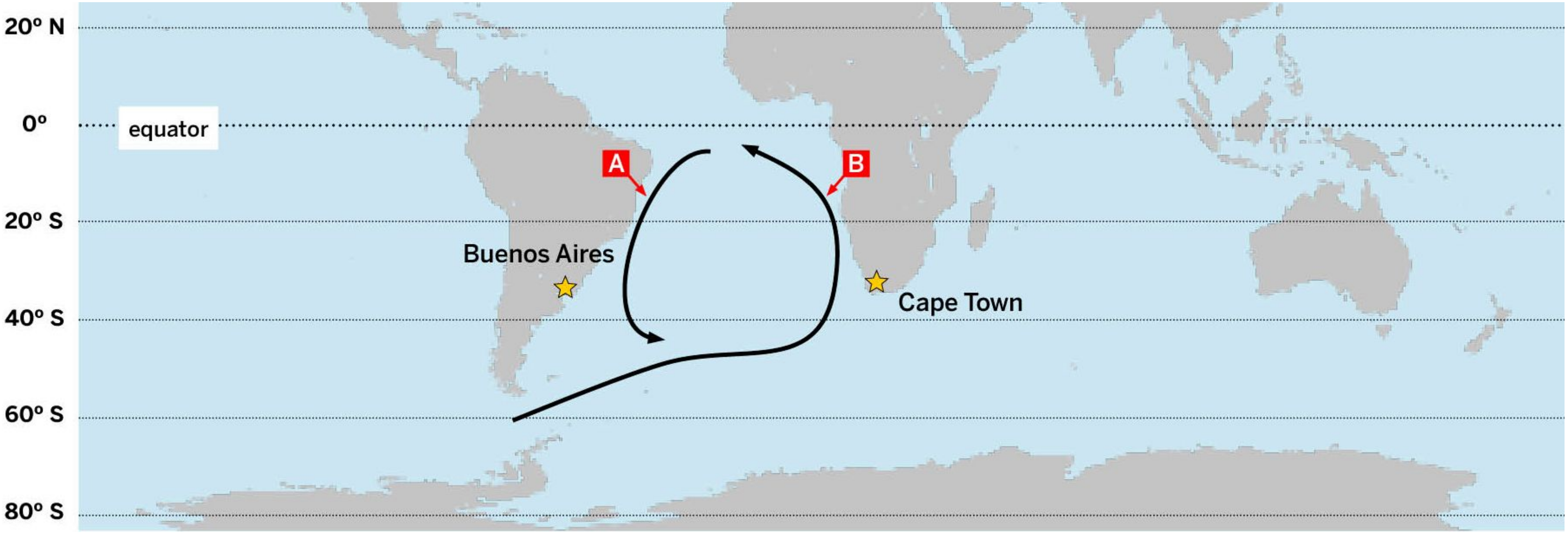
- What does the map show?
- Does the map provide evidence that the currents near Buenos Aires and Cape Town cause the ocean surface temperature at each location to be the same or different?

Go to the **Investigating Ocean Surface Temperature: Part 1** activity.

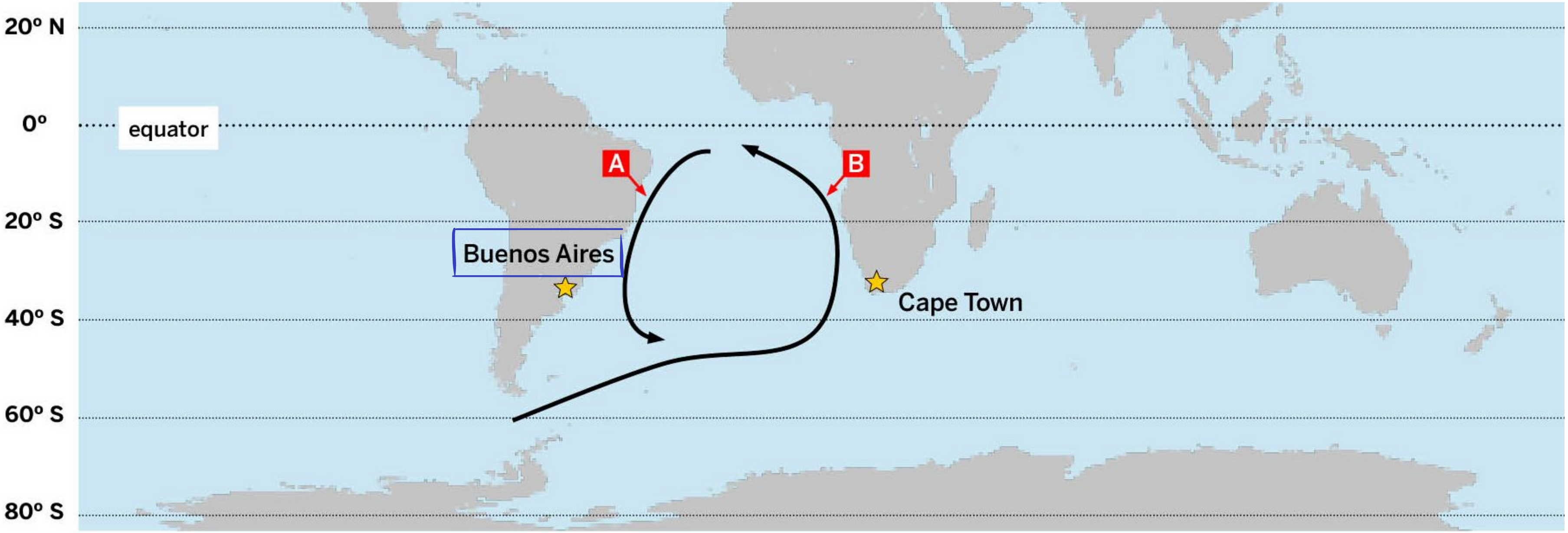
Discuss the map to answer the questions.

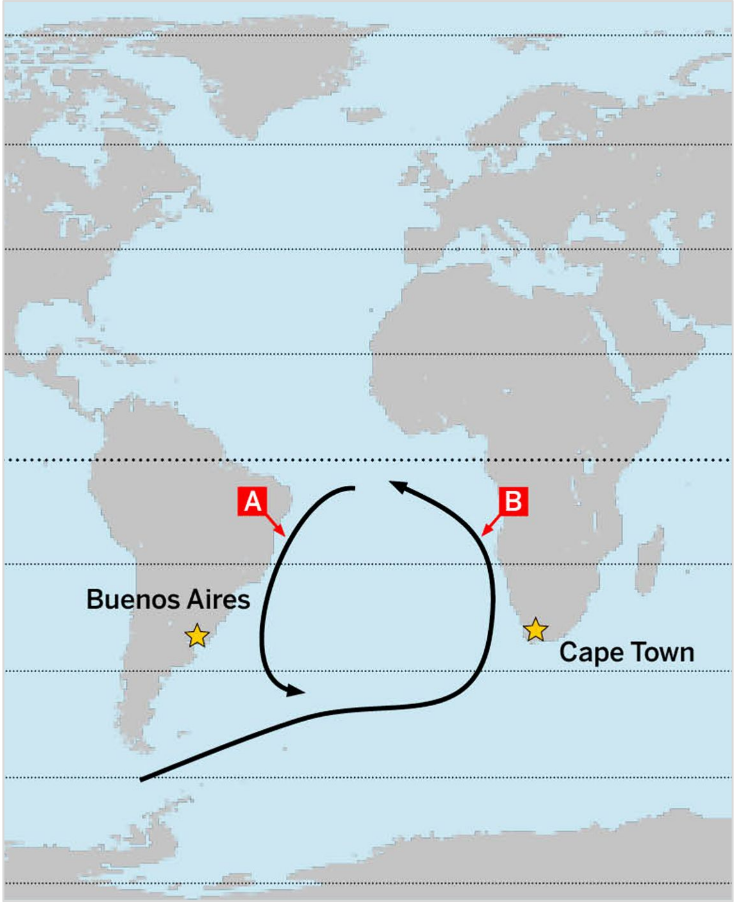
Investigating Ocean Surface Temperature: Part 1 page or Lesson 2.2, Activity 3

Let's think about what the map shows.



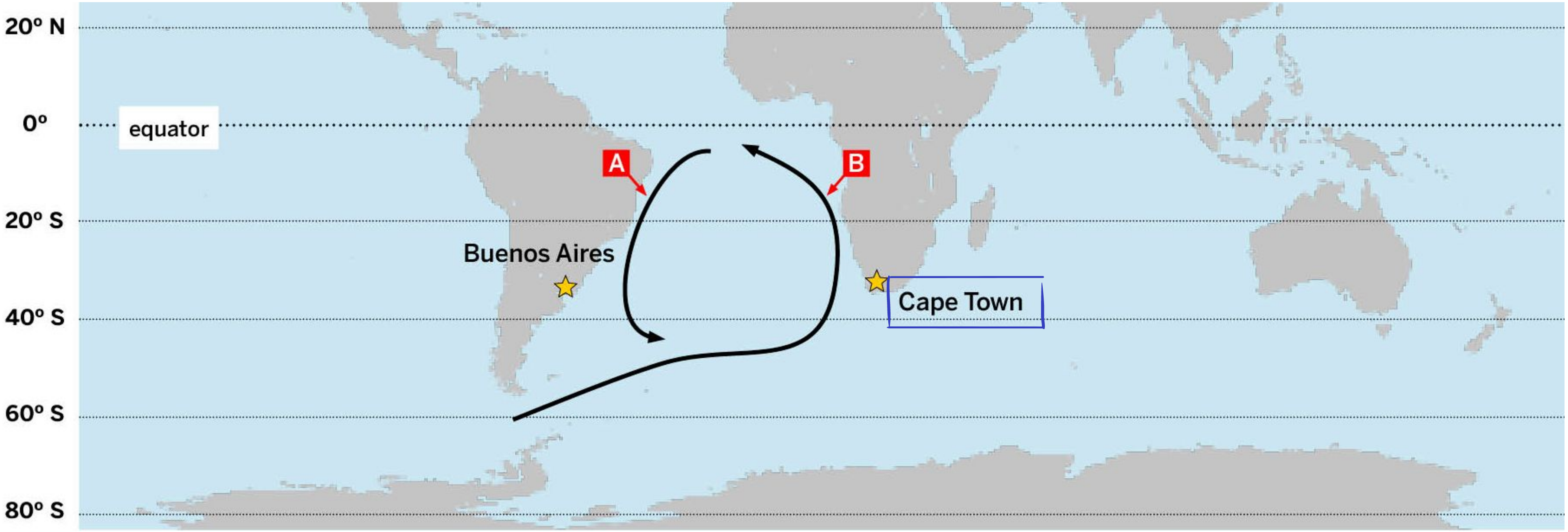
The ocean current that passes Buenos Aires (A) comes from the equator.

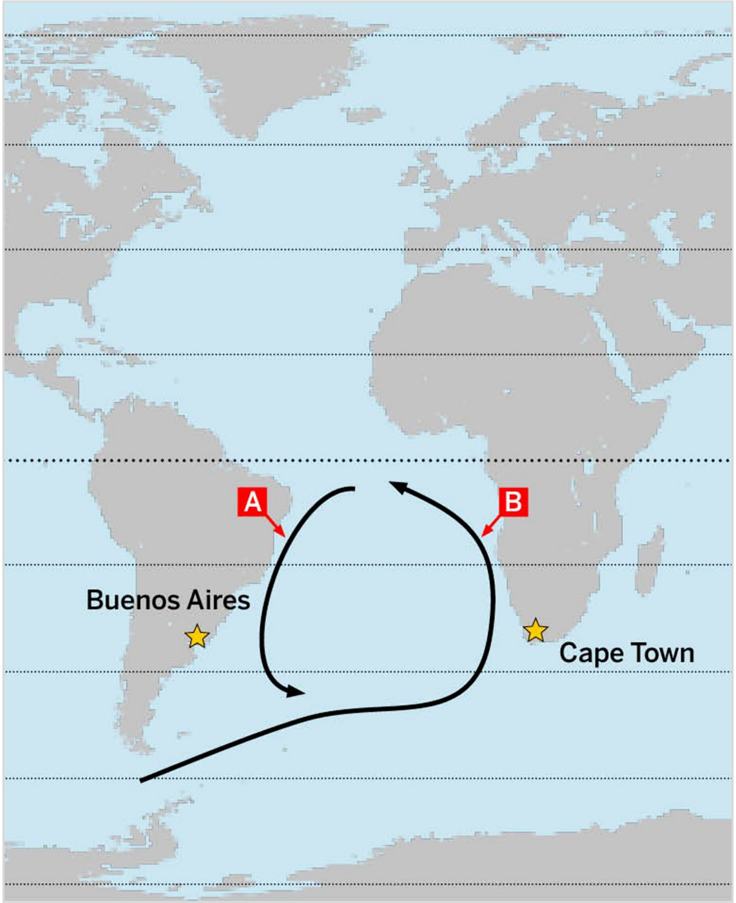




The closer a location is to the equator, the **more energy** it receives from the sun. Therefore, this current carries more energy and **moves warm water** from the equator to this area, near Buenos Aires.

The ocean current that passes Cape Town (B) comes from a polar region.





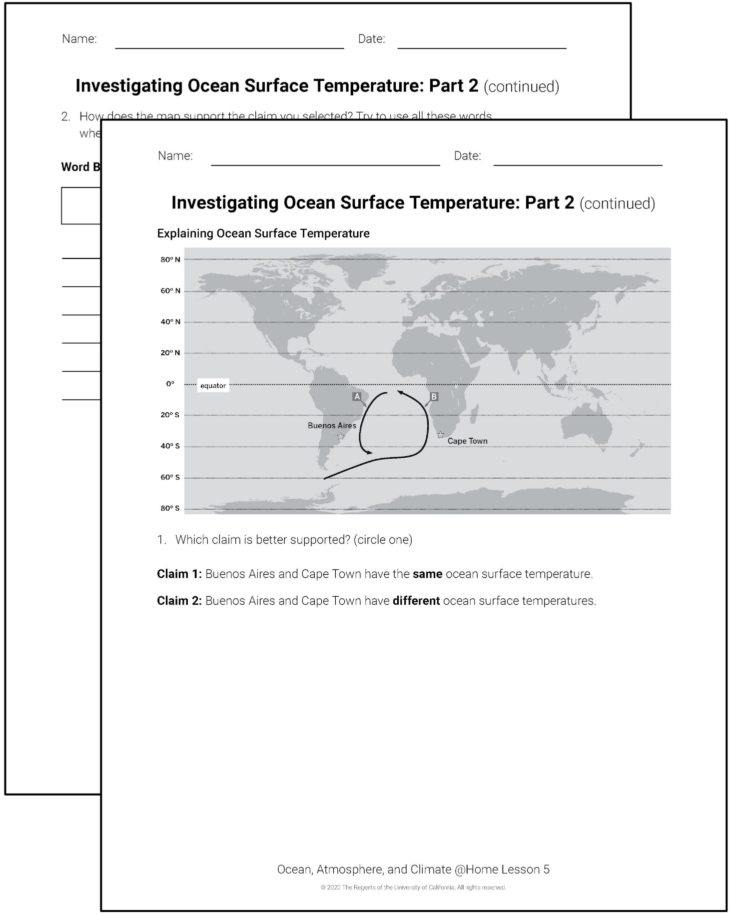
Current B carries **less energy** and moves **cooler water** from the pole to the area near Cape Town.

This is the end of the partner work in this lesson.

Claim 1: Buenos Aires and Cape Town have the **same** ocean surface temperature.

Claim 2: Buenos Aires and Cape Town have **different** ocean surface temperatures.

Next, you will examine the map again and think about these **two claims.**



Name: ______ Date: ______

Investigating Ocean Surface Temperature: Part 2 (continued)

2. How does the map support the claim you selected? Try to use all these words whe

Word B

Name: ______ Date: ______

Investigating Ocean Surface Temperature: Part 2 (continued)

Explaining Ocean Surface Temperature

1. Which claim is better supported? (circle one)

Claim 1: Buenos Aires and Cape Town have the **same** ocean surface temperature.

Claim 2: Buenos Aires and Cape Town have **different** ocean surface temperatures.

Ocean, Atmosphere, and Climate @Home Lesson 5

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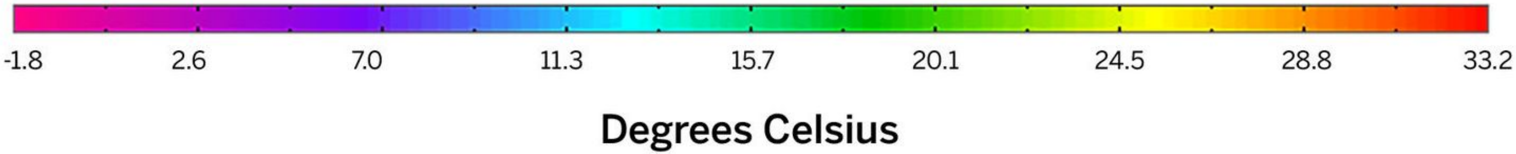
Go to the **Investigating Ocean Surface Temperature: Part 2** activity.

Choose a claim and then **write** about how the map supports the claim you selected.

Investigating Ocean Surface Temperature: Part 2 page or Lesson 2.2, Activity 3

To gather more evidence about the two locations, we'll look at a map showing the **average temperature** of the water at the surface of the ocean over a one-year time period.

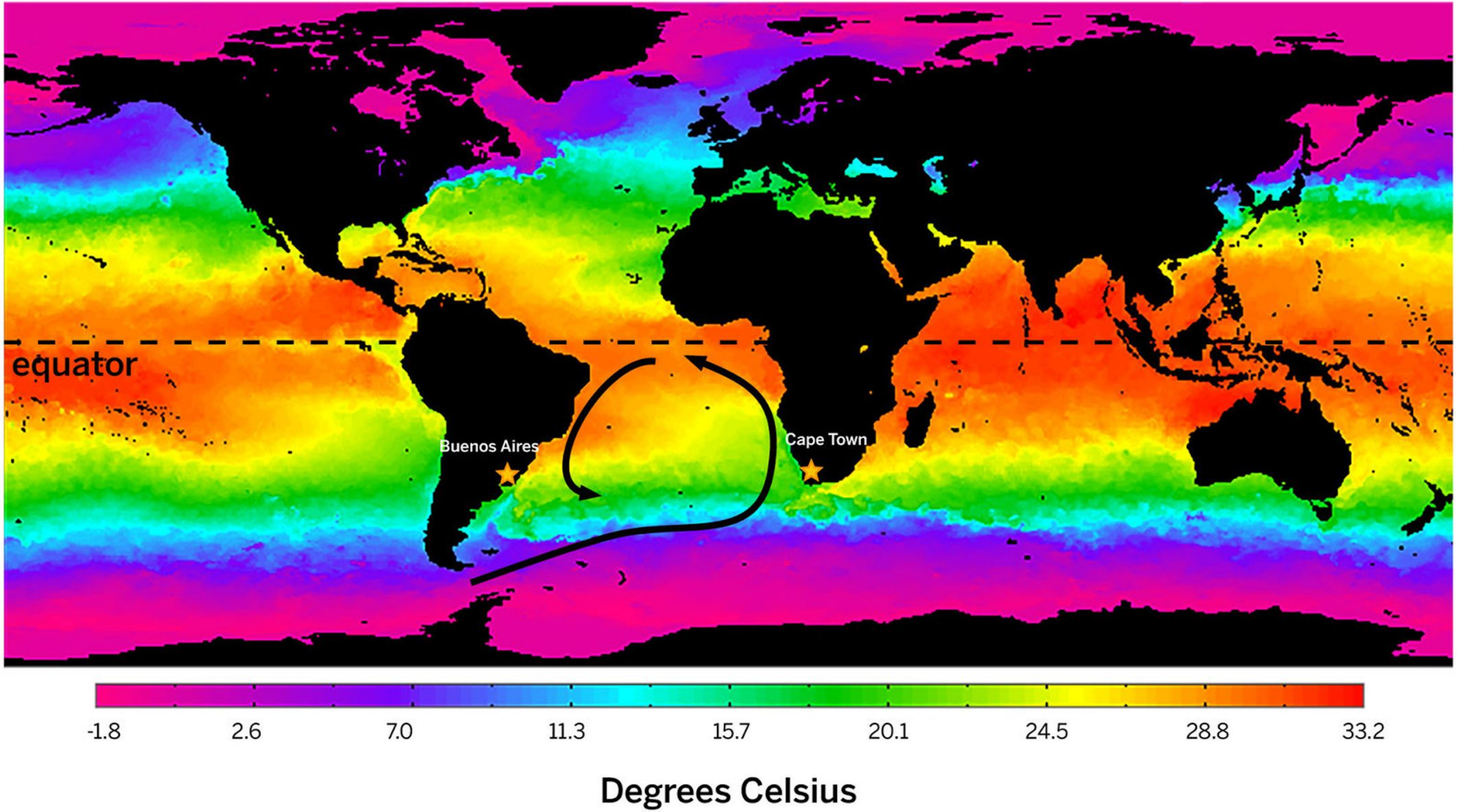
The map uses pink and purple for the lowest temperatures and red for the highest.



Look at the map on the next slide and think about the question.

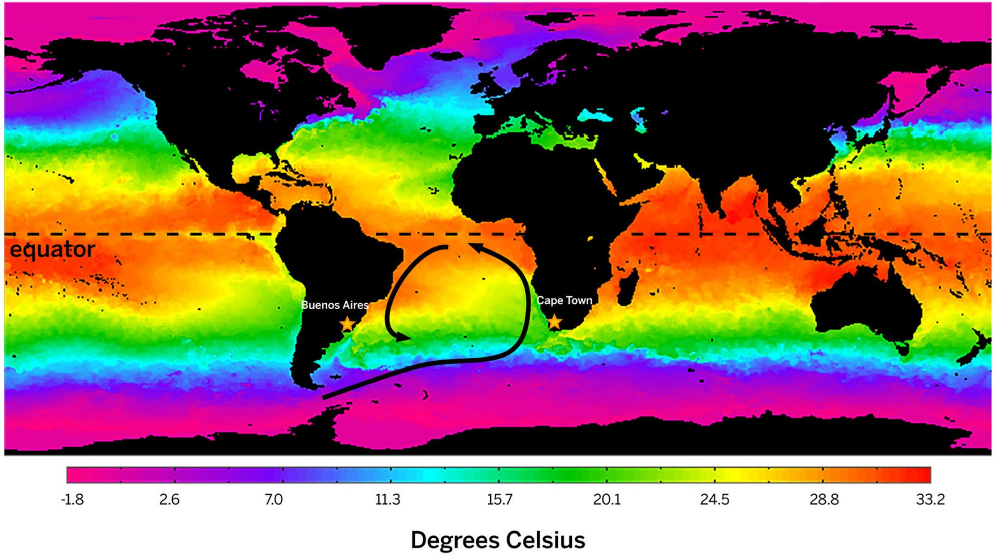
What does the map show about the ocean surface temperature near the two locations (Buenos Aires and Cape Town)?

Average Ocean Surface Temperature



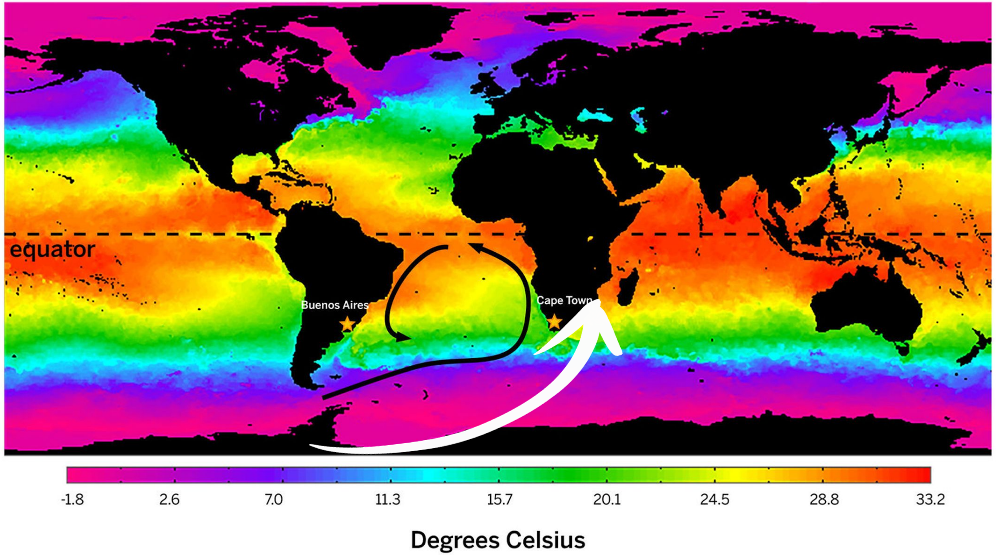
The ocean surface temperature near Buenos Aires is **higher** (yellow to orange) than the ocean surface temperature near Cape Town (green).

Average Ocean Surface Temperature



The current next to Cape Town comes from an area of **cold water** near Antarctica, so it **carries cooler water** when it passes Cape Town.

Average Ocean Surface Temperature



Read the key concept on the next slide and think about this question:

How does this key concept support the claim that the ocean surface near Buenos Aires is warmer than the ocean surface near Cape Town?

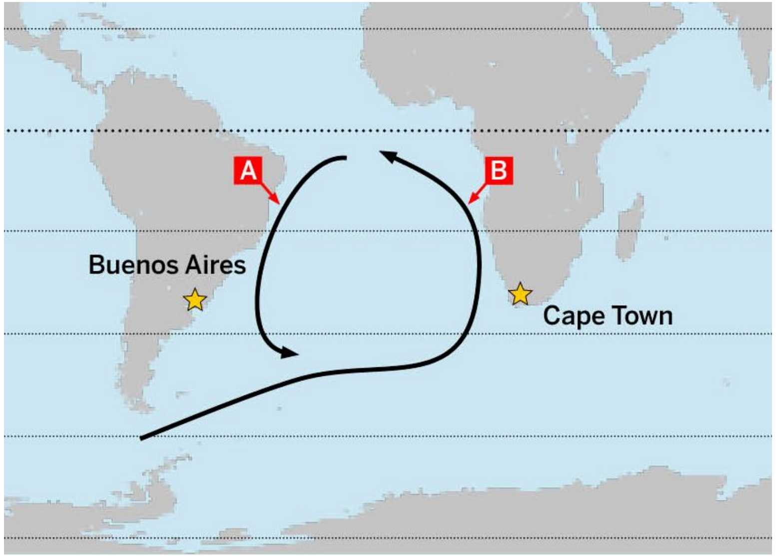
Key Concept

4. When an ocean current comes from the equator, it brings warmer-than-expected water to the places it passes.

   When an ocean current comes from a pole, it brings colder-than-expected water to the places it passes.

Because currents that come from the equator carry a lot of energy, they bring **warmer-than-expected water** (a higher ocean surface temperature) **to the places they pass.**

Because currents that come from the poles carry less energy, they bring **colder-than-expected water** (a lower ocean surface temperature) **to the places they pass.**



We will think more about **surface temperature** and **currents** in upcoming lessons.

End of @Home Lesson

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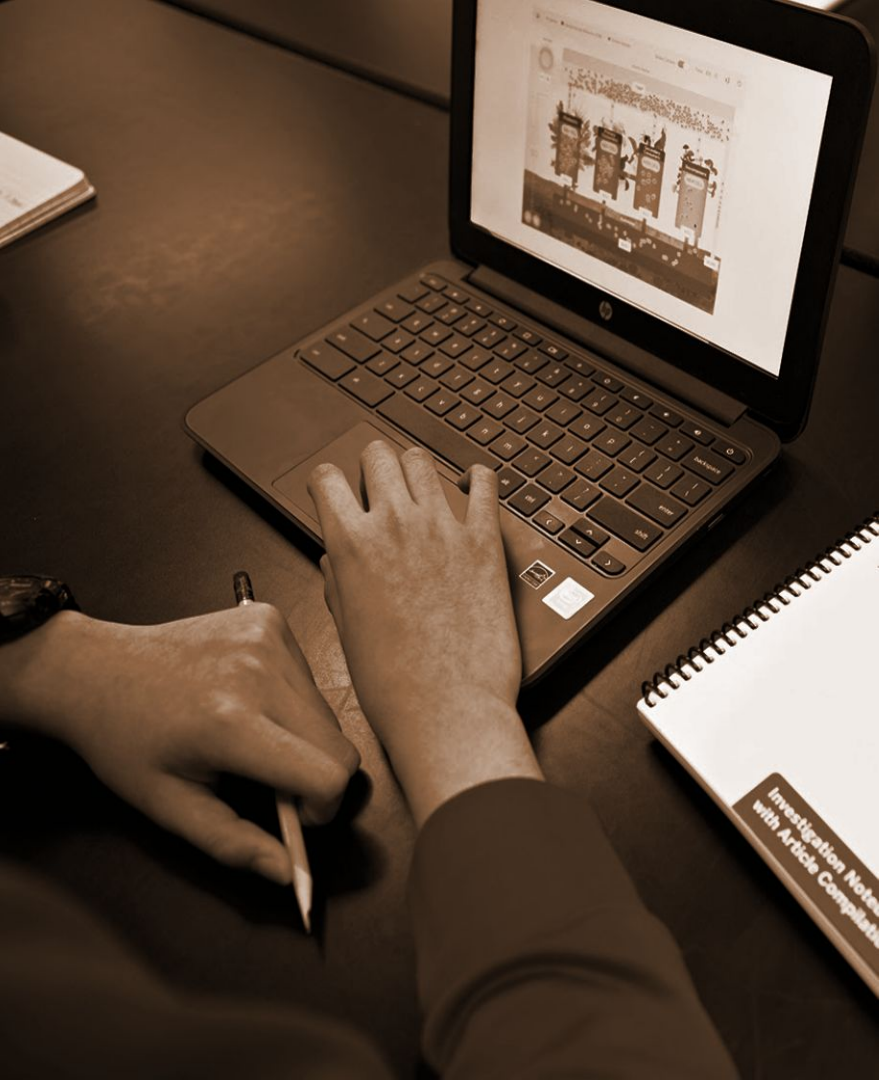
Questions?



Plan for the day

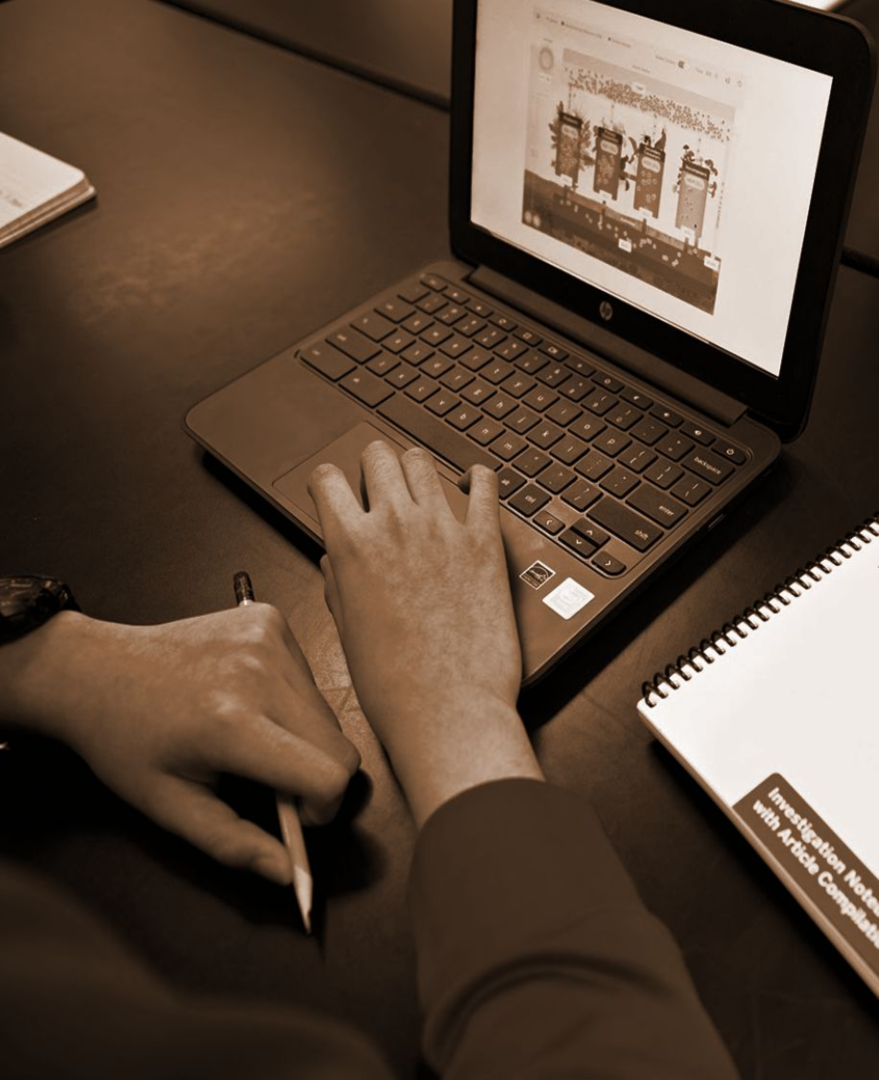
- Framing the day
  - Welcome and introductions
  - Anticipatory activity
- The role of language & literacy
  - Language, science, or both activity
  - Science & engineering practices
- Research-based principles
  - Expert groups
- Instructional sequence

BREAK

- Analyzing an instructional sequence
  - Embedded instructional design & additional supports
- Differentiation for an upcoming lesson
- Individual planning with @Home resources
  - Multimodal approach @Home
- Closing
  - Reflection & additional resources
  - Survey

BREAK (15 minutes)

Questions?



Plan for the day

- Framing the day
  - Welcome and introductions
  - Anticipatory activity
- The role of language & literacy
  - Language, science, or both activity
  - Science & engineering practices
- Research-based principles
  - Expert groups
- Instructional sequence

BREAK

- Analyzing an instructional sequence
  - Embedded instructional design & additional supports
- Differentiation for an upcoming lesson
- Individual planning with @Home resources
  - Multimodal approach @Home
- Closing
  - Reflection & additional resources
  - Survey

(Your group's principle)

How is this principle embedded into the instructional design?	What additional supports are available (from either your own educator's toolkit or the Amplify Science differentiation brief & teacher support tab) to implement this principle?

Navigate to the **exemplar** lesson's **differentiation brief** & **teacher support tabs** for further insights.

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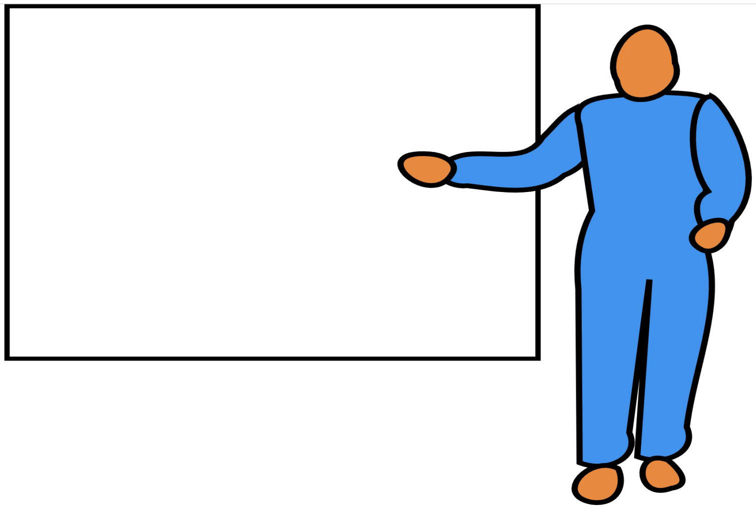
Virtual group presentations round 2

Summarize how your principal's embedded instructional design elements & additional supports aided your focal English learner's developing scientific understanding.



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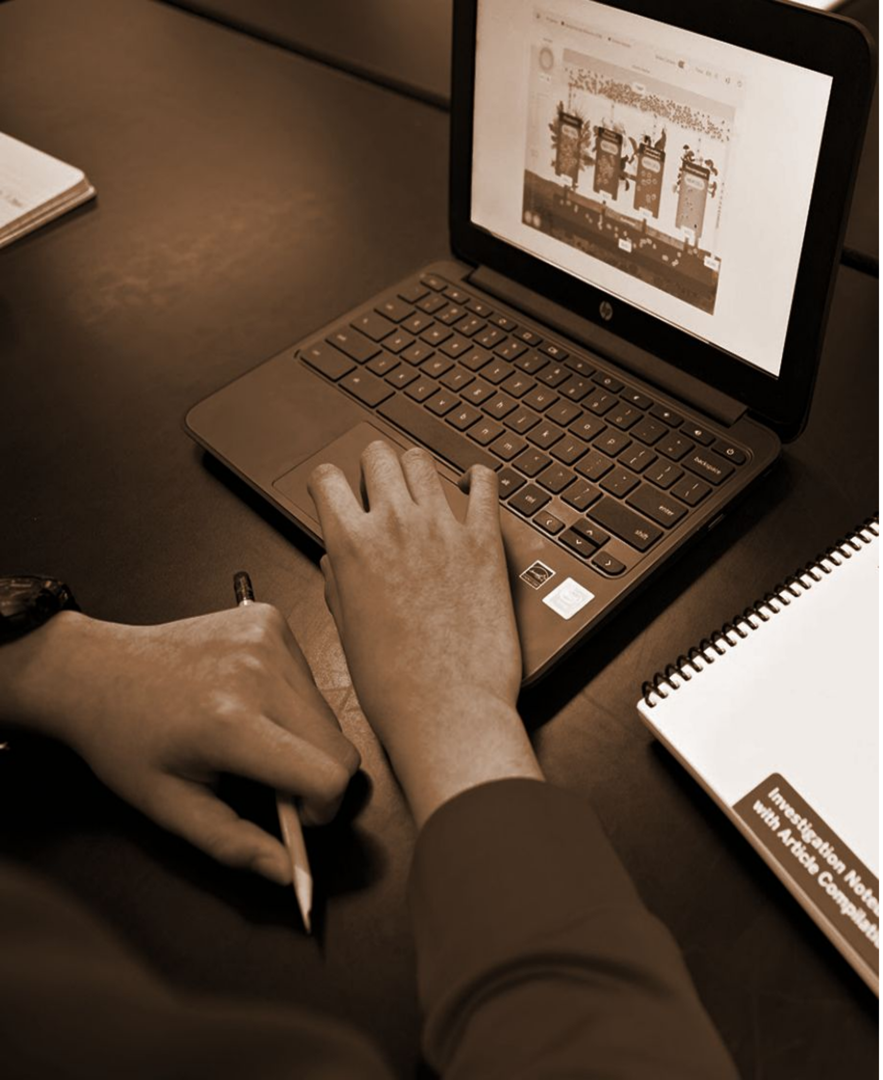
Questions?



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Planning for differentiated supports

Lesson #	Type of support	Instructional suggestion	For whom? When?
1.3	Paired work: model	Strategic partnering	Pairs working on the token model (if possible: share with the whole group afterwards)

How would you use or modify the suggestion?
● Make sure Aamina is paired with someone who speaks either Somali or Arabic and who speaks English at a higher proficiency level than Aamina (3 or above); also consider someone she is comfortable with; ● Make sure Josue is paired with someone he is comfortable with; try to find someone he can support with the math involved during the activity so he gains confidence and feels like he can share thinking (in pair and whole group)

Planning for differentiated supports

Page 9

- Navigate to a lesson you'll teach in the **upcoming week**.
- **Skim the lesson** to get a sense of the activities.
- Navigate to the **Differentiation section** of the Lesson Brief, and read the "Specific differentiation strategies for English learners" section.
- Use the "Planning for differentiated supports" **graphic organizer** to record your plan.

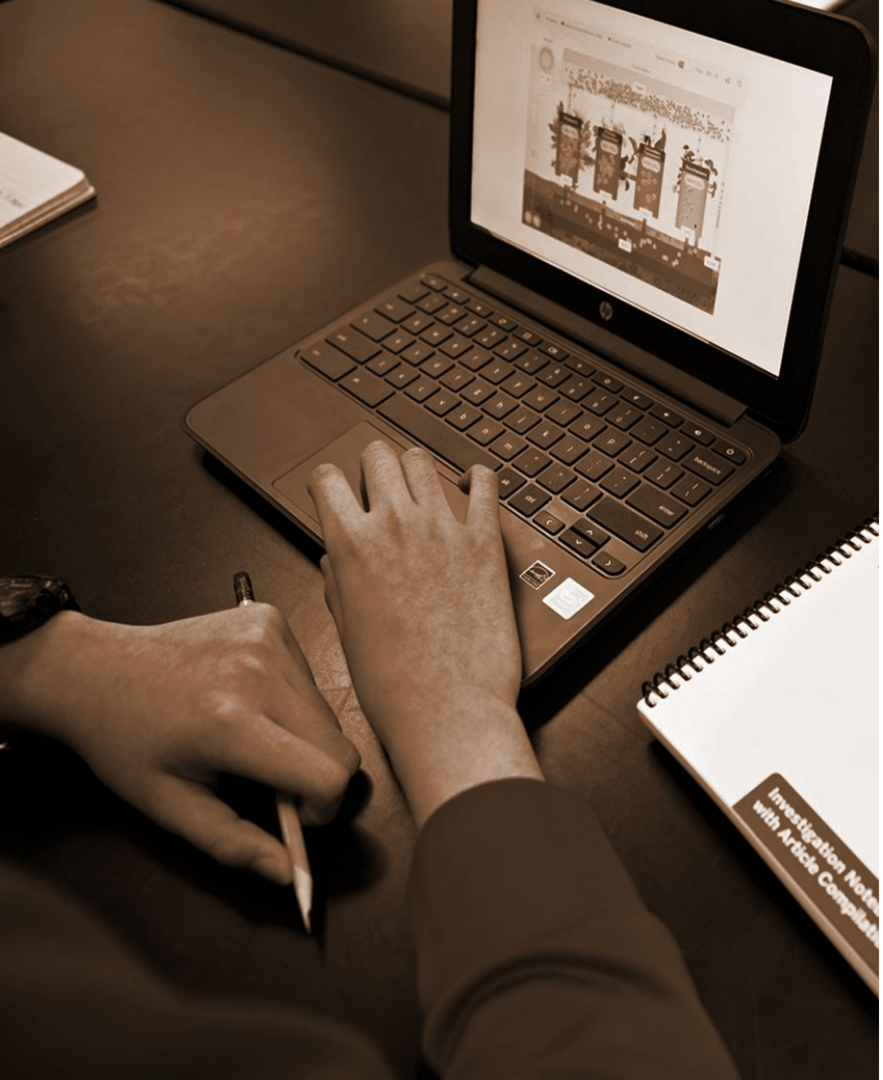
Planning for differentiated supports

Additional support considerations

- Additional practice time
- Strategic grouping
- Additional resources (multilingual glossary, word banks, other environmental print)
- Increased support for gradual release of responsibility
- Alternative response options

Amplify.


Questions?



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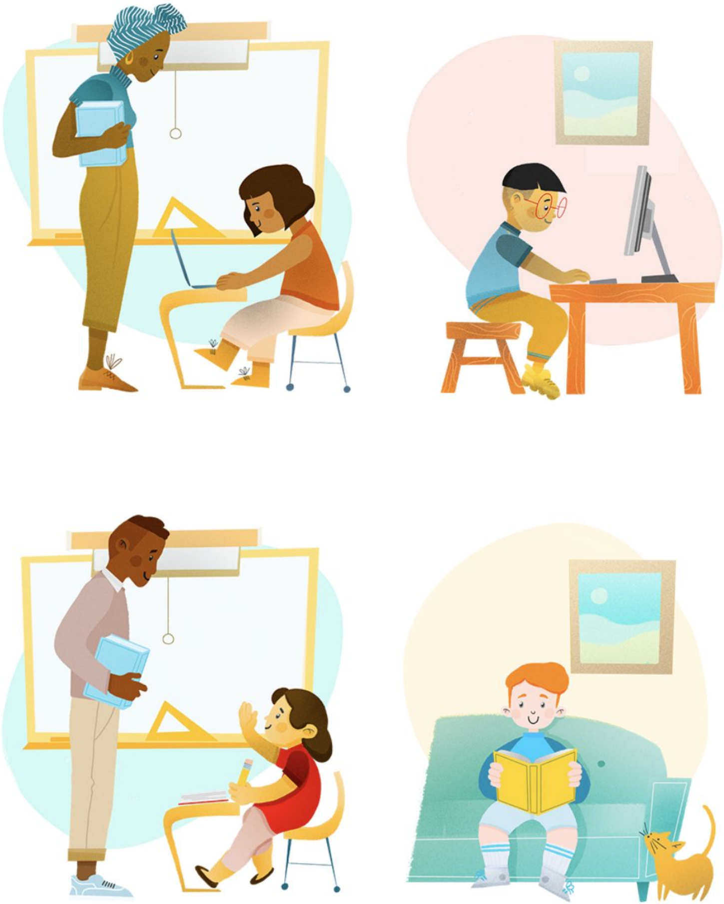
AmplifyScience@Home

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



Temperature Check

Rate your comfort level accessing and navigating the Amplify Science @Home Resources

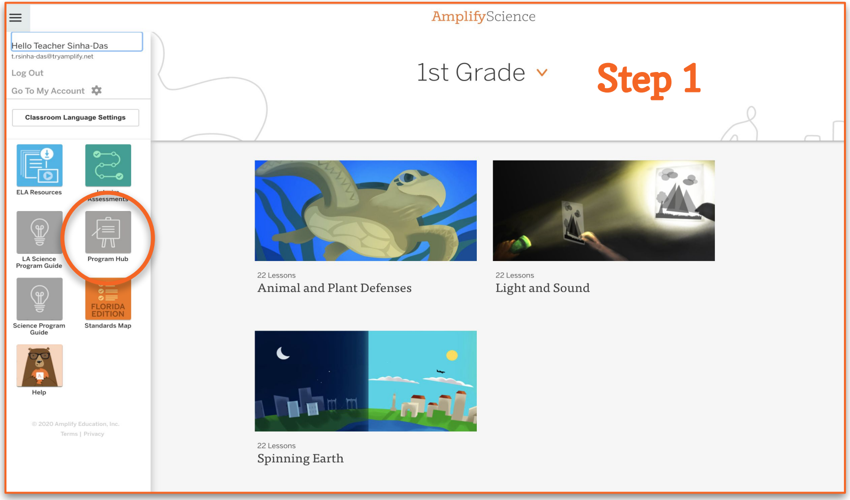
1 = Extremely Uncomfortable

2 = Uncomfortable

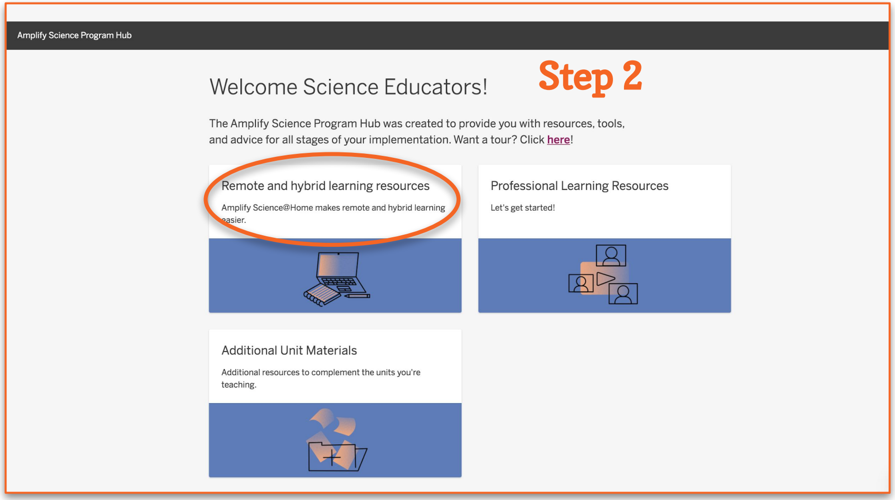
3 = Mild

4 = Comfortable

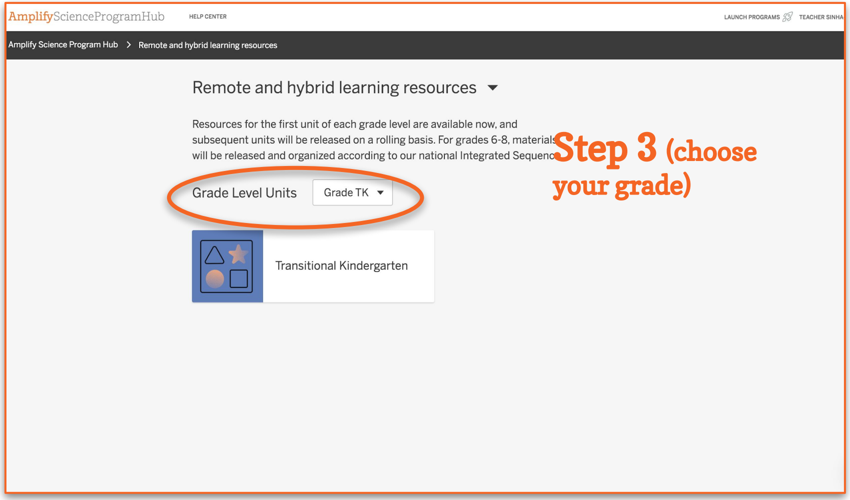
5 = Extremely Comfortable



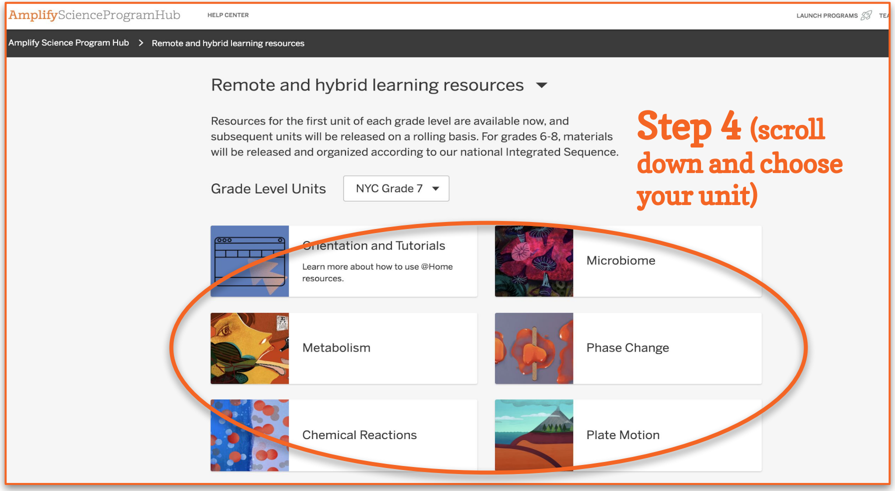
AmplifyScience
Hello Teacher Sinha-Das
t.rsinha-das@tryamplify.net
Log Out
Go To My Account
Classroom Language Settings
ELA Resources
Assessments
LA Science Program Guide
Program Hub
Science Program Guide
FLORIDA EDITION
Standards Map
Help
© 2020 Amplify Education, Inc.
Terms | Privacy
1st Grade
Step 1
22 Lessons
Animal and Plant Defenses
22 Lessons
Light and Sound
22 Lessons
Spinning Earth



Amplify Science Program Hub
Welcome Science Educators!
Step 2
The Amplify Science Program Hub was created to provide you with resources, tools, and advice for all stages of your implementation. Want a tour? Click here!
Remote and hybrid learning resources
Amplify Science@Home makes remote and hybrid learning easier.
Professional Learning Resources
Let's get started!
Additional Unit Materials
Additional resources to complement the units you're teaching.



AmplifyScienceProgramHub
HELP CENTER
LAUNCH PROGRAMS
TEACHER SINHA
Amplify Science Program Hub > Remote and hybrid learning resources
Remote and hybrid learning resources
Resources for the first unit of each grade level are available now, and subsequent units will be released on a rolling basis. For grades 6-8, materials will be released and organized according to our national Integrated Sequence
Step 3 (choose your grade)
Grade Level Units
Grade TK
Transitional Kindergarten



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Step 4 (scroll down and choose your unit)
Grade Level Units
NYC Grade 7
Orientation and Tutorials
Learn more about how to use @Home resources.
Microbiome
Metabolism
Phase Change
Chemical Reactions
Plate Motion

Multimodal Instruction @ Home

After reading each modality's description, provide a current support you would provide for your ELL students during remote & hybrid instruction in the doc.

Do: In Chapter 1, students use physical materials to observe the patterns of earthquakes at plate boundaries.	**Talk:** There are multiple opportunities for students to discuss their observations of patterns on Earth's surface and what these patterns reveal about geologic processes. These include patterns of earthquakes, volcanoes, and geologic landforms (mid-ocean ridges and trenches).	**Read:** Students read an informational text about plate boundaries. Divergent and convergent boundaries have characteristic patterns of geologic activities and landforms that are called out in the text.	**Write:** During the course of the unit, students write to explain their observations of patterns on Earth's surface and how these patterns are indicative of geologic history and activity.	**Visualize:** Students use the *Plate Motion* Simulation to observe patterns of geologic activity, such as volcanoes and earthquakes, that occur along plate boundaries. Students represent their ideas about patterns of plate motion by creating visual models of plates and plate boundaries in cross sections, using the *Plate Motion* Modeling Tool.
Support:	**Support:**	**Support:**	**Support:**	**Support:**

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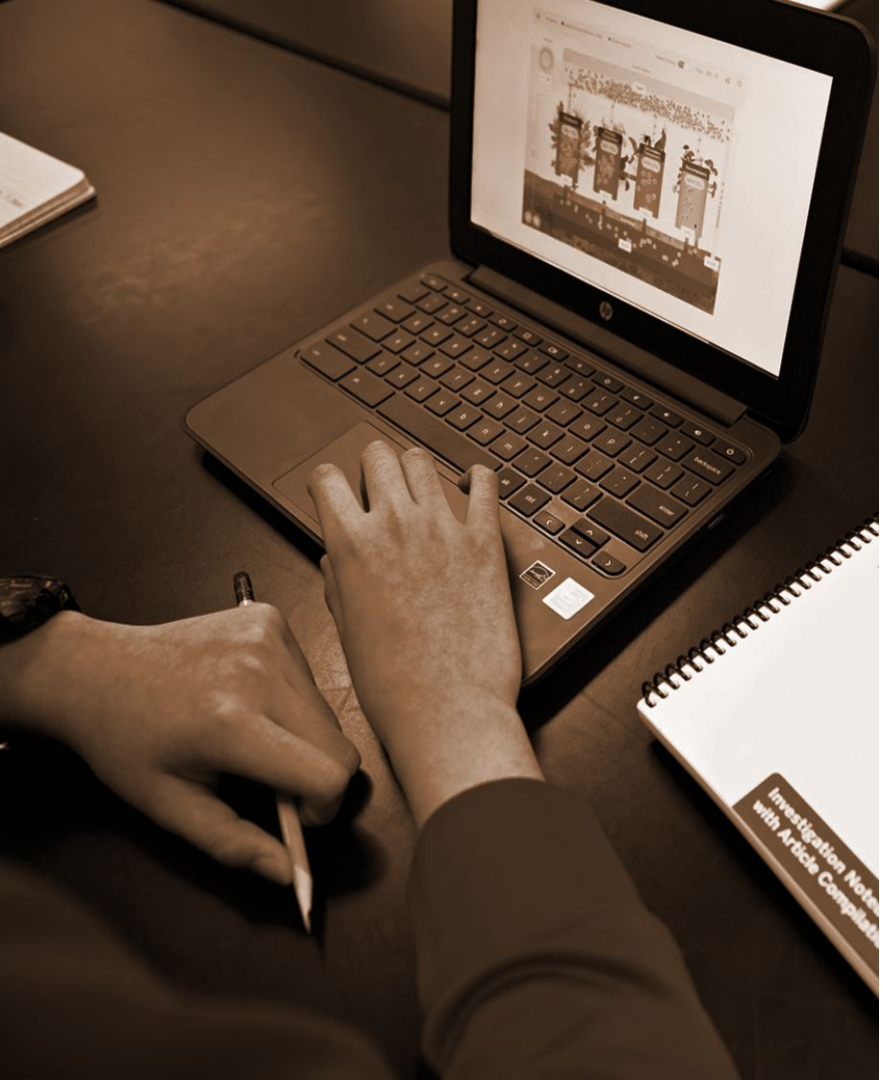
Remote resources for Supporting English Learners

- Optional investigation notebook pages
- Digital copy of vocabulary words
- Access to lesson level powerpoints (editable)
- Remote learning access for students (via Program Hub)
  - Student readers (English/Spanish)
  - Modeling tools/Sims/Practice tools
  - Videos with calls to action (English/Spanish)
  - Student slides, packets, and sheets (editable)

Questions?



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3-2-1 Reflection

3	Strategies to take away
2	Things I learned
1	Question I still have

Revisiting our objectives

Do you feel ready to...

- Articulate the critical role that language and literacy play in developing scientific understanding.
- Identify strategies that support students' disciplinary literacy and language development.
- Recognize the embedded instructional design and identify additional supports for English learners in an Amplify Science instructional sequence.

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!

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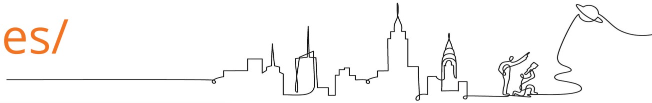
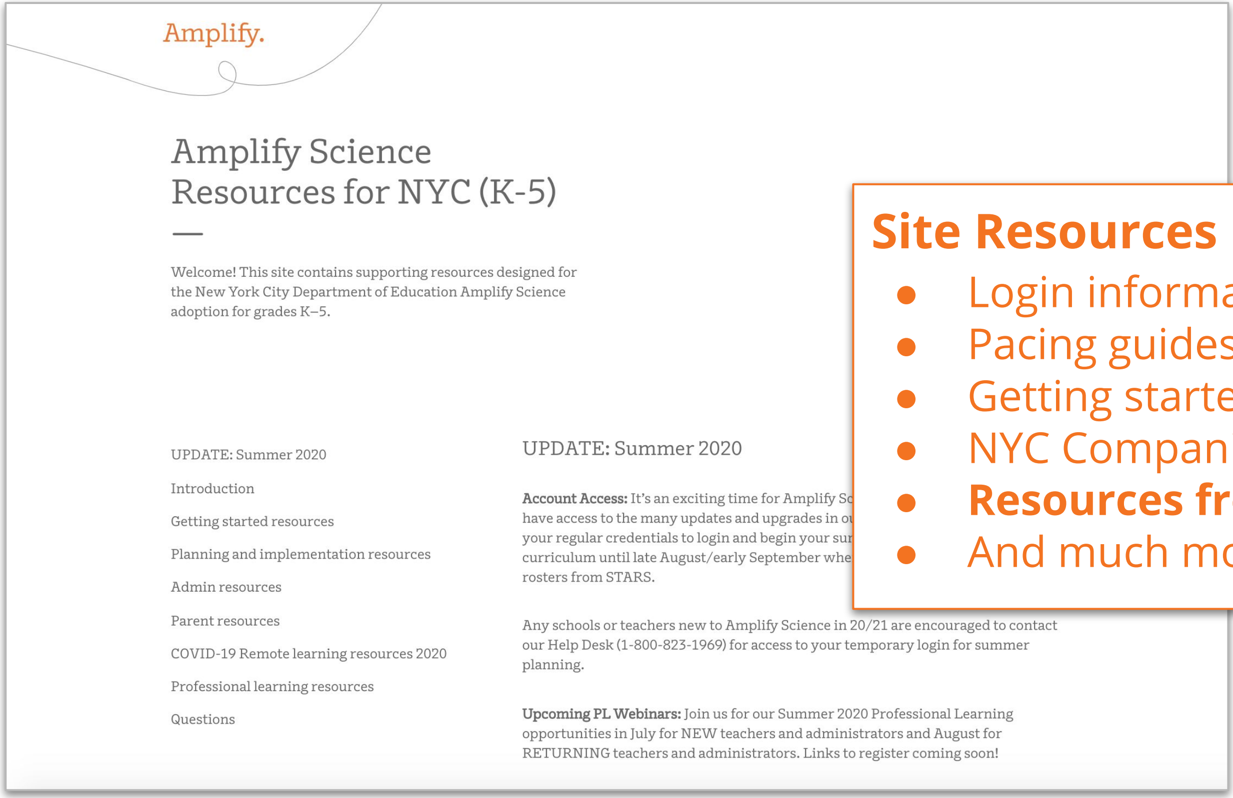
New York City Resources Site

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





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Amplify Science
Resources for NYC (K-5)

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

UPDATE: Summer 2020

Introduction

Getting started resources

Planning and implementation resources

Admin resources

Parent resources

COVID-19 Remote learning resources 2020

Professional learning resources

Questions

UPDATE: Summer 2020

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

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

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

Site Resources

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

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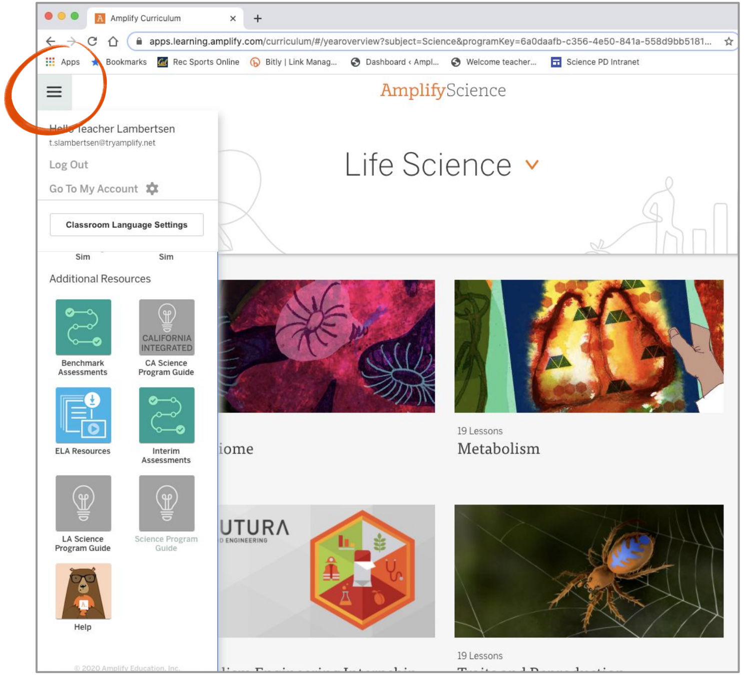
Amplify Science Program Hub

A hub for Amplify Science resources

- **Videos and resources to continue getting ready to teach**
- Amplify@Home resources
- Keep checking back for updates



Additional Amplify resources

Program Guide

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

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

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help

Additional Amplify Support

Customer Care

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

scihelp@amplify.com

800-823-1969

Amplify Chat

When contacting the customer care team:

- Identify yourself as an Amplify Science user.
- Note the unit you are teaching.
- Note the type of device you are using (Chromebook, iPad, Windows, laptop).
- Note the web browser you are using (Chrome or Safari).
- Include a screenshot of the problem, if possible.
- Copy your district or site IT contact on emails.

Final Questions?

Please provide us feedback!

URL: https://www.surveymonkey.com/r/BY56SBR

Presenter name: XXX