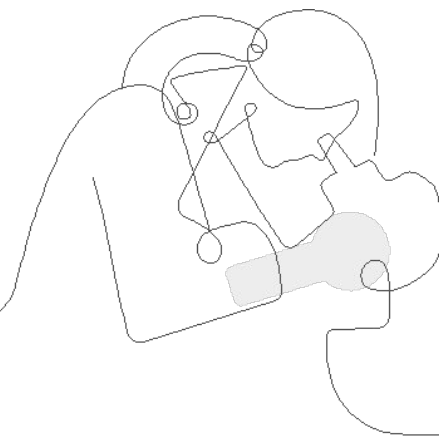


# Amplify Science

## Part 3: Supporting English Learners Grade 1

### Strengthen workshop

School/District: LAUSD  
Saturday, October 15, 2022  
Presented by James Kochi



# Amplify's purpose statement

Dear teachers,

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

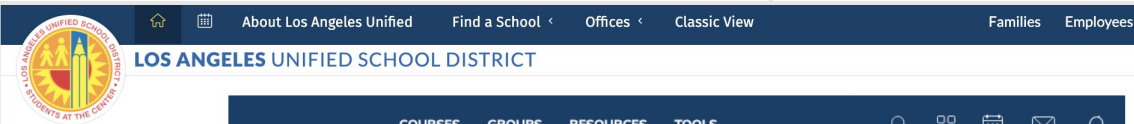
**We are in your corner** – extending your reach, saving you time, and enhancing your understanding of each student.

**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

# Schoolology



[← Back to Schoolology Home Page](#)

## LMS App Center

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

For information on District-approval policies and procedures, please visit: [udipp.lausd.net](#).

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

To learn more about using the LMS App Center, please refer to the following video overview.

**Publisher Name** Starts With

**Content Area** All

**Grade Level** All

**Content Type** All

**Textbook Title** Starts With

**Submit**

All Amplify Products



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To learn more about using the LMS App Center, please refer to the following video overview.

[← Search Again](#)

### Amplify

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

**Vendor Support Desk:**  
P: 800.823.9969  
E: [help@amplify.com](mailto:help@amplify.com)  
S: [amplify.com/support/](https://amplify.com/support/)  
**Textbook Title(s):**  
NA



**Vendor Support Desk:**  
P: 800.823.9969  
E: [help@amplify.com](mailto:help@amplify.com)  
S: [amplify.com/support/](https://amplify.com/support/)  
**Textbook Title(s):**  
NA

op is for  
only)

# Join Amplify Science Schoology Group

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



# Navigation Temperature Check

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

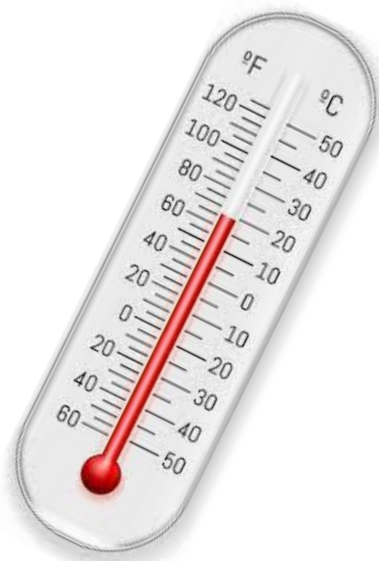
1 = Extremely Uncomfortable

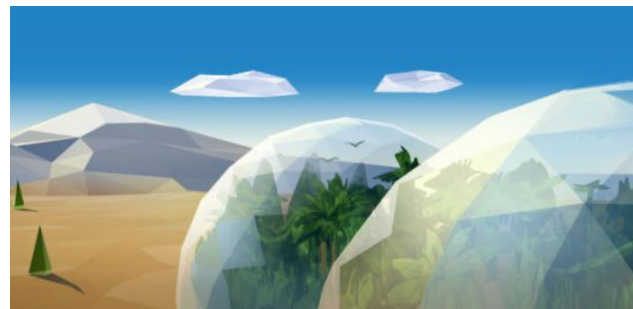
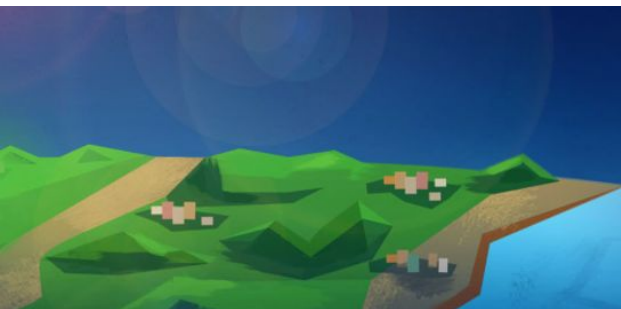
2 = Uncomfortable

3 = Mild

4 = Comfortable

5 = Extremely Comfortable





## Plan for the day

- Introduction
- Language of the Science Classroom
- Embedded and Additional Supports
- Experiencing a Lesson
- Planning for Supports
- Closing

# Overarching goals

- ❑ Describe the language and literacy demands in a lesson and their role in students developing science understanding
- ❑ Implement key strategies to promote English learners' academic language development and science understanding

Let's connect  
this goal to  
our students



# Opening Reflection

What are your goals for  
student outcomes?



Participant Notebook

<https://bit.ly/3EpKmZH>

## Reflection

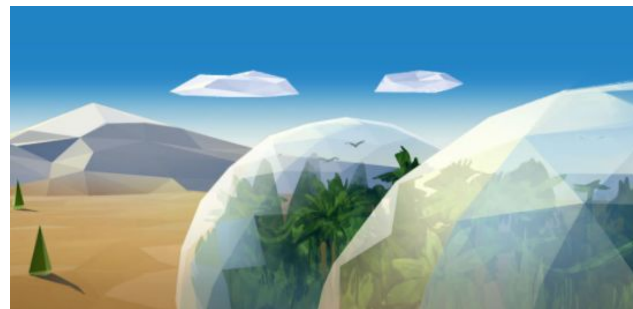
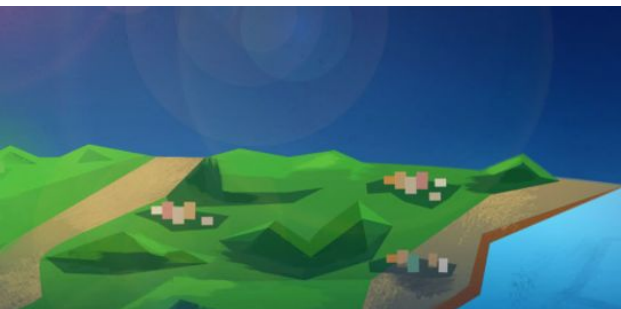
Use the provided spaces as a place for reflection throughout the session.

Session goals and student outcomes

What Connect the workshop goal(s) to an outcome you envision for your students.	Why Reflect on why you want this outcome for your students.	How How will your students achieve the outcome? Reflect on what you learned during the workshop that will impact student outcomes.

# 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.



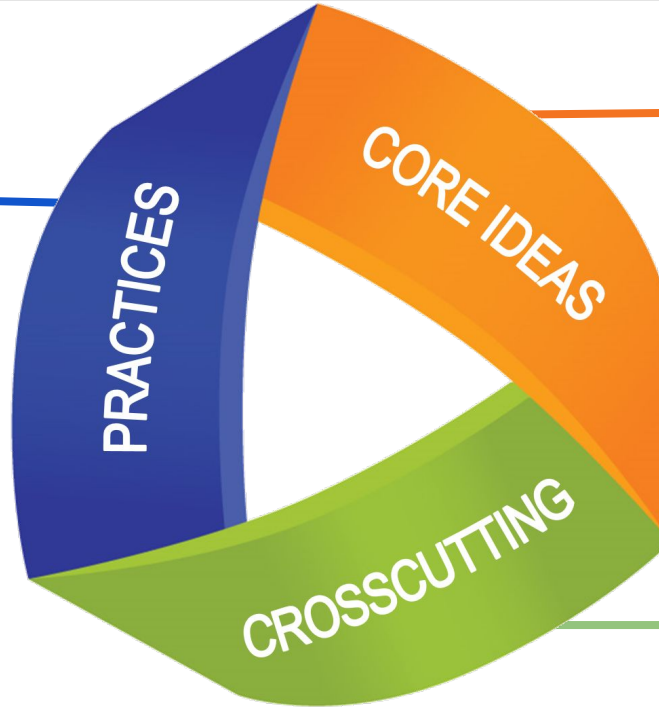
## Plan for the day

- Introduction
- **Language of the Science Classroom**
- Embedded and Additional Supports
- Experiencing a Lesson
- Planning for Supports
- Closing

# Language of the science classroom

## Language and 3-D learning

What scientists do  
Science and  
Engineering Practices



What scientists  
want to know  
Disciplinary Core  
Ideas

How scientists  
think  
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



# Academic language proficiency

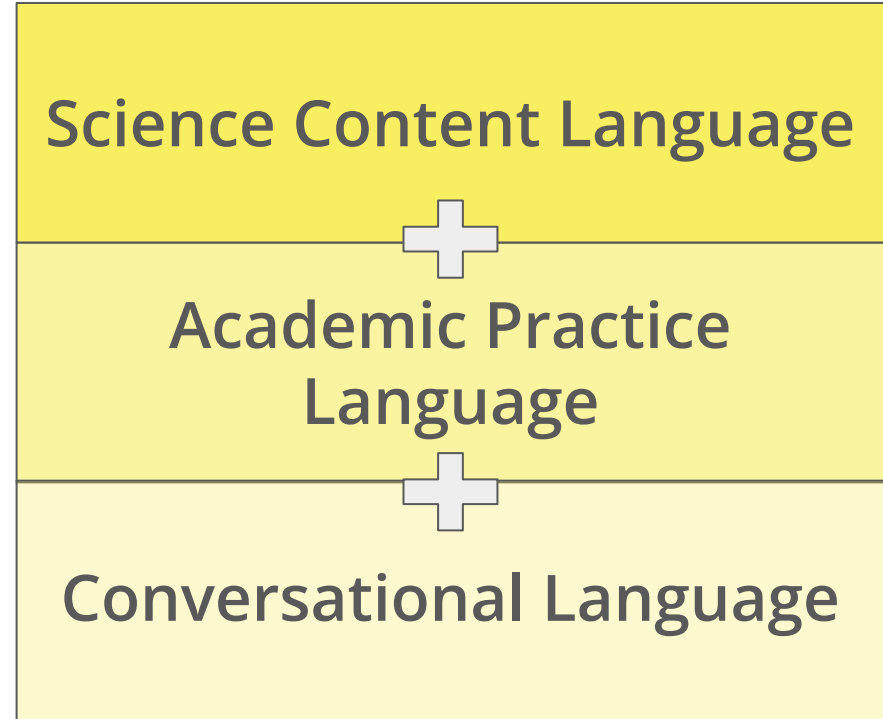
The ability to successfully use language for reading and writing and for accessing information in disciplinary content areas.



# Language acquisition

## Language of Science

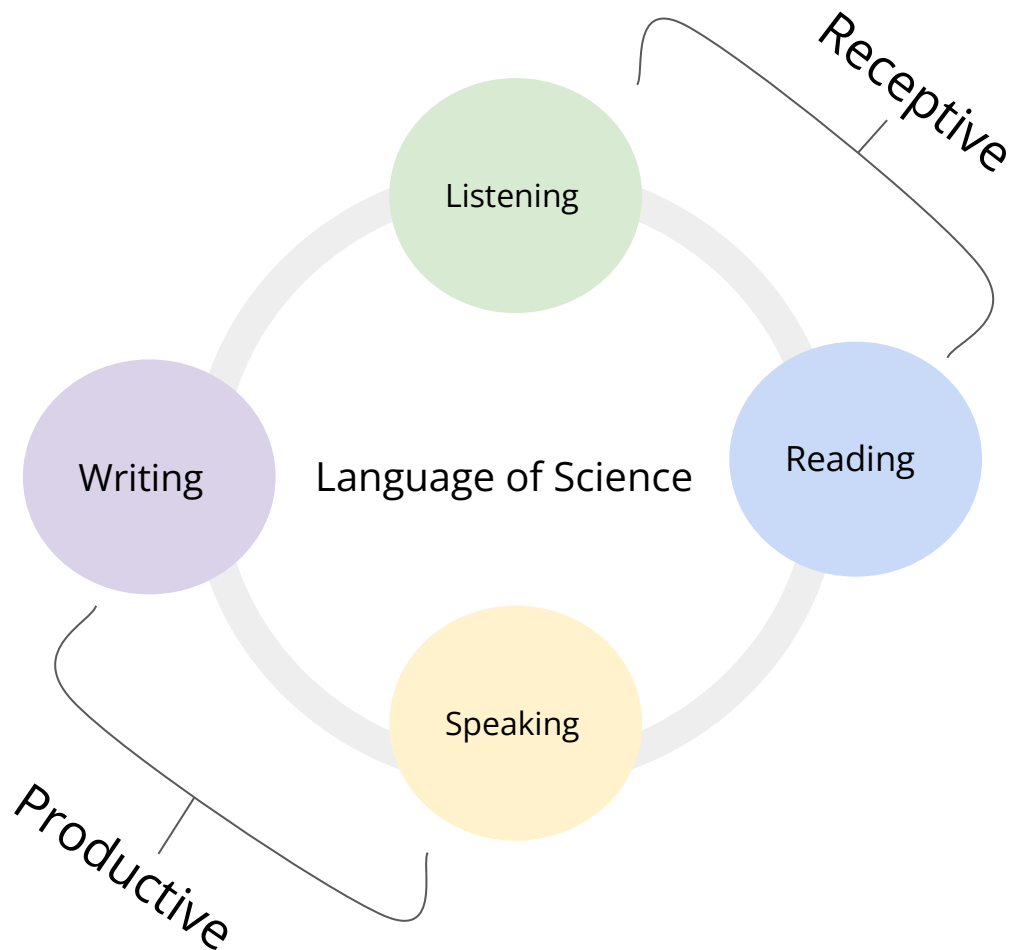
- Multimodal experiences with language
- Explicit instruction and practice



# Language acquisition

## Language of Science

- Learning activities to support productive and receptive language



# Establishing connections among concepts

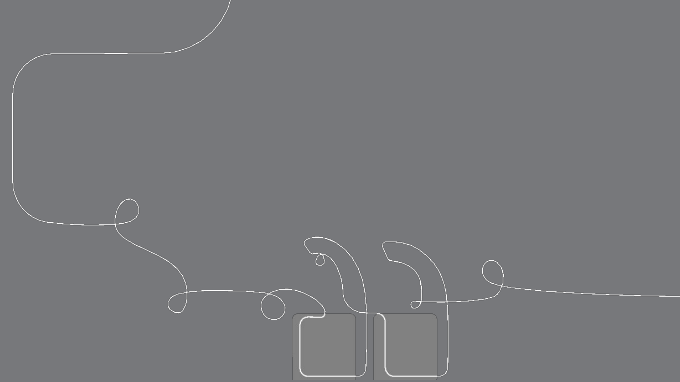
Academic  
Language  
Proficiency

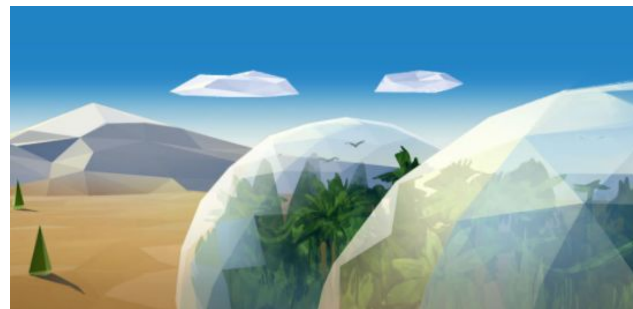
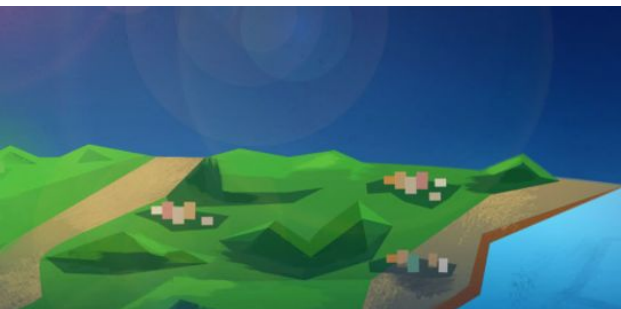
Science and  
Engineering  
Practices



Instructional  
support

# Questions?





## Plan for the day

- Introduction
- Language of the Science Classroom
- **Embedded and Additional Supports**
- Experiencing a Lesson
- Planning for Supports
- Closing

# Embedded supports

## 5 Principles for Supporting English Learners

Principle 1: Leverage and build students' informational background knowledge.

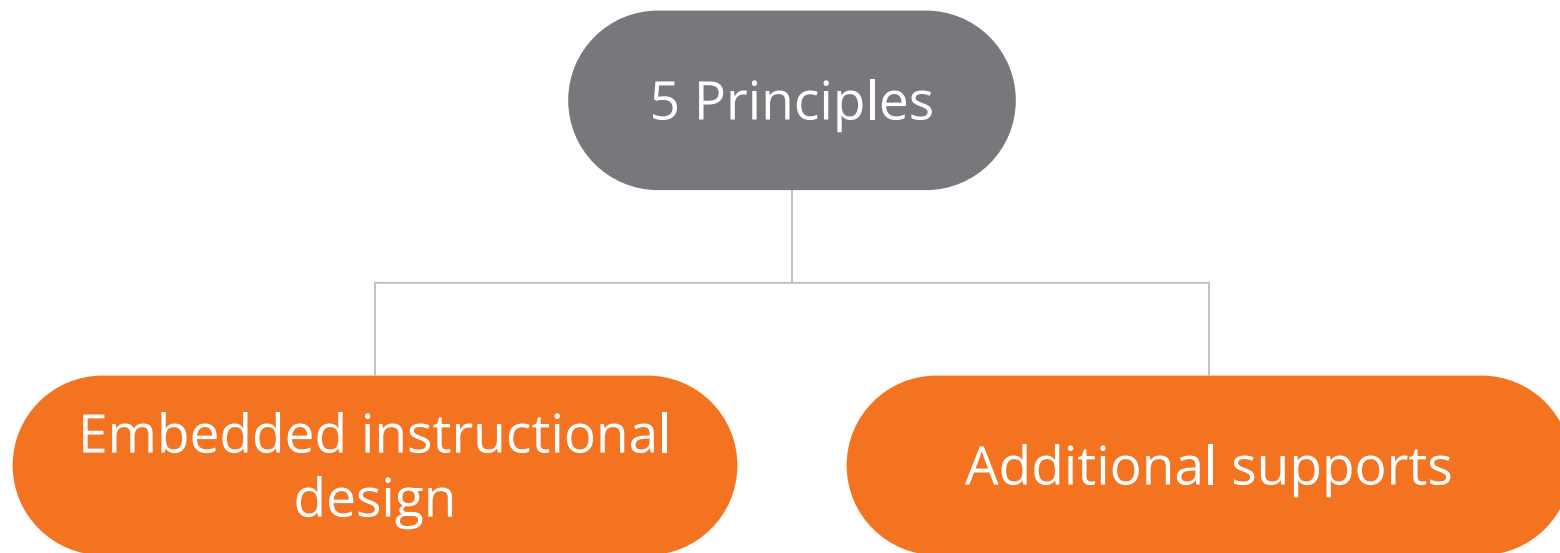
Principle 2: Capitalize on students' knowledge of language.

Principle 3: Provide explicit instruction about the language of science.

Principle 4: Provide opportunities for scaffolded practice.

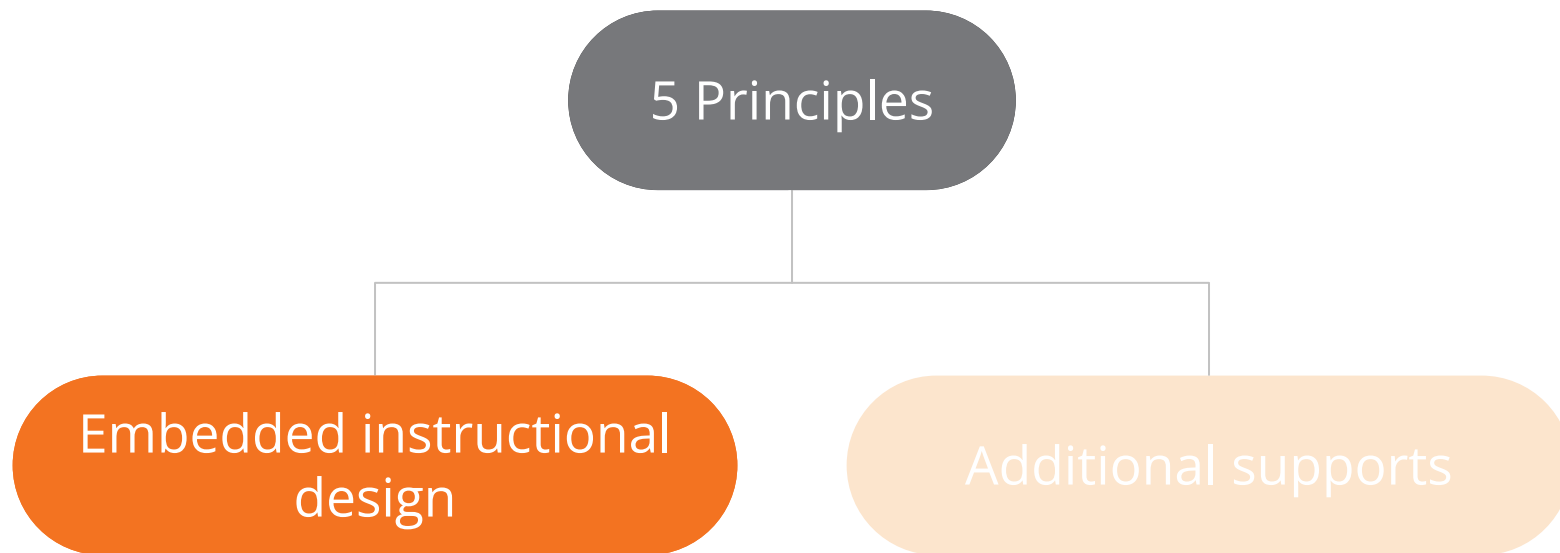
Principle 5: Provide multimodal means of accessing science content and expressing language.

# Supports for English learners





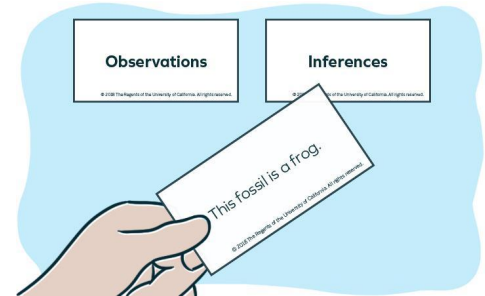
# Supports for English learners



# Embedded supports

## Examples

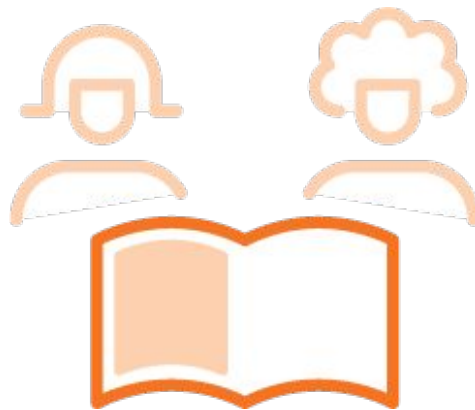
- Discourse and sensemaking Routines



# Embedded supports

## Examples

- Reading routines
- Multimodal Instruction

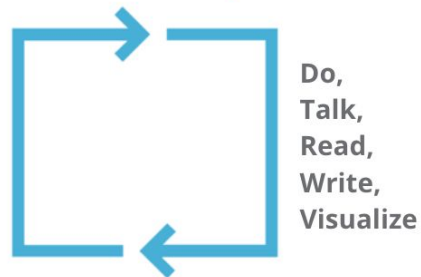


### Partner Reading Guidelines

1. Sit next to your partner and place the book between you.
2. Take turns reading.
3. Read in a quiet voice.
4. Be respectful and polite to your partner.
5. Ask your partner for help if you need it. Work together to make sure you both understand what you read.

### Multimodal learning

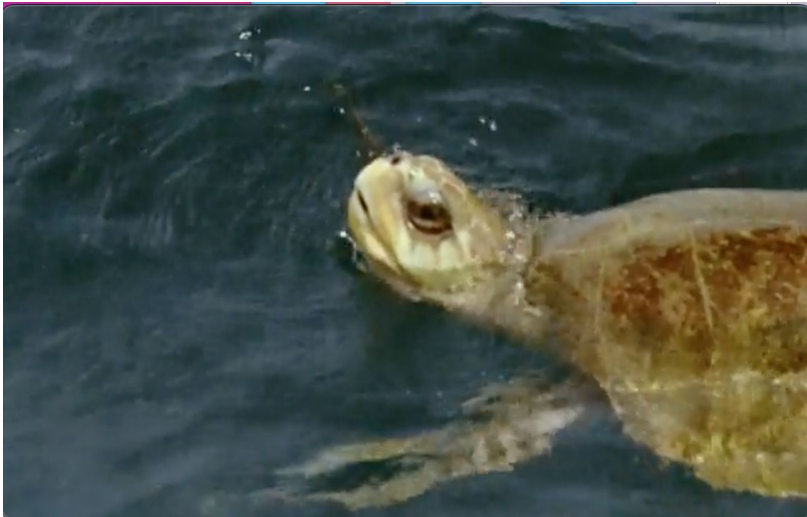
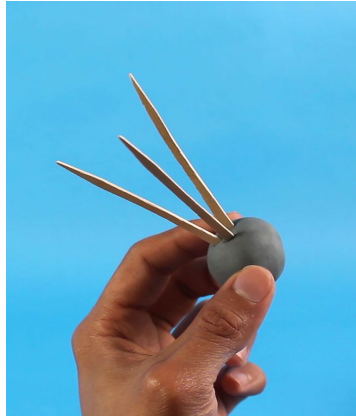
#### Gathering evidence over multiple lessons






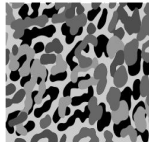
# Embedded supports

## Examples

- Visual models
- Visual Representations



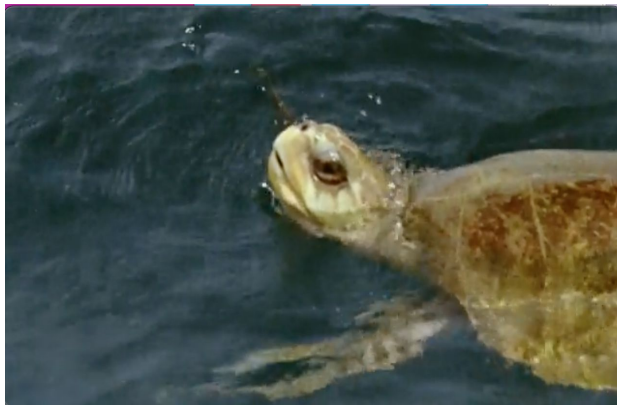
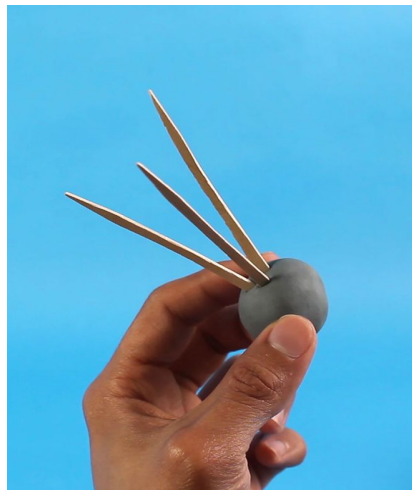
## Models of Animal and Plant Defenses

Model We Used (2.3)	What the Model Shows Us (2.3)
2.3 	<ul style="list-style-type: none"><li>• Animals have sharp parts. (2.3)</li><li>• Animals and plants get broken into smaller pieces when animals eat them. (2.3)</li></ul>
2.4 	<ul style="list-style-type: none"><li>• Shells are hard.</li><li>• Shells and armor make animals and plants hard to bite, chew, or swallow. (2.4)</li></ul>
2.5 	<ul style="list-style-type: none"><li>• Spikes are sharp. (2.5)</li><li>• Spikes hurt animals' mouths when they try to eat animals or plants with spikes, (2.5)</li></ul>
2.6 	<ul style="list-style-type: none"><li>• Living things' color and shape matches the background.</li><li>• Camouflage makes animals and plants hard to find and eat. (2.6)</li></ul>




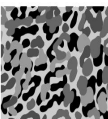
# Embedded supports

## Examples

- Discourse and sensemaking Routines
- Reading routines
- Multimodal Instruction
- Visual Representations
- Visual models



### Models of Animal and Plant Defenses

Model We Used (2.3)	What the Model Shows Us (2.3)
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# Log in through your Schoology account

or use Demo Account

1. Go to **learning.amplify.com**
2. Select **Log in with Amplify**
3. If you're already logged in with other Google accounts, click **Use another account**
4. Enter teacher demo account credentials
  - UN: **californiasci**@pd.tryamplify.net
  - PW: AmplifyNumber1

Welcome to **Amplify**

G

Log In with Google

C

Log In with Clever

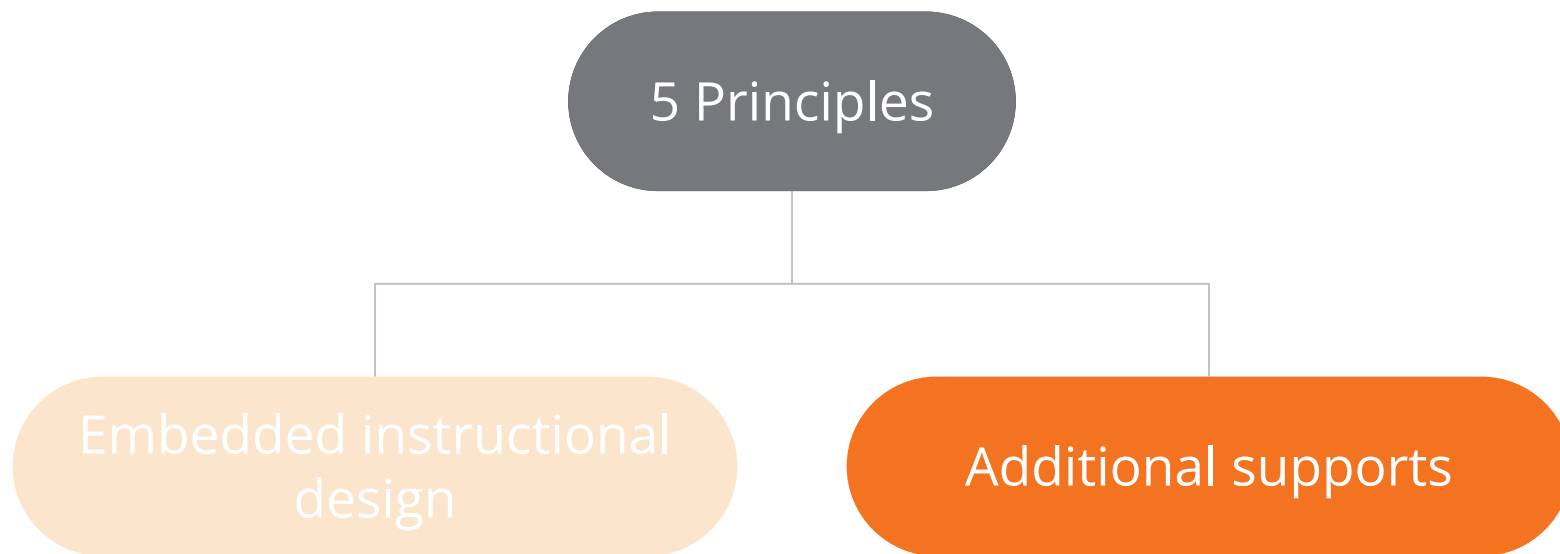
A.

Log In with Amplify



SSO login

# Supports for English learners



# Providing additional support

## Lesson-specific differentiation

- Embedded supports for diverse learners
- Potential challenges in this lesson
- Specific differentiation strategies for:
  - English Learners
  - Students Who Need More Support
  - Students Who Need More Challenge

**Lesson 2.3: Introducing Modeling**

Printable Lesson Guide

2 HANDS-ON Modeling Defenses

3 WRITING Recoring Model Explorations

4 TEACHER-LED DISCUSSION Discussing Models in Science

RESET LESSON

Overview  
Materials & Preparation  
**Differentiation**  
Standards  
Vocabulary

**Differentiation**  
Embedded Supports for Diverse Learners

**Browsing the reference book before making models.** Looking through the pictures in the reference book helps prepare students to model a type of defense in the following activity. Pairs browse through the book and discuss the images, which helps them form ideas about several different kinds of defenses.

**Explicit instruction about models.** The teacher provides explicit instruction about models and the scientific practice of modeling after students have made their own models. This helps students understand the purpose of making and using models, helps them understand that a model does not have to look exactly like the thing or process it represents, and prepares students for more activities with models in upcoming lessons.

**Word rings.** Multiple opportunities to use the disciplinary language of science are important for vocabulary development. In this lesson, you will add the *defend* and *predator* Word Ring Cards to support students in recognizing and using this content vocabulary, both orally and in writing. Word rings are particularly useful as a scaffold for beginning writers when they are writing in their Investigation Notebooks. We recommend allowing students to use word rings during other writing or reading times during the day as a way of increasing opportunities to learn and use the words.

**Models of Animal and Plant Defenses chart.** In this lesson, students are introduced to the Models of Animal and Plant Defenses chart. Using a visual representation to keep track of students' growing understanding of models used throughout the unit can serve multiple goals. It is a chance for students to practice describing models, as well as what each model helps explain about plant and animal defenses. It also creates a public artifact that students can reference as they continue thinking and learning about models.

**Potential Challenges in This Lesson**

**Physical materials.** Some students may find the materials in this lesson distracting. Some may want to use all the materials rather

**Digital Resources**

- Classroom Slides 2.3 | PowerPoint
- Classroom Slides 2.3 | Google Slides
- Classroom Videos 2.3 | Zip
- Models of Animal and Plant Defenses Chart—Completed
- Animal and Plant Defenses Investigation Notebook, page 4
- Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds

**Digital Resources**

- Classroom Slides 2.3 | PowerPoint
- Classroom Slides 2.3 | Google Slides
- Classroom Videos 2.3 | Zip
- Models of Animal and Plant Defenses Chart—Completed
- Animal and Plant Defenses Investigation Notebook, page 4
- Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural Backgrounds

**Specific Differentiation Strategies for English Learners**

**Language support.** English learners may find expressing an idea orally to the whole class challenging. Before meeting as a class after the modeling activity, you could have these students practice describing how the defense they modeled works using the language frame provided (The city uses the \_\_\_\_\_ to defend itself). Have students practice completing the sentence frame with a partner so they will be ready to share with the whole class.

**Vocabulary support.** English has a large percentage of words that have more than one meaning. This can be confusing for English learners. In this lesson, the key word model has multiple meanings. You might take some extra time to explain that some words can have two or more different meanings. Explain that model can mean a person used to wear during long and/or something someone made to answer questions about the real world. Give an example sentence, such as The model shows how a shadow appears when light is shined. Then, ask students which meaning fits that use. Let students know the definition they will use in this unit when discussing models is something scientists make to answer questions about the real world. You can also introduce the fact that the word model is a cognate for the word modelo in Spanish. Explain that the Spanish word modelo has multiple meanings just like in English. Use modelos para ser una persona pagada para una ropa que se vende a algo que los científicos crean para responder preguntas sobre el mundo real.

**Specific Differentiation Strategies for Students Who Need More Support**

**Additional teacher modeling.** Some students may benefit from more detailed examples of how to, and how not to, create their models. You could model creating a model and then ask students to create their own.



# Providing additional support

## Teacher Support notes

es > Lesson 2.3

2 HANDS-ON Modeling Defenses 3 WRITING Recording Model Explorations 4 TEACHER-LED DISCUSSION Discussing Models in Science

### Discussing Models in Science

The teacher introduces scientific modeling and begins filling in the Models of Animal and Plant Defenses chart. (5 min)

Step-by-step **Teacher Support** My Notes

#### Background

**Science Notes: About Models**

A model is a representation of a phenomenon in the natural world that scientists make to help them figure out how or why the phenomenon happens. Models typically include only the aspects of the phenomenon relevant to investigating or explaining it, and often leave out aspects that are nonessential. A model may be a diagram, a physical setup, mathematical equation, or a computer program. Models are a regular part of students' investigation and learning in the Amplify Science curriculum. In this unit, students will work with physical models to represent their understanding of animal and plant defenses. The goal in this lesson is for students to have some initial exploratory experience with models representing what is being studied.

1 READING Exploring Defenses in Spikes, Spines, and Shells 2 HANDS-ON Modeling Defenses 3 WRITING Recording Model Explorations 4 TEACHER-LED DISCUSSION Discussing Models in Science

### Modeling Defenses

**SAFETY NOTE**

**Safety Note: Toothpicks**

Caution students about how to safely use the toothpicks. Point out that students should never poke themselves or others with the pointy end of the toothpicks, and they should not break the toothpicks into smaller pieces because the toothpicks will splinter. To prevent students from poking their fingers as they work, demonstrate how to gently use the investigation materials, such as the hair comb, when creating the defense models. In subsequent lessons in which students use toothpicks with their defense models, remind them to handle the toothpicks safely.

Partners use a ball of clay, a comb, and various materials to model structures that animals and plants use to defend themselves from being eaten. (20 min)

EMBEDDED FORMATIVE ASSESSMENT INSTRUCTIONAL GUIDE

Step-by-step **Teacher Support** My Notes

#### Instructional Suggestion

**Classroom Management: Guidelines for Use of Materials**

You may want to spend additional time discussing guidelines for using the materials before distributing them. If you have guidelines for using materials that you have already established in your classroom, you could review those. You might remind the students to have materials stay on their desks, to only take materials when they are ready to use them, and to take materials slowly and gently. You might also give more guidance about how to avoid poking oneself or others with the toothpicks. Consider also modeling how to ask politely for materials to be shared.

Next Up: 3: Recording Model Explorations

# Providing additional support

## Additional resources

- Multilingual glossaries
- Response options
- Word banks
- Read aloud functions
- K & 1 speaking and writing Explanation Frames

### English-Chinese Glossary

**defend:** to protect or keep safe

**防御:** 保护或保障安全

**defense:** what a living thing has or does to protect itself

**防御:** 生物体用来自我保护的特征或行为

**model:** something scientists make to answer questions about the real world

**模型:** 科学家为解答现实问题而制作的事物

**observe:** to use any of the five senses (sight, hearing, taste, touch) to learn more about something

**观察:** 使用五种感官(视觉、听觉、嗅觉、味觉、触觉)来深入了解某种事物

**offspring:** living things that come from parents

**子代:** 亲代所繁衍的生物体

**predator:** an animal that hunts and eats other animals

**食肉动物:** 猎食其他动物的动物

**scientist:** someone who learns about the natural world

**科学家:** 了解自然界的人

**structure:** a part of an object or a living thing that does something

**结构:** 物体或生物体具备某种功能的部分

### Glossary

**defend:** to protect or keep safe

**defender:** proteger o mantener seguro

**defense:** what a living thing has or does to protect itself

**defensa:** lo que tiene o lo que hace un ser viviente para protegerse

**model:** something scientists make to answer questions about the real world

**modelo:** algo que los científicos crean para responder preguntas sobre el mundo real

**observe:** to use any of the five senses (sight, hearing, smell, taste, touch) to learn more about something

**observar:** usar cualquiera de los cinco sentidos (vista, oído, olfato, gusto, tacto) para aprender más sobre algo

**offspring:** living things that come from parents

**descendencia:** seres vivientes que provienen de padres

**predator:** an animal that hunts and eats other animals

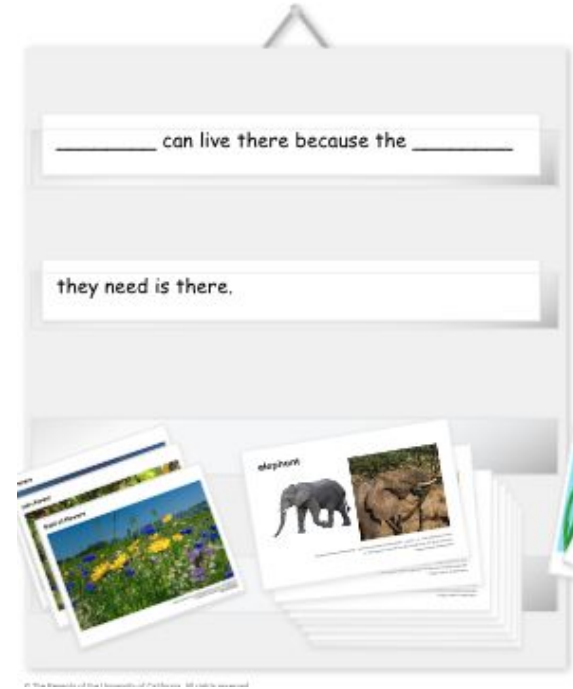
**depredador:** un animal que caza y come otros animales

# Providing additional support

## Additional resources for K & 1

### Support for Speaking and Writing K & 1

- Explanation Frames



We can talk about animals and what they need the way **scientists** do.

Let's use these words to explain why a **manatee** can live where it does.

\_\_\_\_\_ can live there because the \_\_\_\_\_

they need is there.



Let's use these words to explain why the **other animals** can live where they do.

\_\_\_\_\_ can live there because the \_\_\_\_\_

they need is there.





The Field



The Garden

\_\_\_\_\_ can live there because the

\_\_\_\_\_ they need are there.



monarch caterpillars



milkweed plants

Now we can explain our ideas as a scientist would.

First, let's explain why **monarch caterpillars can live in the Field.**





\_\_\_\_\_ cannot live there because the \_\_\_\_\_

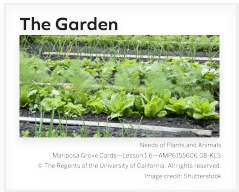
they need are not there.

\_\_\_\_\_ can live there because the \_\_\_\_\_

they need are there.

You can use these words  
to talk with a partner  
about **why monarch  
caterpillars cannot live in  
the Garden.**

**Why are there no monarch caterpillars  
since the Field was made into the Garden?**



Let's **record** our ideas.

# 5 Principles for Supporting English Learners



## Embedded and Additional Supports in Amplify Science

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.

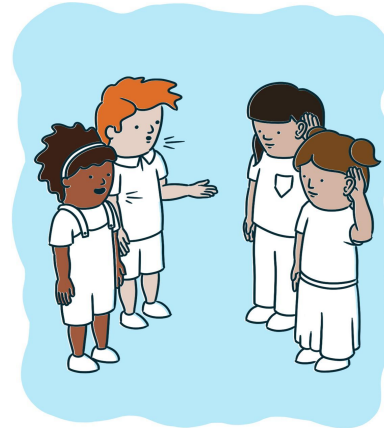
Principle 4: Provide opportunities for scaffolded practice.

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

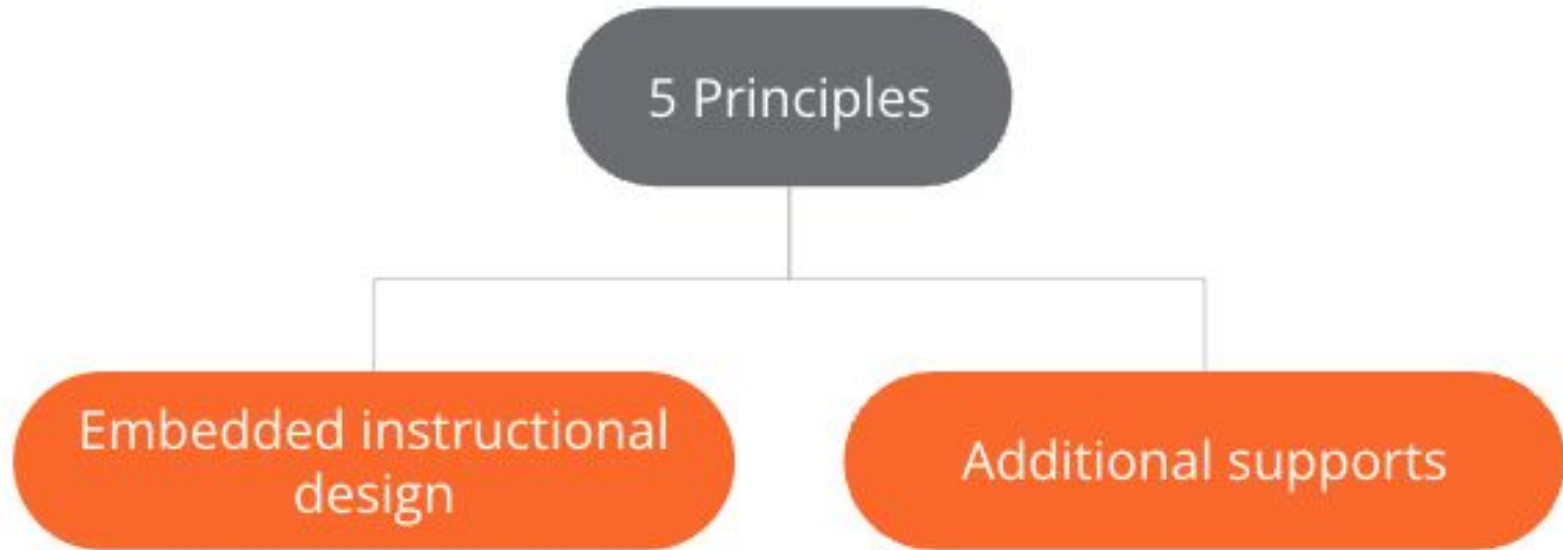
# Let's Work

## What are the Principles for Supporting English Learners?

- Form 5 groups in the room (could be by tables)
- Each group will be assigned a Principle to internalize.
- Independently read your group's Principle for Supporting ELLs.
- Discuss and Summarize with your group.
- Create an illustration/poster of your findings
- Share out

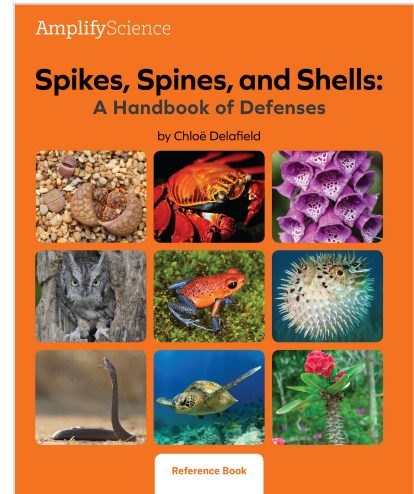


What are the embedded and additional supports that apply to each principle?



## Principle 1: Leverage and build students' informational background knowledge.

- Partner discourse routines
- Daily written reflections
- Active reading
- Anticipation guides



## Principle 2: Capitalize on students' knowledge of language.

- Science/Everyday word charts
- Leveraging native language
- Cognates
- Multilingual glossary

### Specific Differentiation Strategies for English Learners

**Response options.** Some English learners may need additional support with writing. It may be appropriate for these students to express their understanding by using a combination of drawings/diagrams and words rather than purely written responses or by providing their responses orally.

**Cognates.** Many of the academic words that students will be learning over the course of this lesson and unit are Spanish cognates. Cognates are words in two or more different languages that sound and/or look the same or very nearly the same, and that have similar or identical meanings. You may decide to support students by keeping a running list on chart paper of cognates that students encounter in this unit, or by encouraging students to keep their own lists that they can refer to as needed. Cognates are especially rich linguistic resources to exploit for academic English language development and for biliteracy development.

### Principle 3: Provide explicit instruction about the language of science.

- Language Frames /sentence starters
- Argumentation
- Modeling active reading
- Word Relationships
- Word banks
- Multiple meaning words




_____ can live there because the
_____ they need are there.



## Principle 4: Provide opportunities for scaffolded practice.

- Gradual release
- Graphic organizers
- Argumentation
- Reflective writing
- Clear and concise instructions
- Language Practice
- Modeling tools

Lesson 2.3: Introducing ModelingActivity 3

An illustration of a hand with a brown skin tone pointing its index finger at a word ring. The word ring is a small metal ring holding several white cards. The top card is clearly visible and has the word "defend" written on it in a bold, black, sans-serif font. The cards are slightly fanned out, showing multiple layers.

We have two **new words** on our word ring: **defend** and **predator**.

We can use these to help us record our ideas.



### **Suggested teacher talk:**

We are going to practice saying the word.

- Say the word after me: *model*.
- Now say the word together: *model*.
- Now whisper the word *model* to your partner.

A *model* is something scientists make to answer questions about the real world.

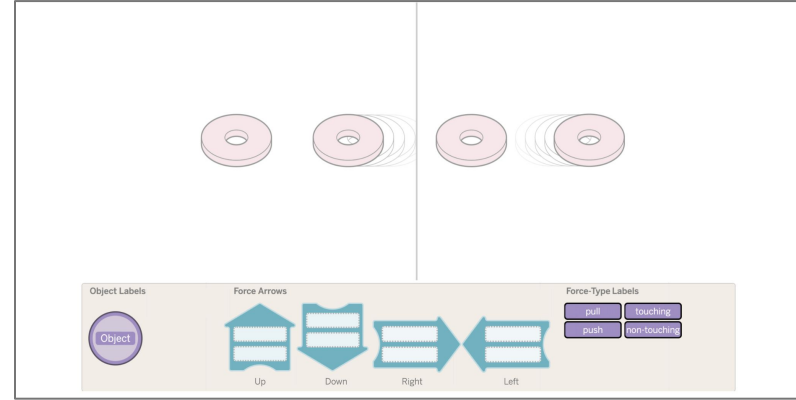
## Principle 4: Provide opportunities for scaffolded practice (cont'd)

- Create and using models
- Strategic grouping
- Promoting inclusion in discussion
- Extended modeling
- Partner reading



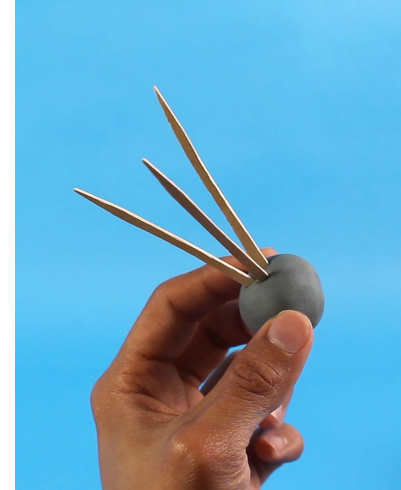
## Principle 5: Provide multimodal means of accessing science content and expressing language.

- Multimodal instruction
- Use of visual representations of images
- Interpreting and creating visual representations
- Use of physical and digital models
- Additional practice in other modalities
- Additional visual representations







## Principle 5: Provide multimodal means of accessing science content and expressing language (cont'd)

- Additional visual representations
- Optional graphic organizers
- Response options
- Increase wait time for student responses
- Student summarize



### Models of Animal and Plant Defenses

Model We Used (2.3)	What the Model Shows Us (2.3)
2.3 	<ul style="list-style-type: none"><li>• Animals have sharp parts. (2.3)</li><li>• Animals and plants get broken into smaller pieces when animals eat them. (2.3)</li></ul>
	<ul style="list-style-type: none"><li>• Shells are hard.</li><li>• Shells and armor make animals and plants hard to bite, chew, or swallow. (2.4)</li></ul>
	<ul style="list-style-type: none"><li>• Spikes are sharp. (2.5)</li><li>• Spikes hurt animals' mouths when they try to eat animals or plants with spikes. (2.5)</li></ul>
	<ul style="list-style-type: none"><li>• Living things' color and shape matches the background.</li><li>• Camouflage makes animals and plants hard to find and eat. (2.6)</li></ul>

# Now it's your turn!

## 5 Principles for Supporting English Learners

Explore the embedded and additional support resources that are available.

Examples:

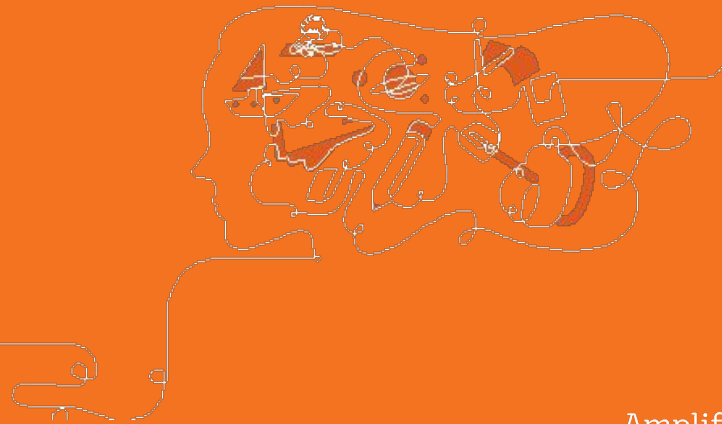
### **Unit 1 Landing page**

- Printable Resources
  - Investigation Notebook
  - Multi-language Glossary
  - Eliciting and Leveraging....

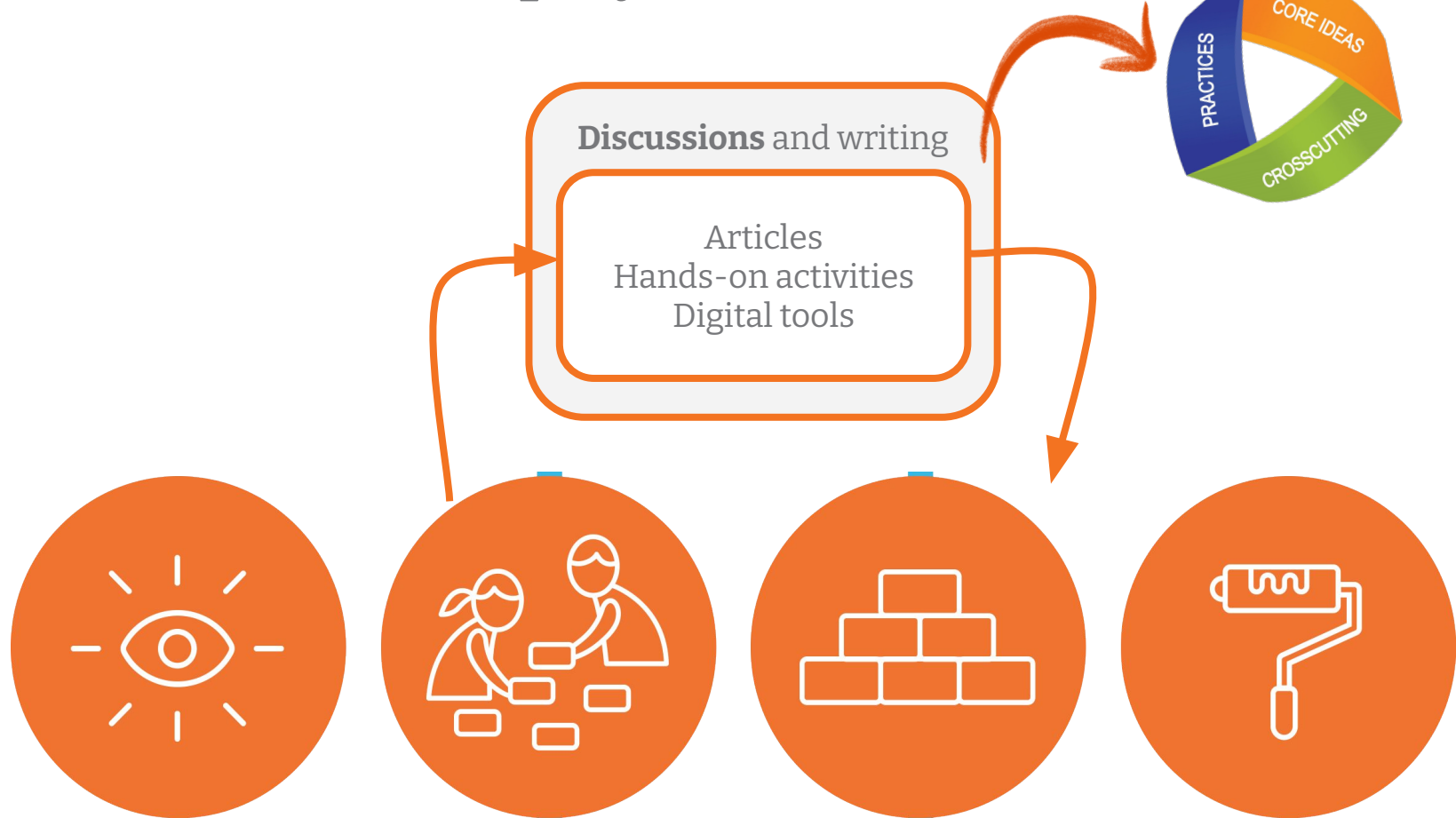
### **Lesson Page**

- Lesson Brief
  - Teacher support tab
- Digital resources (depends on lesson)
  - Classroom Slides
  - Additional resources

# Break

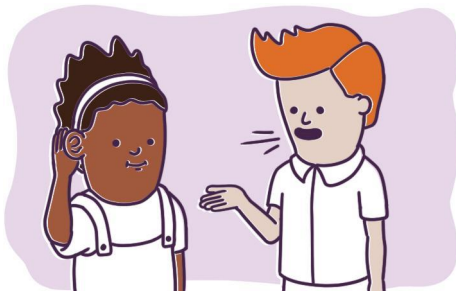
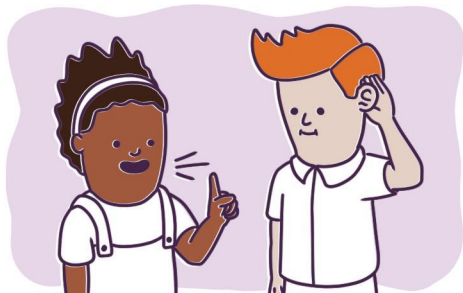


# Discourse within Amplify Science



# Let's Practice

## Discourse Routines



Discourse Routine Reference

<https://bit.ly/3T65FDA>



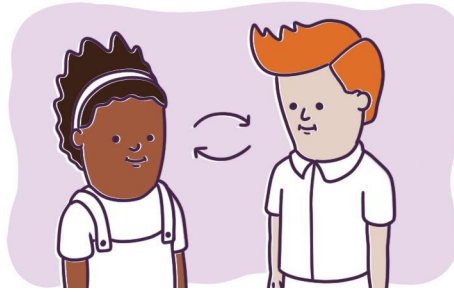
# Shared Listening

# Shared Listening



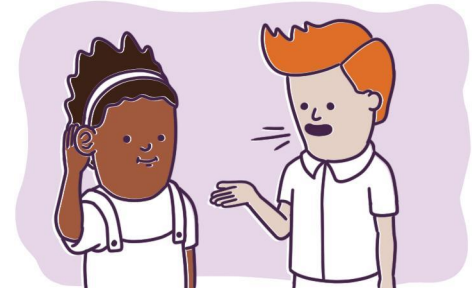
1.

**Partner A** shares.  
**Partner B** listens.



2.

Partners switch.



3.

**Partner B** shares.  
**Partner A** listens.

**Share ideas on ways you support your English learners.**



After doing the shared listening routine, call on individuals to share what their partner said. This demonstrates their ability to listen.

Think-Pair-Share

# Think-Pair-Share Routine



## Think

Think silently about the question.



## Pair

Turn and talk to a partner about the question.



## Share

Share your ideas about the question with the class.

# Think-Draw-Pair-Share Routine



## Think

Think silently about the question.



## Draw

Draw your ideas in your notebook.



## Pair

Turn and talk to a partner about the question.



## Share

Share your ideas about the question with the class.

# Think-Write-Pair-Share Routine



## Think

Think silently about the question.



## Write

Write your ideas about the question in your notebook.



## Pair

Turn and talk to a partner about the question.



## Share

Share your ideas about the question with the class.



We are used to using this routine. Is there anyone that has tried to build on this strategy or different ways to group students?



# Building on Ideas

# Building on Ideas



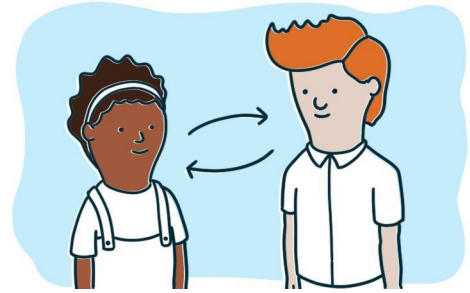
## Step 1

I will pose a question.  
**Partner A shares** for one minute while **Partner B listens**.



## Step 2

**Partner B repeats** what Partner A said, and then **agrees or disagrees**.



## Step 3

**Partner A repeats** what Partner B said, and then says if that **changed their mind or not**.

# Building on Ideas: Question 1

## Why do we need to teach Amplify science with fidelity?

**Partner A**

We need to teach with fidelity because \_\_\_\_\_.

**Partner B**

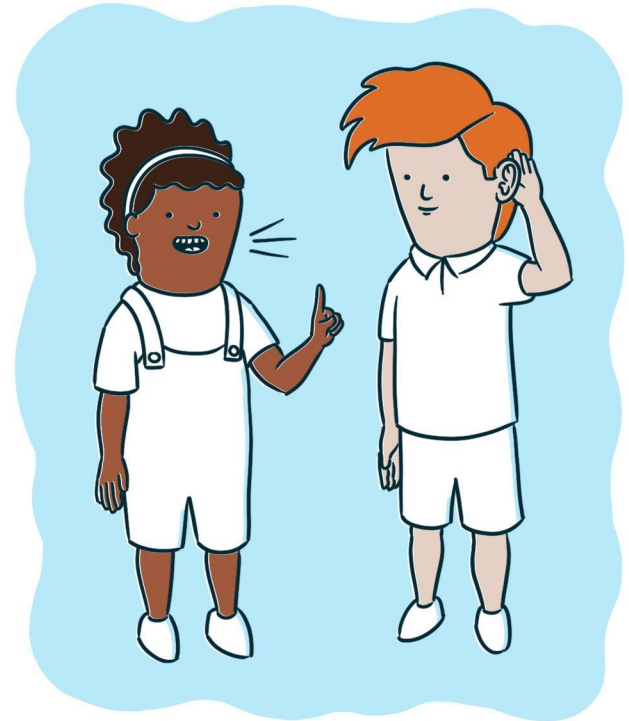
I heard you say \_\_\_\_\_.

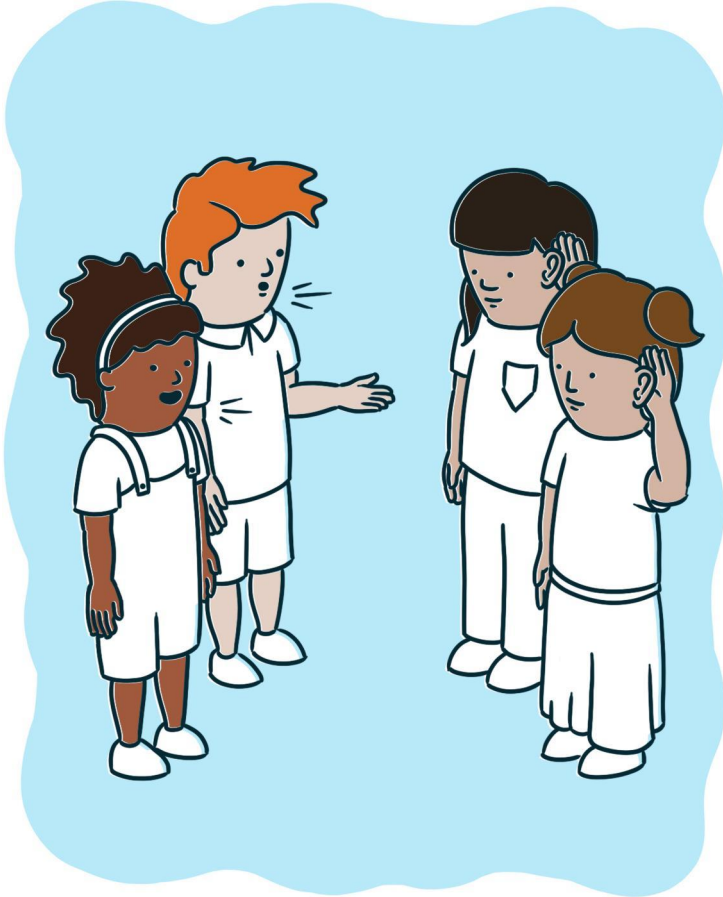
I agree/disagree because \_\_\_\_\_.

**Partner A**

I heard you say \_\_\_\_\_.

This changed/didn't change what I think because  
\_\_\_\_\_.





You will now join another pair and discuss your ideas about Question 1.



Why do we need to teach  
Amplify science with  
fidelity?

## Building on Ideas: Question 2

### Why is timing important?

**Partner B**

Timing is important because \_\_\_\_\_.

**Partner A**

I heard you say \_\_\_\_\_.

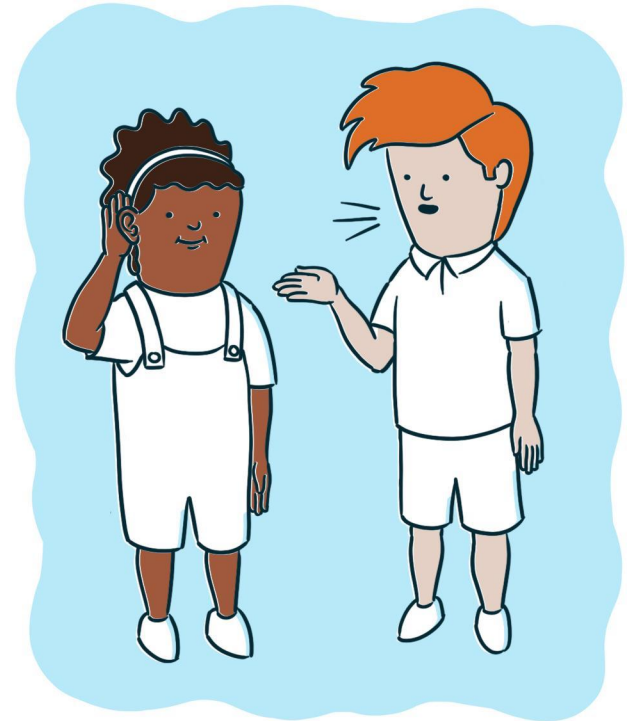
I agree/disagree because \_\_\_\_\_.

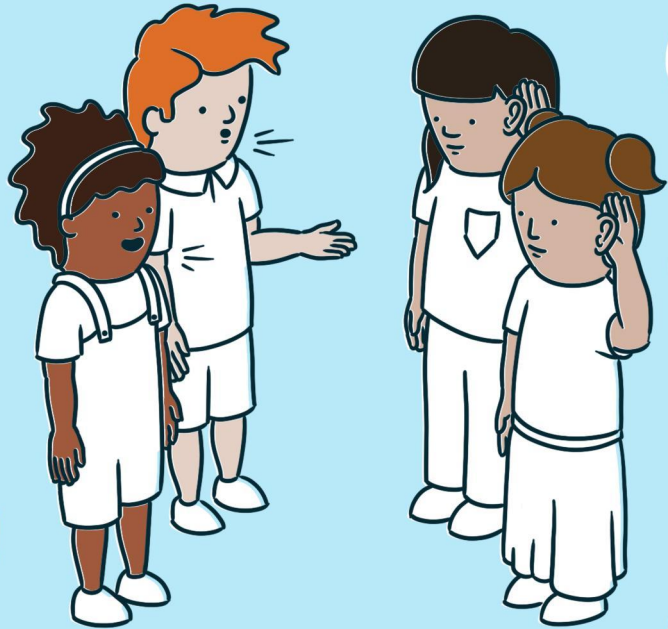
**Partner B**

I heard you say \_\_\_\_\_.

This changed/didn't change what I think because

\_\_\_\_\_.





**Join another pair and discuss your ideas about Question 2.**



**Why is timing important?**

# Concept Mapping

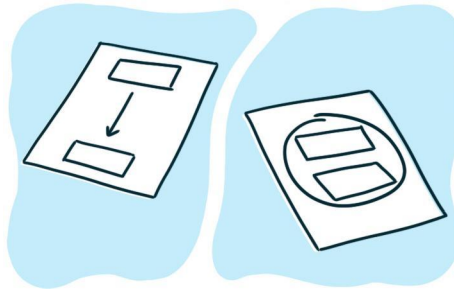
# Concept Mapping



## Step 1

**Choose two or three word cards** at a time.

Talk about how the words are related.



## Step 2

**Glue the words to a piece of paper.**

**Draw lines or circles,** and **write** to show how the words are related.



## Step 3

You can **record more words** if you would like.



**science**

Plant and Animal Relationships—Concept Mapping Cards, Set 3—Lesson 3.6—AMPS0208.05.01.5  
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**engineering**

Plant and Animal Relationships—Concept Mapping Cards, Set 3—Lesson 3.6—AMPS0208.05.01.5  
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**writing**

Plant and Animal Relationships—Concept Mapping Cards, Set 3—Lesson 3.6—AMPS0208.05.01.5  
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**reading**

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Choose **two or three** words and **discuss** how those words are related to each other.

**science**

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**engineering**

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**reading**

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**writing**

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**Paste** two or three word cards on the paper.

**Draw and write** to show how the words are related.

# Thought Swap

# Thought Swap



## Step 1

**Make two lines** so that you each have a partner directly across from you.



## Step 2

**Discuss the first question** with your partner.



## Step 3

**Switch partners** and discuss the next question.

## Thought Swap Question 1:



What have you been successful with in teaching Amplify Science?

Now, switch partners for Thought Swap Question 2:



What have you struggled with in teaching Amplify Science? How did you address it?

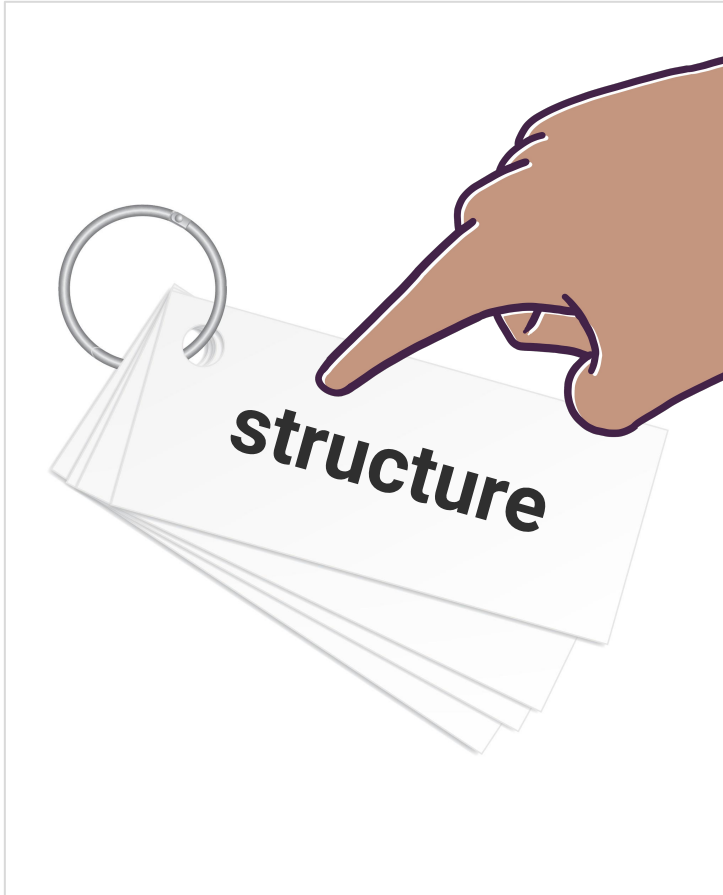
# Variation on Thought Swap

Put students in groups of 8 (or 6) and have them rotate as the questions change.



# Word Relationships





This **word ring** is a tool we can use to remember a word or how to spell it.

# Word Relationships Routine

## Make Sentences

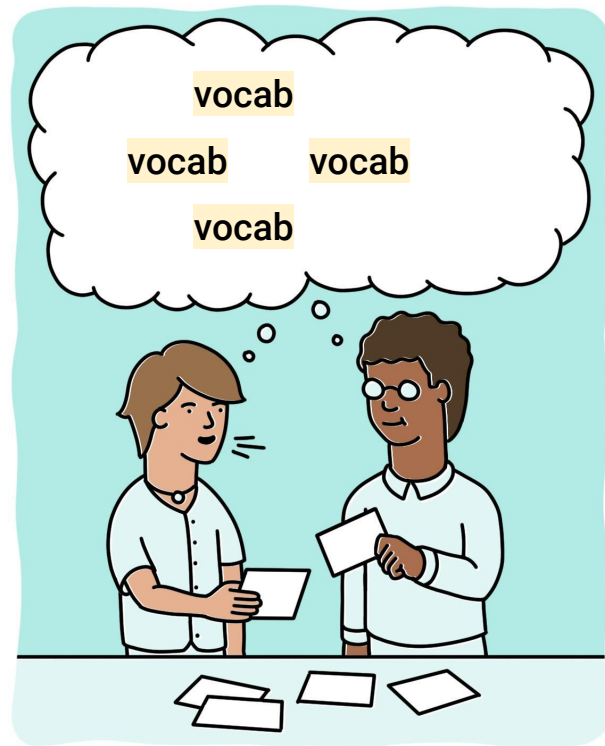
Use at least two words from the Word Relationships Cards in each sentence. You may use the same word more than once. Try to use all the vocabulary words.

## Take Turns

Take turns as both the speaker and the listener.

## Create More Than One Sentence

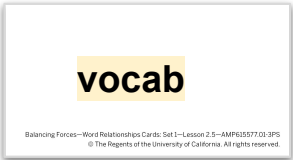
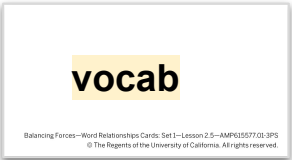
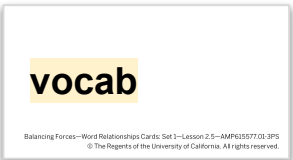
There are many different sentences that could help to answer the Investigation Question. You and your partner will need to create multiple sentences in order to answer the question completely.



Here is a sentence using two of the word cards:

A  causes  to occur.

Here is a sentence using three of the word cards:

A  can  a paperclip  
with a .

# Evidence Circles

## Scientific Language for Evidence Circles

### Ways to share ideas:

- I think Claim \_\_\_\_\_ (A, B, or C) is best because \_\_\_\_\_ .
- The evidence shows that \_\_\_\_\_ .
- This means that \_\_\_\_\_ .

### Ways to respond to others:

- I agree because \_\_\_\_\_ .
- I disagree because \_\_\_\_\_ .

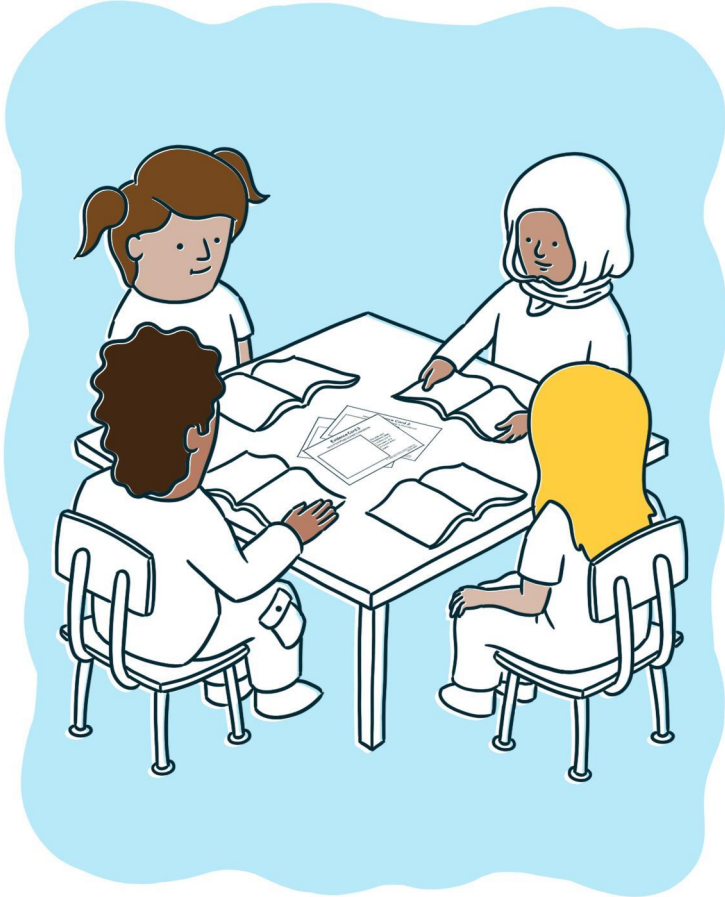
### Questions to ask during the discussion:

- What evidence supports your claim?
- Could you say more about why the evidence you shared supports your claim?



You can use the scientific language to help you discuss.

Make sure each person gets to read the cards.



Begin your **Evidence Circles.**

Discuss to decide which claim is best.

I will call on a volunteer to share for each group.



Did your group come to an **agreement**?

Why did you choose to link the **evidence** that you did?



Write and Share

# Write and Share Routine

1. Carefully **read and annotate** the information you're given.
2. **Answer your prompt** using the vocabulary words.
3. After everyone in your group has had a chance to write, **take turns introducing your prompts and sharing** your responses.
4. While one student presents, the others should **listen carefully**.
5. After each student presents, the other students in the group can **ask questions** or make comments.



Write and Share Routine: Student 1 Name: \_\_\_\_\_ Date: \_\_\_\_\_

Write and Share Routine: Student 2 Name: \_\_\_\_\_ Date: \_\_\_\_\_

Write and Share Routine: Student 3 Name: \_\_\_\_\_ Date: \_\_\_\_\_

Write and Share Routine: Student 4 Name: \_\_\_\_\_ Date: \_\_\_\_\_

Teacher note:  
consider replacing  
with a screenshot of  
an image from your  
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Page 10001 (Student)

I'll give each member of your group a number.



Find the sheet that matches your number.  
This is the piece of evidence you will respond to.

Write and Share Routine: Student 1 Name: \_\_\_\_\_ Date: \_\_\_\_\_

Ro

Write and Share Routine: Student 2 Name: \_\_\_\_\_ Date: \_\_\_\_\_

Ro

Write and Share Routine: Student 3 Name: \_\_\_\_\_ Date: \_\_\_\_\_

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Write and Share Routine: Student 4 Name: \_\_\_\_\_ Date: \_\_\_\_\_

Teacher note:  
consider replacing  
with a screenshot of  
an image from your  
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Let's hear from a few different groups.

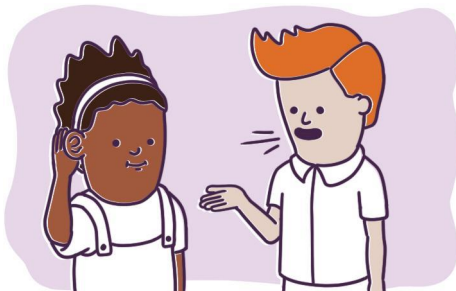
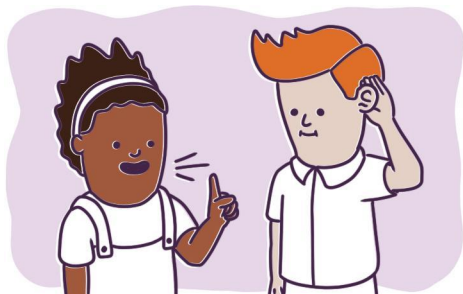


What ideas did you share  
in your group?

What did you **learn** from  
another group member?

# Discourse Routine Templates

## Discourse Routines



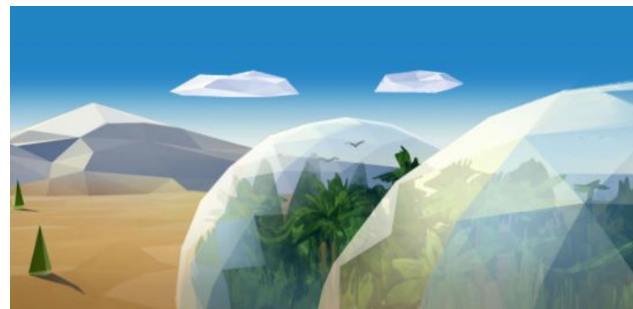
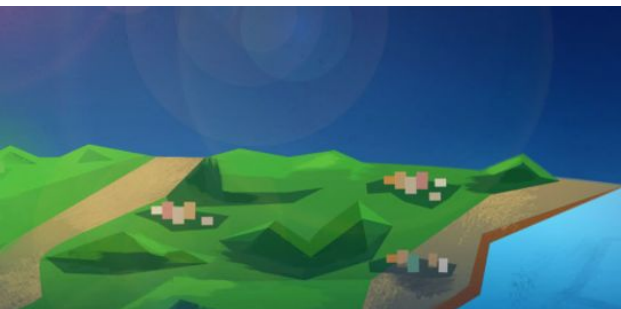
Discourse Routine Templates

<https://bit.ly/3EmgkGd>

# Questions?



# Lunch Break



## Plan for the day

- Introduction
- Language of the Science Classroom
- Embedded and Additional Supports
- **Experiencing a Lesson**
- Planning for Supports
- Closing



# Animal and Plant Defenses

A stylized illustration of a sea turtle swimming in the ocean. The turtle is light green with a patterned shell and is positioned in the center-right of the frame. The background is a vibrant blue with wavy lines representing water. The title 'Animal and Plant Defenses' is written in large white letters at the top left.

**Problem:** How does a sea turtle or other sea animals at the aquarium could defend themselves from ocean predators once they are released back into the wild?

**Role:** Marine Scientists

Students are challenged to figure out how Spruce and her offspring will survive in an ocean where the are predators.

# Animal and Plant Defenses

## Coherent Storylines



How does Spruce the Sea Turtle do what she needs to do to survive?



How can Spruce the Sea Turtle survive where there are sharks?



How can Spruce the Sea Turtle's offspring survive where there are sharks?



How can scientists explain animal defenses to visitors?

# Animal and Plant Defenses



Unit Question: How do animals and plants survive?

Students learn to construct scientific explanations of why animals' and plants' offspring are able to survive in areas where there are animals that might eat them.



# Animal and Plant Defenses

Explaining the phenomenon: Science Concepts

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

# Progress Build

## Animal and Plant Defenses

**Assumed prior knowledge (preconceptions):** It is assumed students know that animals and plants are living things and can die if they do not get what they need.

### Level 1

To survive, animals and plants must not be eaten by animals that try to eat them for food

### Level 2

Many animals and plants have body structures with qualities that make them good for stopping animals from finding and/or eating them.

### Level 3

Animals' and plants' offspring have similar, though not identical, structures to their parents that work in the same ways.



# Animal and Plant Defenses



By the end of the unit, students learn:

- Sea turtles have body parts that help them get food, air, and water. To survive in the ocean, she needs to avoid being eaten by predators.
- Spruce has body structures that function as defenses against being eaten by sharks.
- The offsprings might not look exactly alike, but they will grow up with structures, like their parents to allow them to defend themselves and survive on their own without help from their parents.
- To create models to explain animals defenses to the visitors of the aquarium.

# Chapter 1

## Unit Anchor Phenomenon

Problem students work to solve

## Chapter-level Anchor Phenomenon Chapter 1 Question

## Investigation Questions

## Evidence sources and reflection opportunities

## Key concepts

## Application of key concepts to problem

## Explanation that students can make to answer the Chapter 1 Question

## Animal and Plant Defenses: Spikes, Shells, and Camouflage

Spruce the Sea Turtle and her offspring survive in the ocean.  
*How can a sea turtle survive in the ocean after being released by an aquarium?*

Spruce the Sea Turtle survives in the ocean.  
*How does Spruce the Sea Turtle do what she needs to do to survive?*

*What do animals and plants need to do to survive? 1.1*  
(Note: See Lesson Overviews for lesson-level Investigative Phenomena)

- Play the Survival Game (1.1)

- To survive, animals and plants need to get water, air, and food. (1.1)

*How do animals and plants do what they need to do to survive? (1.2, 1.3, 1.4, 1.5)*  
(Note: See Lesson Overviews for lesson-level Investigative Phenomena)

- Read *Tortoise Parts* (1.2)
- Observe students eating (1.2)
- Describe structures in *Tortoise Parts* (1.3)
- Watch videos of plant and animal structures (1.3)
- Read *Spikes, Spines, and Shells* (1.3)
- Revisit the Survival Game (1.4)
- Write about how animals do what they need to do to survive. (1.4)

- Animals and plants have structures that help them do what they need to do to survive. (1.3)
- To survive, animals and plants need to get water, air, and food, and to not be eaten. (1.4)

- Gather evidence about sea turtle structures and explain how they use those structures to survive (1.5)
- Write about how Spruce does what she needs to do to survive in the ocean (1.5)

Sea turtles have body parts that help them get food, air, and water. In the ocean, there are predators that might try to eat the sea turtle. To survive in the ocean, she needs to avoid being eaten by predators.

# Chapter 2

## Unit Anchor Phenomenon

Problem students work to solve

## Chapter-level Anchor Phenomenon Chapter 2 Question

### Investigation Questions

### Evidence sources and reflection opportunities

### Key concepts

### Application of key concepts to problem

### Explanation that students can make to answer the Chapter 2 Question

## Animal and Plant Defenses: Spikes, Shells, and Camouflage

Spruce the Sea Turtle and her offspring survive in the ocean.  
*How can a sea turtle survive in the ocean after being released by an aquarium?*

Spruce the Sea Turtle survives in the ocean where there are predators.  
*How can Spruce the Sea Turtle survive where there are sharks?*

*How do animals eat other living things? (2.1, 2.2)*  
(Note: See Lesson Overviews for lesson-level Investigative Phenomena)

- Read Whose Lunch Is This? (2.1)
- Observe videos of animals eating (2.1)
- Investigate food breaking apart (2.1)
- Act out food being broken apart (2.2)
- Revisit Whose Lunch Is This? (2.2)
- Describe animals' sharp structures for eating (2.2)
- Discuss which structures are and are not used for getting food (2.2)

- Many animals use their sharp structures to make animals and plants easier to eat. (2.2)

*How do animals and plants defend themselves? (2.3, 2.4, 2.5, 2.6, 2.7)*  
(Note: See Lesson Overviews for lesson-level Investigative Phenomena)

- Revisit Spikes, Spines, and Shells (2.3)
- Create physical models of animal defenses (2.3)
- Observe video of shell defenses (2.4)
- Revisit Tortoise Parts and Spikes, Spines, and Shells (2.4)
- Create and discuss physical shell and armor defense models (2.4)
- Revisit Spikes, Spines, and Shells (2.5, 2.6)
- Observe video of spike defenses (2.5)
- Create and discuss spike defense models (2.5)
- Observe video of camouflage defenses (2.6)
- Create and discuss camouflage models (2.6)
- Write about one defense (2.7)
- Engage in the Survival Role-Play movement routine (2.7)

- Animals and plants have defenses, structures that keep other animals from eating them. (2.7)

*How can we use ideas about animal and plant defenses to solve a problem? (2.8)*  
(Note: See Lesson Overviews for lesson-level Design Problem)

- Write a plan to protect food supply (2.8)
- Build defenses for the aquarium food supply (2.8)

- Scientists can make things that copy animal or plant structures to solve human problems. (2.8)

- Write to explain how Spruce can use her defenses to survive once she is back in the ocean (2.7)

Spruce has body structures that function as defenses against being eaten by sharks. Spruce's shell can block a shark's sharp teeth from biting Spruce. Spruce's camouflage colors make it harder for sharks to see her.



# Animal and Plant Defenses: Chapter 1

**Chapter 1 Question:** How does Spruce the Sea Turtle do what she needs to do to survive?



**Investigation Question 1:** What makes an object start to move?

- What do animals and plants need to do to survive?
- How do animals and plants do what they need to do to survive?

**Chapter 2 Question:** How can Spruce the Sea Turtle survive where there are sharks?



**Investigation Question 1:** How do animals eat other living things?

**Investigation Question 2:** How do animals and plants defend themselves?

# Animal and Plant Defenses

## Chapters

Chapter 1: How does Spruce the Sea Turtle do what she needs to do to survive? ⓘ



LESSON 1.1  
Pre-Unit Assessment



LESSON 1.2  
Tortoise Parts



LESSON 1.3  
Animal and Plant  
Structures



LESSON 1.4  
Surviving by Not Being  
Eaten



LESSON 1.5  
Explaining Sea Turtle  
Survival

Chapter 2: How can Spruce the Sea Turtle survive where there are sharks? ⓘ



LESSON 2.1  
Whose Lunch Is This?



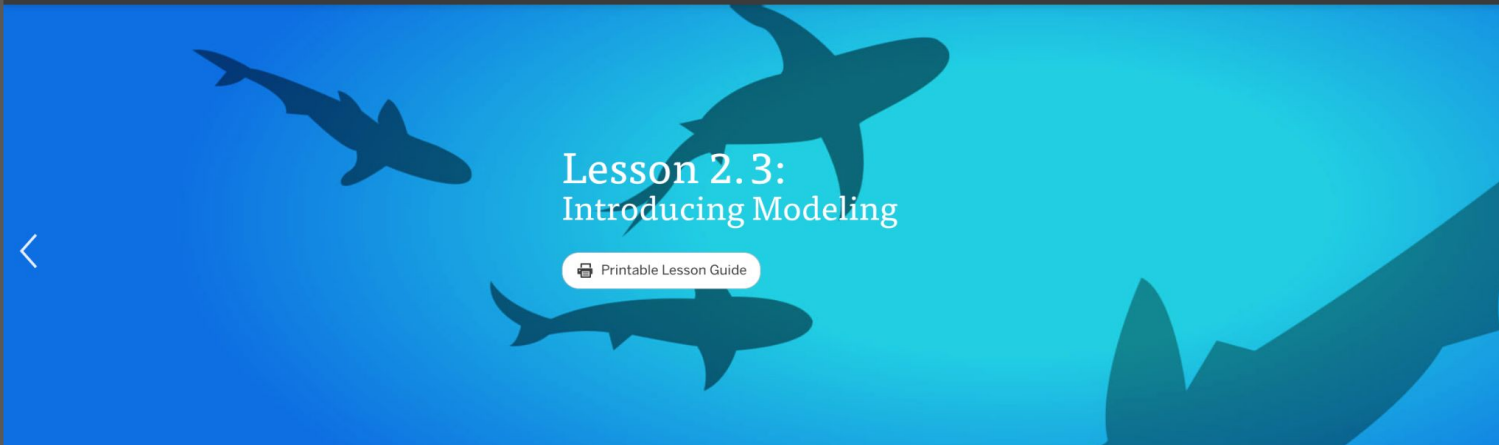
LESSON 2.2  
Sharp Structures for Eating



LESSON 2.3  
Introducing Modeling

# The Lesson Brief

[Science California](#) > [Animal and Plant Defenses](#) > [Lesson 2.3](#)



## Lesson 2.3: Introducing Modeling

[Printable Lesson Guide](#)

Lesson Brief  
(4 Activities)

1 READING  
Exploring Defenses in  
Spikes, Spines, and Shells

2 HANDS-ON  
Modeling Defenses

3 WRITING  
Recording Model  
Explorations

4 TEACHER-LED DISCUSSION  
Discussing Models in  
Science

[RESET LESSON](#)

Overview

Materials & Preparation

Differentiation

Standards

Vocabulary

### Overview

Students make the first in a series of models to explain animal and plant defenses. Partners explore the reference book to observe how animals and plants use their structures to not be eaten. Students reflect on what they observed in the reference book before using a ball of clay, a comb, and a variety of materials to model how animals and plants might use their structures to defend themselves. The teacher demonstrates how to draw a model structure in the Investigation Notebook and how to use the word ring to label the drawing. Then, students choose one of their model structures to draw

### Digital Resources

- Classroom Slides 2.3 | PowerPoint
- Classroom Slides 2.3 | Google Slides
- Classroom Videos 2.3 | Zip
- Models of Animal and Plant Defenses Chart—Completed
- Animal and Plant Defenses Investigation

[English](#) [Español](#)

# Considering language demands

Read over the lesson brief and consider:

- What will students “do” with language in this lesson?  
(*receptive or productive*)
- What types of language will support students in engaging with the lesson?

## Analyzing an activity: Language of Science

Unit: Changing Landforms

Lesson 1.3-1.4

### Part 1:

Activity	Analyze the language of science in these activities. What do STUDENTS “do” with the language in this lesson?	How are STUDENTS using and developing language?	Notes
Activity 1: Exploring Sand Samples			
Activity 2: Comparing Sand Samples			
Activity 3: Setting a Purpose for Reading/ Partner Read			
3-D Statement Analysis			
<b>Word Bank:</b> listening, speaking, writing, receptive language, productive language, individual, partner, group			
<b>Types of Language:</b> Conversational language, academic practice language, science content language			

# Animal and Plant Defenses

## Language demands - Lesson 2.3

The 3-D Statement can help focus us in on the goal of the lesson.

- Create Physical Models (Productive Language-Discussion with partner)
- Information from *Spike, Spines, and Shells..* (Receptive Language)
- Cause and effect, structure and function (Comparative language)

### 3-D Statement

Key: Practices Disciplinary Core Ideas Crosscutting Concepts

Students create physical models of structures that animals and plants use to defend themselves from being eaten (cause and effect, structure and function), inspired by the information they gathered from the book *Spikes, Spines, and Shells: A Handbook of Defenses*.

# Strategies and supports

As we go through the lesson, think about what strategies or supports are used to engage students in the language of science.

- Embedded
- Additional

Part 2: Instructional strategies for supporting English learner's use of language in science

Activity	What embedded strategies were there in the lesson to support students with engaging in the language of science?	What additional strategies might you use to support students in engaging in the language of science? <i>(Differentiation Brief, Teacher Support Tab, Teacher Toolkit)</i>
Activity 1: Exploring Sand Samples		
Activity 2: Comparing Sand Samples		
Activity 3: Setting a Purpose for Reading/ Partner Read		

**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.

# Animal and Plant Defenses

## Materials for Lesson 2.3

For the Classroom Wall

**Vocabulary Cards:** defend,  
defense model

Partner Reading Guidelines

### For the Class:

*Spikes, Spines, and Shells* Big

Book

1 index card (4" x 6") \*

Modeling clay

Word rings

Hole punch\*

1 sheet of chart paper\*

Pocket chart (or whiteboard\*  
marker\*

Masking tape\*

### For Each Group of Four Students:

2 medium paper cups

8 plastic coins

20 toothpicks

15 pencil-top erasers

3-3 pieces of colored tissue

paper

1 tray (or other container) for  
materials&\*

### For Each Pair of Students:

1 plastic comb

1 ball of clay

1 copy of *Spikes, Spines, and Shells* book

### For Each Student:

1 word ring with 2 new word ring cards:  
defend, predator  
Investigation Notebook (Page 4)/



**Grade 1 | Animal and Plant Defenses**

# **Lesson 2.3: Introducing Modeling**



# Plant and Animal Defenses

## Classroom Wall

### Partner Reading Guidelines

1. Sit next to your partner and place the book between you.
2. Take turns reading.
3. Read in a quiet voice.
4. Be respectful and polite to your partner.
5. Ask your partner for help if you need it. Work together to make sure you both understand what you read.

**Problem:** How does a sea turtle or other sea animals at the aquarium could defend themselves from ocean predators once they are released back into the wild?

**Unit Question:** How do animals and plants survive?

### Chapter 1

**Key Concept:** To survive, animals and plants need to get water, air, and food, and not be eaten.

**Key Concept:**

•Animals and plants have structures that help them survive

**Chapter 2 Question:** How can Spruce the sea turtle survive where there are sharks?

**Investigation Question:** How do animals eat other living things?

**Key Concept:**

### Vocabulary:

observe  
scientist  
structure  
survive  
predator

#### What Scientists Do

To answer questions, scientists ...

observe (1.2)	read (1.3)
communicate (1.6)	make models (2.4)
explain (2.7)	



## Activity 1

# Exploring Defenses in Spikes, Spines, and Shells



## **Chapter 2 Question**

**How can Spruce the Sea Turtle survive where there are sharks?**



Just like other predators, sharks eat animals by finding them and using sharp structures, such as their teeth, to catch them or break them into smaller pieces.



We want to figure out how Spruce the Sea Turtle can **defend** herself from sharks.

Investigation Question:

How do animals and plants defend themselves?

# Vocabulary



**defend**

to protect or keep safe



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## Spikes, Spines, and Shells: A Handbook of Defenses

by Chloë Delafield



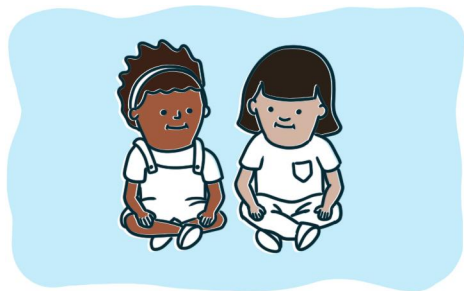
Reference Book

We read this **reference book** before.

Now, we will use this book to help answer our question about how animals and plants **defend** themselves.



## Partner Reading



1.

Sit **next to** your partner.



2.

Put the **book between** you.



3.

**Work together** to read and understand.

## Crown of Thorns



### What Are They?

This is a type of thorny plant that grows in hot places where it rains a lot. It is called the crown of thorns plant.

30 Spikes and Spines

I will show you how partners can work together to **visualize**.

AmplifyScience

## Spikes, Spines, and Shells: A Handbook of Defenses

by Chloë Delafield



Reference Book



**Look** through the book  
and **visualize** how  
animals and plants use  
their **structures** to keep  
from being eaten.

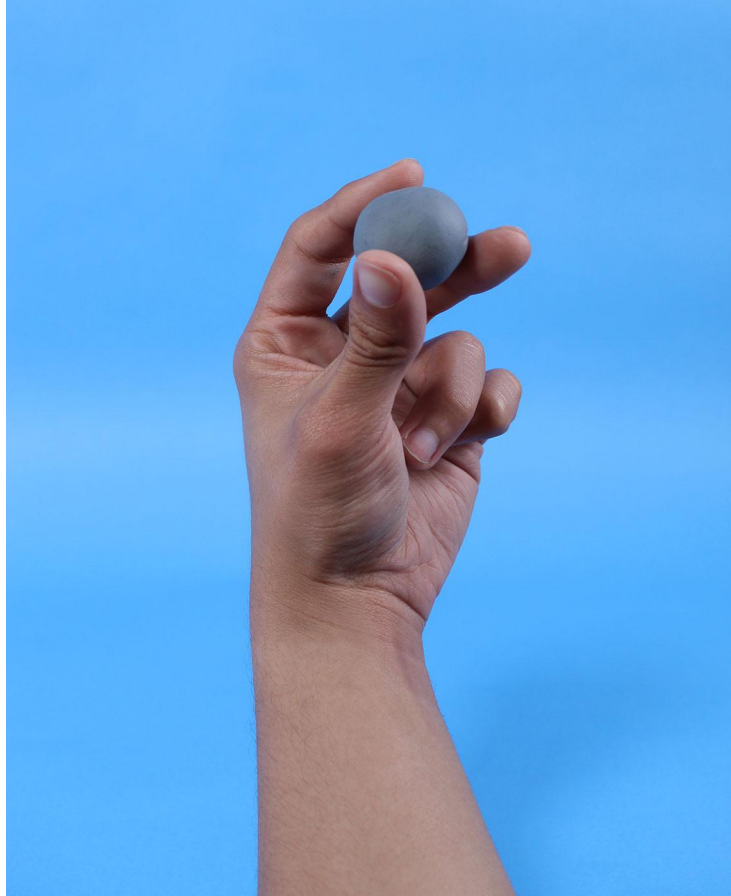
## Activity 2

# Modeling Defenses





We will **use these materials** to explore and find out more about how living things might use their structures to not be eaten.



This **ball of clay** is like the soft body of an animal or plant.



This **comb** has sharp points like the sharp structures of an animal, such as the claws or teeth.





The **comb** **poking** the **clay** is like an animal using its sharp structures to catch another living thing and break it into smaller pieces.



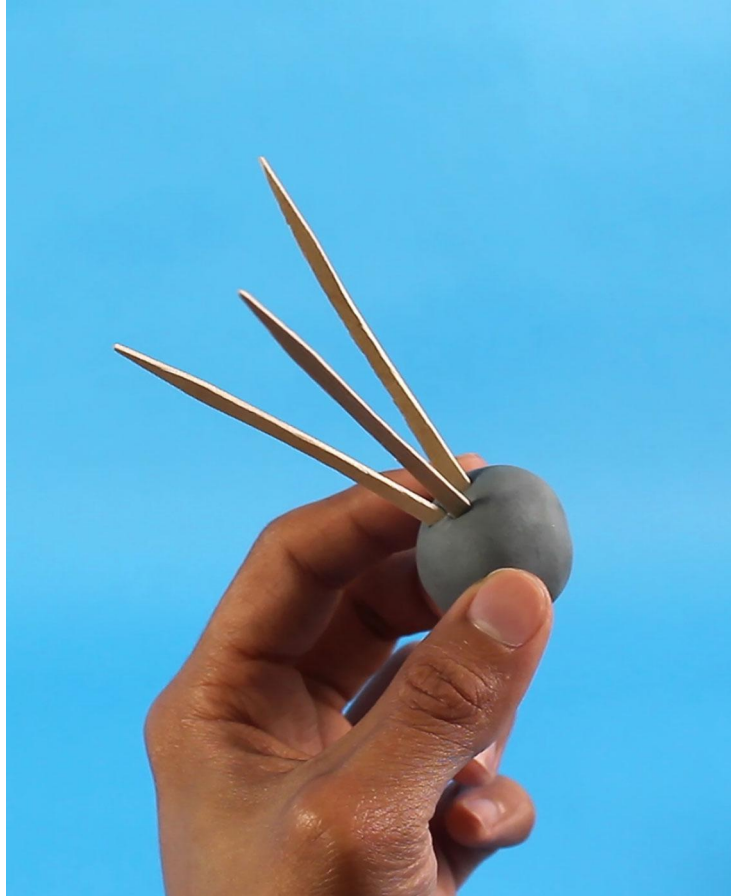
If an animal or plant does not have **structures to defend itself**, it is easy for another animal to catch it and eat it.



We are going to make structures to **defend** the clay from being poked by the comb.

These are the materials we will use.





I will show you a **demonstration** of how you can choose a material, make a structure, and check how well it works.

These toothpicks  
might **defend** the  
clay animal or plant



## Making Structures to Defend a Clay Animal or Plant

1.  
**Choose a material** to make your structures. Think about the kinds of structures you saw in the book.
2.  
**Make structures** to defend your clay animal or plant.
3.  
**Test your structures** by poking with the comb. Do they keep the clay from being broken apart?



## Activity 3

# Recording Model Explorations



Name: \_\_\_\_\_ Date: \_\_\_\_\_

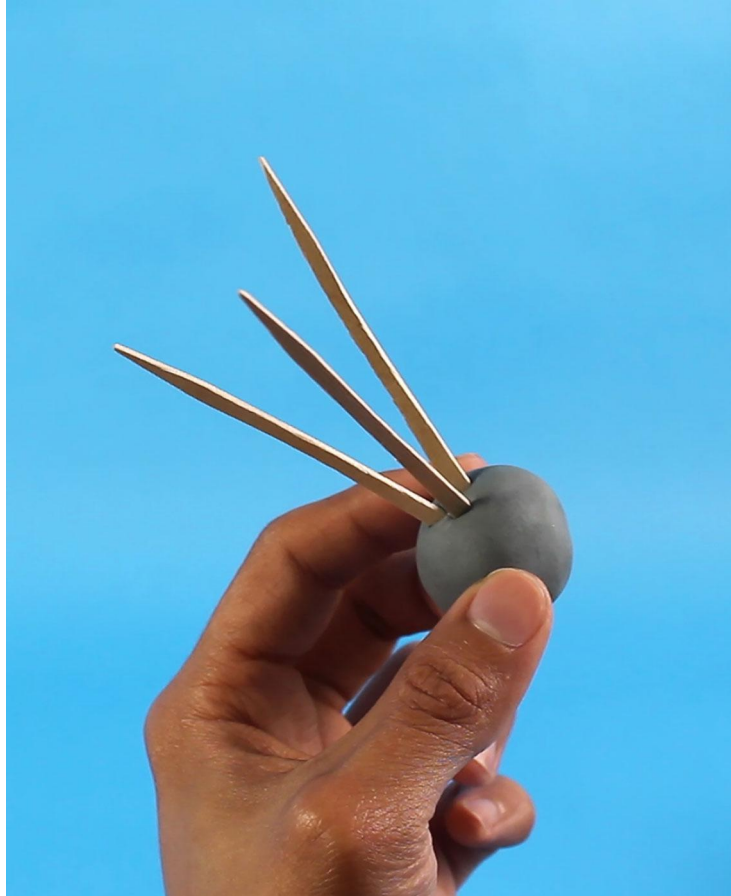
### Exploring Structures Used to Defend

Directions:

1. Draw a structure that worked to defend the clay.
2. Label your drawing.



I will **show you how** to record ideas about your best structure for defending the clay.



I am choosing this structure to **record** in the notebook.





We have two **new words** on our word ring: **defend** and **predator**.

We can use these to help us record our ideas.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Exploring Structures Used to Defend**

Directions:

1. Draw a structure that worked to defend the clay.
2. Label your drawing.



First, I will **draw** my  
**structure** here.

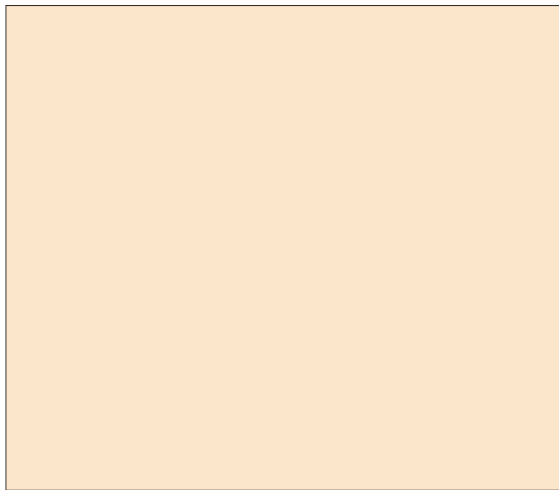


Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Exploring Structures Used to Defend**

Directions:

1. Draw a structure that worked to defend the clay.
2. Label your drawing.



Turn to page 4 in your notebooks.



**Draw** your best structure.

Use your **word ring** to help you write a label.



How did you use the materials to make **structures** that defended the clay well?

Did you try any materials that did **not** defend the clay well?

## Vocabulary



**defense**

what a living thing has or does to protect itself

## Activity 4

# Discussing Models in Science



You and your partner just made a **model** of how animals and plants use their structures to defend themselves from being eaten.



# Vocabulary

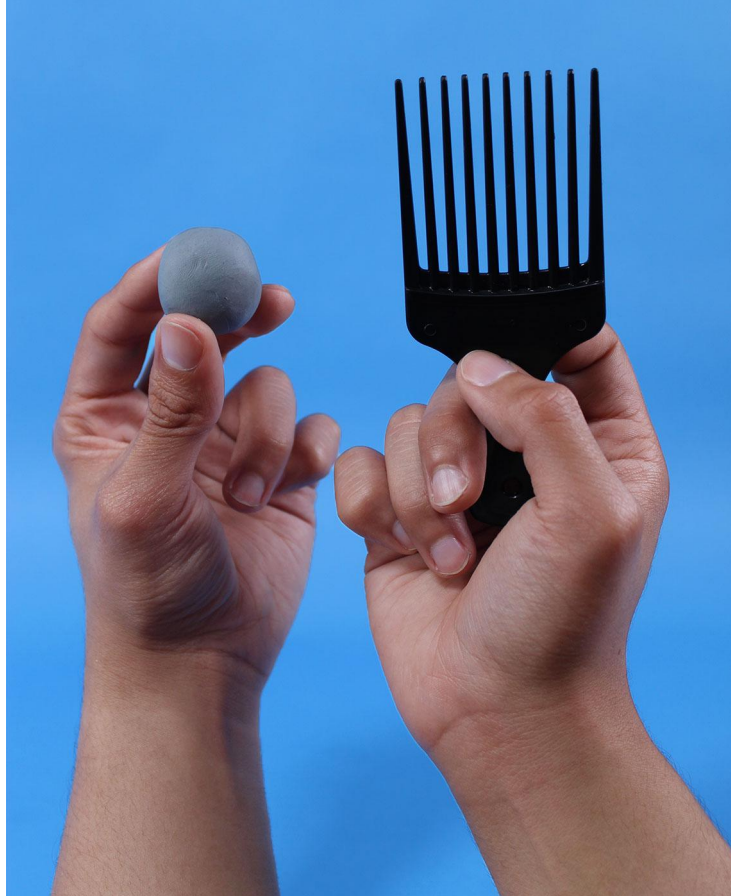


**model**

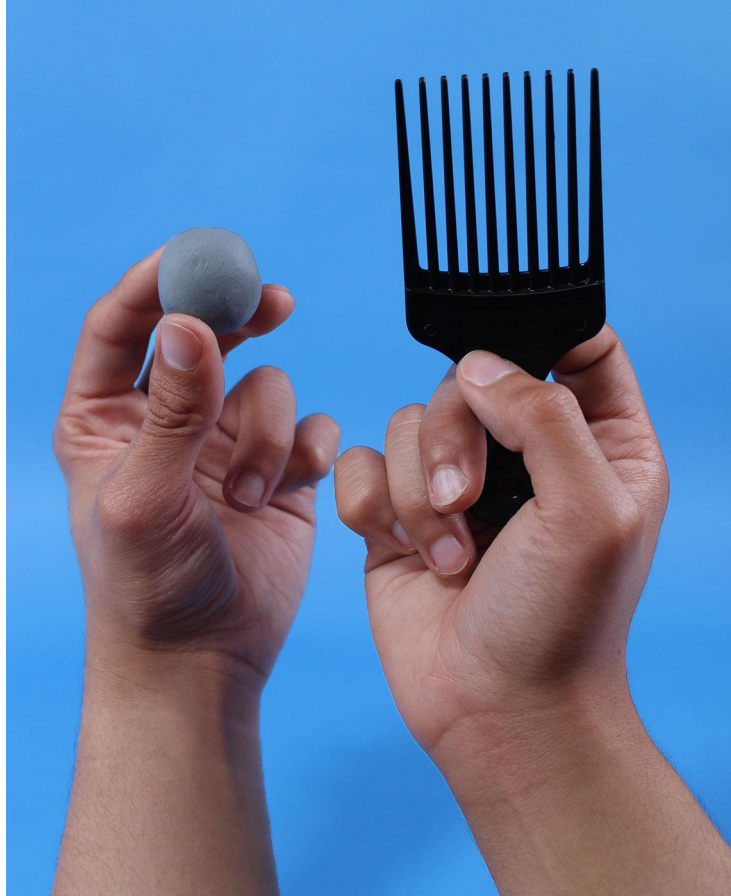
**something scientists make to answer questions  
about the real world**

**Scientists make models** to answer questions about the real world.

A model is not the real thing, but it is **like the real thing** in important ways.



The **clay** and the **comb**  
are two parts of model.



Our model is **like real animals and plants** in ways that help us understand the real thing.




Our model is **different**  
from real animals and  
plants in some ways, too.

Models of Animal and Plant Defenses

Model We Used	What the Model Shows Us

We will use this **chart** to record the models we make and what they help us explain.



Models of Animal and Plant Defenses

Model We Used	What the Model Shows Us
	

We will use the first column to show the model we made.

Let’s add the drawing of our **Clay and Comb model.**

Models of Animal and Plant Defenses

Model We Used	What the Model Shows Us
	

We will use the second column to record what each model shows us.



What did using the comb to poke and break apart the clay show us?



# End of Lesson



THE LAWRENCE  
HALL OF SCIENCE  
UNIVERSITY OF CALIFORNIA, BERKELEY

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# Reflecting

## Strategies and supports

What strategies and supports were used to support engaging in the language of science?

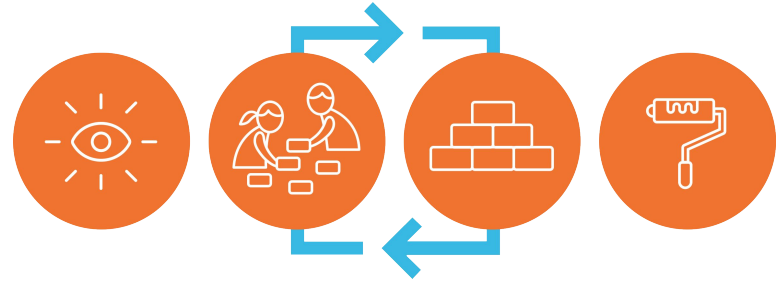
- Embedded
- Additional

Part 2: Instructional strategies for supporting English learner's use of language in science

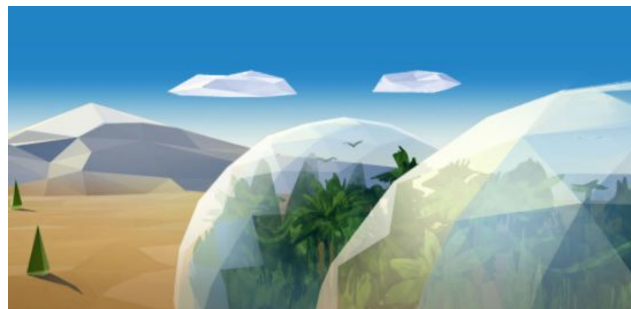
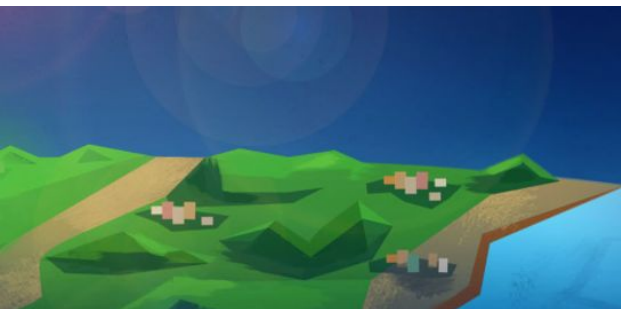
Activity	What embedded strategies were there in the lesson to support students with engaging in the language of science?	What additional strategies might you use to support students in engaging in the language of science? <i>(Differentiation Brief, Teacher Support Tab, Teacher Toolkit)</i>
Activity 1: Exploring Sand Samples		
Activity 2: Comparing Sand Samples		
Activity 3: Setting a Purpose for Reading/ Partner Read		
<b>Principles for Supporting English Learners:</b> 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.		

# Strategies for engaging English learners

- Oral and visual support
- Graphic Organizers
- Multimodal instruction
  - Do, Talk, Read, Write, Visualize
- Using different registers



# Break



## Plan for the day

- Introduction
- Language of the Science Classroom
- Embedded and Additional Supports
- Experiencing a Scaffolded Lesson
- Planning for Supports
- Closing

# Work time

- Navigate to a lesson you'll teach in the upcoming week.
- Skim the lesson to get a sense of the activities.
- Read the 3-D Statement

The screenshot shows the 'Lesson 2.3: Introducing Modeling' page from the Science California website. The header includes the navigation path: Science California > Animal and Plant Defenses > Lesson 2.3. The main banner features a blue background with silhouettes of sharks and the text 'Lesson 2.3: Introducing Modeling' and a 'Printable Lesson Guide' button. Below the banner is a horizontal menu with four tabs: 'Lesson Brief (4 Activities)', '1 READING: Exploring Defenses in Spikes, Spines, and Shells', '2 HANDS-ON: Modeling Defenses', '3 WRITING: Recording Model Explorations', and '4 TEACHER-LED DISCUSSION: Discussing Models in Science'. The 'Lesson Brief' tab is selected. The main content area is divided into three sections: 'Overview Materials & Preparation', 'Overview' (which contains a paragraph about students making models to explain animal and plant defenses), and 'Digital Resources' (which lists links to Classroom Slides 2.3 in PowerPoint and Google Slides, Classroom Videos 2.3 in Zip, and Models of Animal and Plant Defenses Chart-Completed). At the bottom left, there are language toggle buttons for 'English' and 'Español'.

# Work time

- Navigate to the Differentiation section of the Lesson Brief, and read the “Specific differentiation strategies for English learners” section.
- Click through the activity tabs and explore any Teacher Support Notes
- Consider any additional supports from your own teacher toolkit

Possible Suggestion: Download the classroom slides for your lesson, and add an additional support from your discourse template resource.

## Planning for Support in your Unit

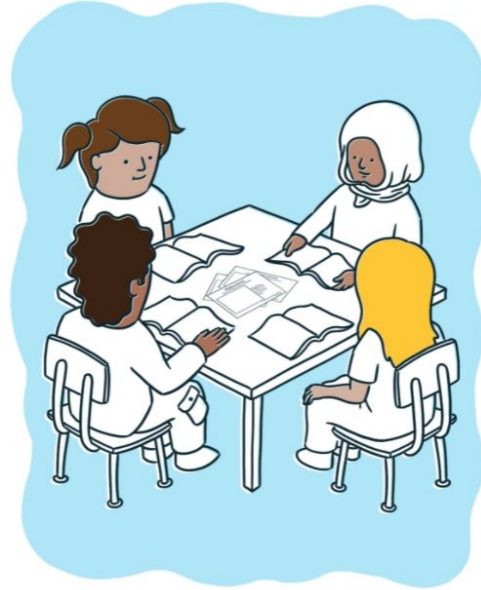
- Navigate to a lesson you'll teach in the upcoming week.
- Skim the lesson to get a sense of the activities.
- Read the 3-D statement for the lesson
- Navigate to the Differentiation section of the Lesson Brief, and read the “Specific differentiation strategies for English learners” section.
- Explore the “Teacher Support” tabs at the activity level

Unit: \_\_\_\_\_

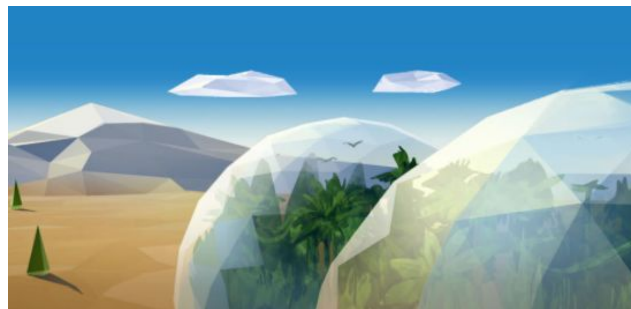
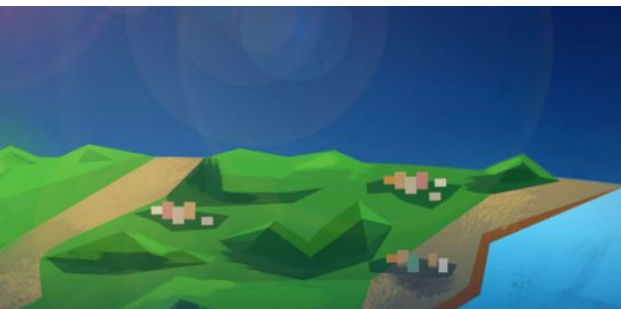
Lesson #:	3-D Statement	What will students “do” with the language in this lesson? What language will support students in constructing science ideas?
What are the instructional suggestions for supporting students? How do you envision enacting these suggestions?		What else might you do or modify to support your students with the language of science in this lesson?

# Share Out

Share the additional strategies and supports you chose for your lesson.





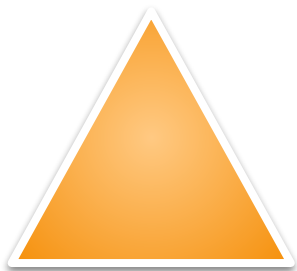


## Plan for the day

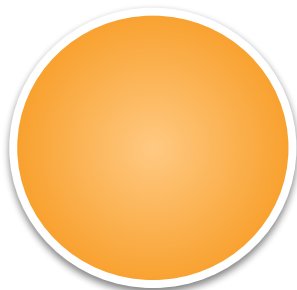
- Introduction
- Language of the Science Classroom
- Experiencing a Scaffolded Lesson
- Embedded and Additional Supports
- Planning for Supports
- Closing

# Closing reflection

Based on our work today, share:



1-3 big points you're taking away from this session



A question or topic that's still circling in your mind



Something that's "squaring" (resonating) with you from this session

# Overarching goals

- ☑ Describe the language and literacy demands in a lesson and their role in students developing science understanding
- ☑ Implement key strategies to promote English learners' academic language development and science understanding

Let's connect  
this goal to  
our students



# Additional resources

## Welcome, caregivers!

---

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

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

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



Grades 6-8



[Caregivers](#)

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



# Welcome to Amplify Science!

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

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

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

# Program Hub

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

The screenshot shows the Amplify Science Program Hub interface. At the top, there's a navigation bar with 'Amplify', 'CURRICULUM', 'CLASSWORK', and 'REPORTING'. Below this, a dark banner displays 'Science California' and 'Balancing Forces'. The main content area features a large illustration of a train on a track with a person's legs and feet standing on it. The text '22 Lessons' and 'Balancing Forces' is prominently displayed. A 'Printable Teacher Guide' button is visible. On the left, a sidebar lists 'Unit Overview', 'Chapters', 'Printable Resources', 'Planning for the Unit', 'Teacher References', and 'Offline Preparation'. The 'Unit Overview' section is active, showing a 'What's in This Unit?' section with a paragraph about scientists and engineers building a train that floats on air. Below this is a 'Read more' link. The 'Chapters' section is also visible, listing 'Chapter 1: Why does the train rise?' with three lesson thumbnails: 'LESSON 1.1 Pre-Unit Assessment', 'LESSON 1.2 Making an Object Move', and 'LESSON 1.3 Force All Around'. At the bottom left, there are language options for 'English' and 'Español'.

This screenshot shows the Amplify Science Program Hub interface for the 'Energy Conversions' unit. The top navigation bar includes 'Amplify', 'CURRICULUM', 'CLASSWORK', and 'REPORTING'. Below this, a dark banner displays 'Science' and 'Units'. The main content area features a large illustration of a train on a track with a person's legs and feet standing on it. The text '22 Lessons' and 'Balancing Forces' is prominently displayed. A 'Printable Teacher Guide' button is visible. On the left, a sidebar lists 'Unit Overview', 'Chapters', 'Printable Resources', 'Planning for the Unit', 'Teacher References', and 'Offline Preparation'. The 'Unit Overview' section is active, showing a 'What's in This Unit?' section with a paragraph about scientists and engineers building a train that floats on air. Below this is a 'Read more' link. The 'Chapters' section is also visible, listing 'Chapter 1: Why does the train rise?' with three lesson thumbnails: 'LESSON 1.1 Pre-Unit Assessment', 'LESSON 1.2 Making an Object Move', and 'LESSON 1.3 Force All Around'. At the bottom left, there are language options for 'English' and 'Español'.

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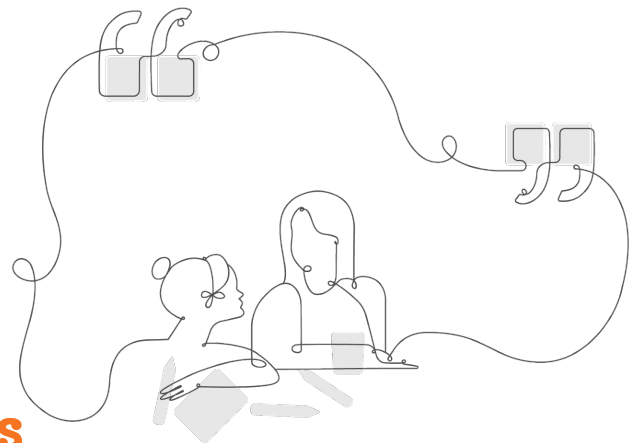
# Upcoming Professional Development!

## Unit 2 Internalization / Guided Planning (remote, 4:30-6:00 pm)

- 11/2 - Part 1, 11/3 - Part 2 (grades 3-5)
- 11/9 - Part 1, 11/10 -Part 2 (grades K-2)

## Unit 2. Part 3 - with a focus on assessments (onsite 8:00 am - 3:00 pm)

- December 3 (grades 3-6)
- December 12 ( grades K-2)



# Additional resources and ongoing support

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support.



help@amplify.com



800-823-1969



Amplify Chat





# Your feedback matters!

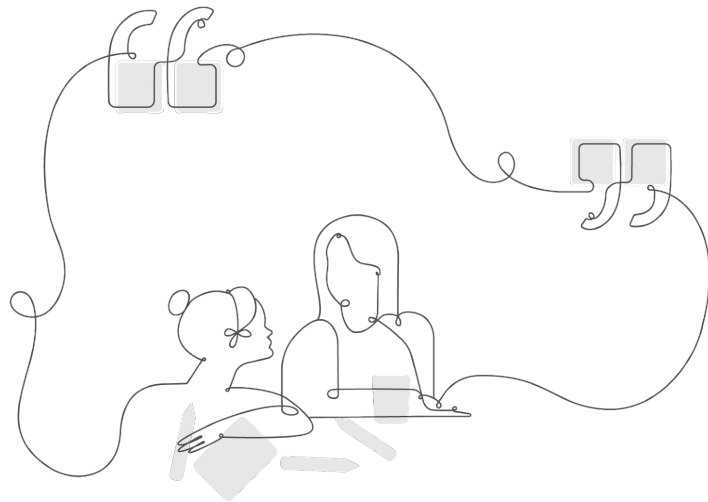
## Survey

Facilitation

Session design

Final Question: Is there anything else you would like us to know?

- Curriculum
- Materials
- Enrollment and licensing
- And more!



Please provide feedback!

[surveymonkey.com/r/AmpSciPD](https://surveymonkey.com/r/AmpSciPD)

**Type:**

Strengthen

**Session title:**

Part 3: Unit 1, Supporting English  
Language Learners

**Professional Learning Specialist name:**

Insert name

(insert email, if you would like)