Amplify Science

Unit 3: Spinning Earth (with an assessment focus)

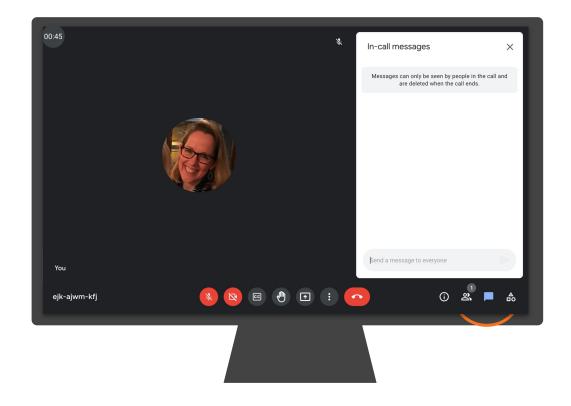
Grade 1, Part 1

School/District Name: LAUSD Date: Presented by:



Ice Breaker!

• Question: In the chat, share what experience you have had with assessments in the Amplify Science curriculum.



Amplify's Purpose Statement

Dear teachers,

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

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

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

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

Sincerely, Amplify

Norms: Establishing a culture of learners

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



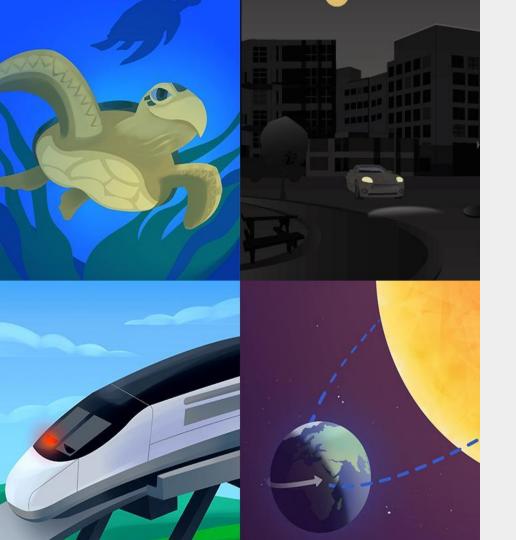
• To join Amplify ES Group: W4PK-W466-63F5B



Part 1







Plan for the day: Part 1

- Introduction and Framing
- Unit Overview
- Formative Assessments
- Closing

Overarching goals

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

- □ Internalize the unit
- Describe the overall structure of the Assessment System
- Describe the overall structure and purpose the Formative Assessments.

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Year at a Glance: Grade 1



Animal and Plant Defenses

Domain: Life Science

Unit type: Modeling

Student role: Marine Scientist



Light and Sound



Spinning Earth

Domain: Physical	Science

Unit type: Engineering Design

Student role: Light and Sound Engineer

Domain: Earth and Space Science

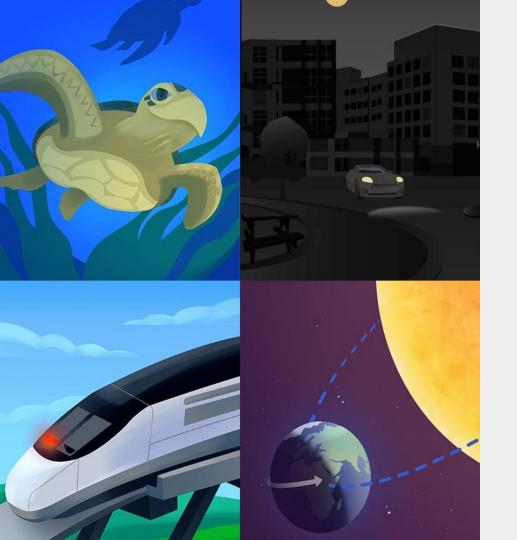
Unit type: Investigation

Student role: Sky Scientist

Amplify Science Approach

Introduce a **phenomenon** and a related problem Collect **evidence** from multiple sources Build increasingly complex **explanations** **Apply** knowledge to solve a different problem

S



Plan for the day: Part 1

- Introduction and Framing
- Unit Overview
- Formative Assessments
- Closing

Spinning Earth

Why does the sky look different at different times?

Spinning Earth

Problem: Why doesn't the sky always look the same?

Role: Sky Scientists

Students assume the role of sky scientists helping a young boy named Sai who lives in a place near them in order to understand the anchor phenomenon of the unit: why the sky looks different to him than to his grandma when they talk on the phone.

Spinning Earth

Coherent Storylines



Chapter 1: Why did the sky look different to Sai than to his grandma?

5 Lessons



Chapter 2: Why was it daytime for Sai when it was nighttime for his... 4 Lessons



Chapter 3: Why did daytime change to nighttime while Sai talked on the phone?

6 Lessons



Chapter 4: What will Sai see in the sky when he calls his grandma tomorrow? 4Lessons



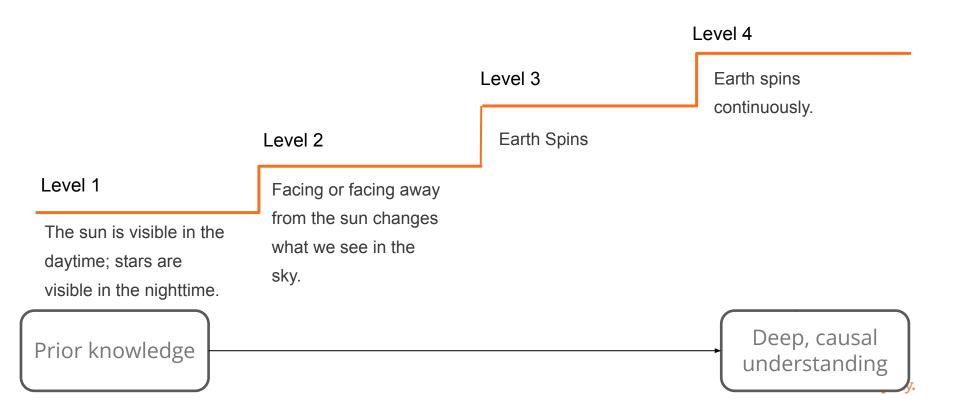
Chapter 5: Why was it nighttime for Sai when he called his grandma during th... 3Lessons

Explaining the phenomenon: Science Concepts

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

Spinning Earth Progress Build

Assumed prior knowledge (preconceptions): Students are assumed to know that the sun is a very bright, relatively large object sometimes seen in the sky and that stars are bright, small objects seen in a darker sky.



Key Unit Guide Documents for Planning

Planning for the Unit	Printable Resources	
Unit Overview	✓	4
Unit Map	✓	
Progress Build	V 📴 Flextension Compilation	
Getting Ready to Teach	V 📴 Investigation Notebook	
Materials and Preparation	V 🕅 Multi-Language Glossary	
Science Background	V	s and
Standards at a Glance	∽	
Teacher References	Print Materials (11" x 17")	
Lesson Overview Compilation	~	
Standards and Goals	Offline Preparation	
3-D Statements	Teaching without reliable classro internet? Prepare unit and lesso restrict for the formula of th	
Assessment System	materials for offline access.	_
Embedded Formative Assessments	✓ Offline Guide	
Books in This Unit	~	
Apps in This Unit	~	
Flextensions in This Unit	~	

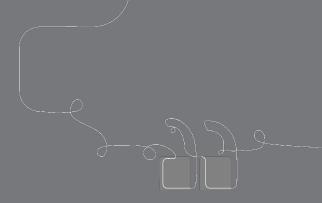
Core Unit Planning & Internalization

Unit Title:

Spinning Earth

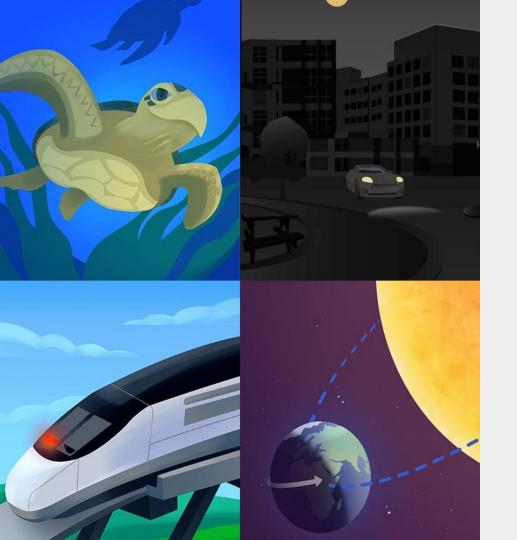
What is the phenomenon/real-world problem students are investigating in your unit?	Student Role:	
Why doesn't the sky always look the same?	Sky Scientists	
Unit Question:	Relationship between the Unit Phenomenon and Unit	
Why does the sky look different at different times?	Students investigate the connection between the phenomena, starting with day and night, and including the path the sun seems to follow across, and how that relates to an understanding how the workings of the universe affect how we live our lives.	
By the end of the unit, students figure out Students make observations of the daytime sky and read about observations of the nighttime sky. It changed from daytime to nighttime because Earth is spinning. The sun makes the same pattern in the sky every day because Earth spins one full time every day. They observe that there is a seasonal pattern to the length of daytime and nighttime over the course of a year.		
By the end of the unit, students figure out Students make observations of the daytime sky and read about obse daytime to nighttime because Earth is spinning. The sun makes the s Earth spins one full time every day. They observe that there is a seaso nighttime over the course of a year.	rvations of the nighttime sky. It changed from same pattern in the sky every day because onal pattern to the length of daytime and	
By the end of the unit, students figure out Students make observations of the daytime sky and read about obse daytime to nighttime because Earth is spinning. The sun makes the s Earth spins one full time every day. They observe that there is a sease nighttime over the course of a year. How do students engage with three-dimensional learning to figure out the p		

1



Questions?





Plan for the day: Part 1

- Introduction and Framing
- Unit Overview
- Assessment System
- Closing

Why do we assess our students?

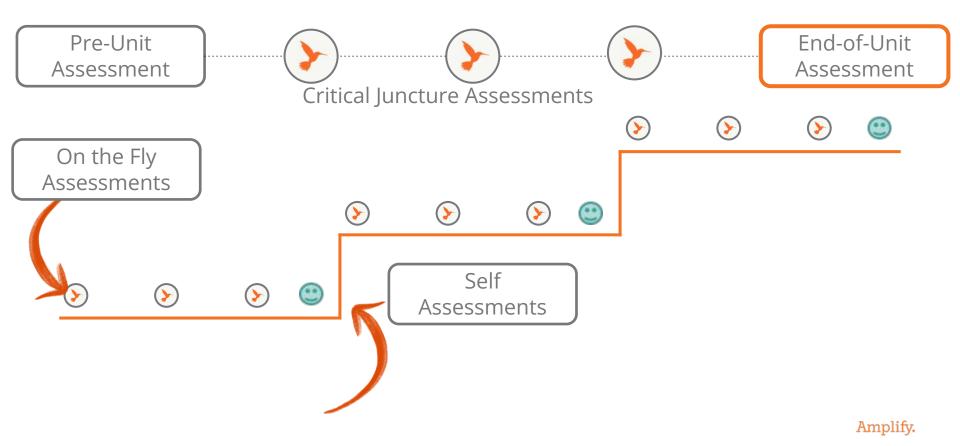
Assessment

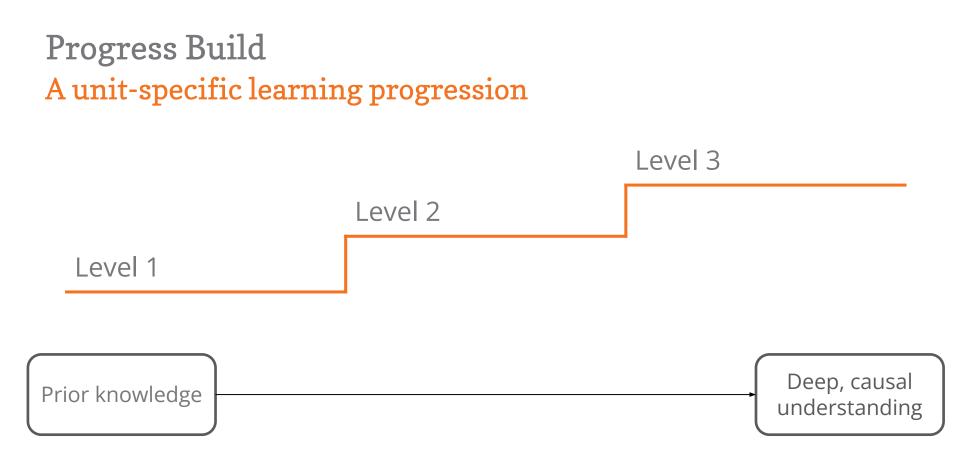
To monitor progress and provide timely support To evaluate students' mastery and communicate with stakeholders Why do we assess our students?

Assessment

Formative assessment Summative assessment

K-5 Assessment System

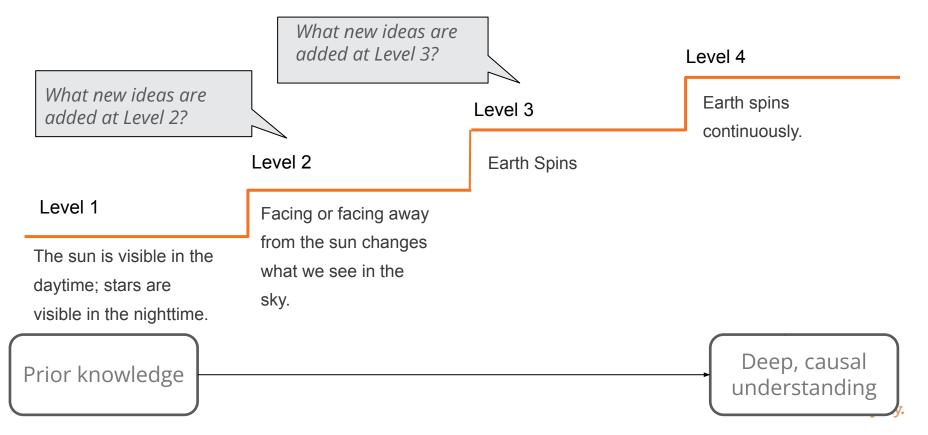




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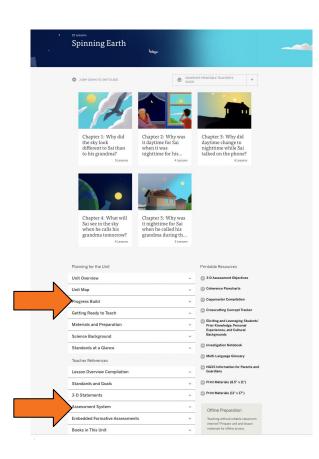
Spinning Earth Progress Build

Assumed prior knowledge (preconceptions): Students are assumed to know that the sun is a very bright, relatively large object sometimes seen in the sky and that stars are bright, small objects seen in a darker sky.



Assessment System and Progress Build Work time

- Browse the Assessment System
- Read and analyze your unit's Progress Build.



On-the-Fly Assessments

- Track student progress within a Progress
 Build level
- Embedded into instruction
- Assessment resource includes "Look for" and "Now what"

Level 3

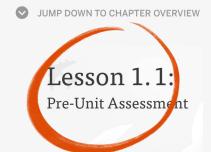
Level 2

Where is the first On-the-fly assessment in Spinning Earth?

Level 1

Leading up to Lesson 1.2

Chapter 1: Why did the sky look different to Sai than to his grandma?



Lesson 1.2: After Sunset

Lesson 1.3:

The Pattern of Daytime and Nighttime

Lesson 1.4: The Sky from Different Places

Lesson 1.5: Explaining the Sky in Different Places

Leading up to Lesson 1.2



Leading up to Lesson 1.2

Chapter 1: Why did the sky look different to Sai than to his grandma?

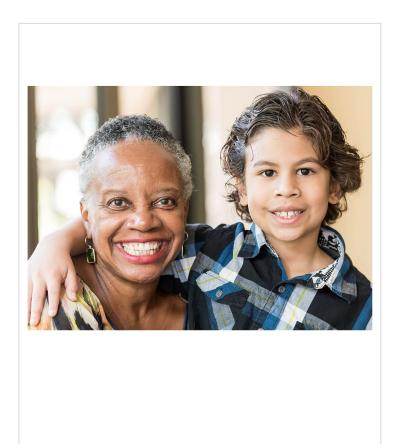


Grade 1 | Spinning Earth Lesson 1.2: After Sunset



Activity 1 Revisiting Sai and His Grandma

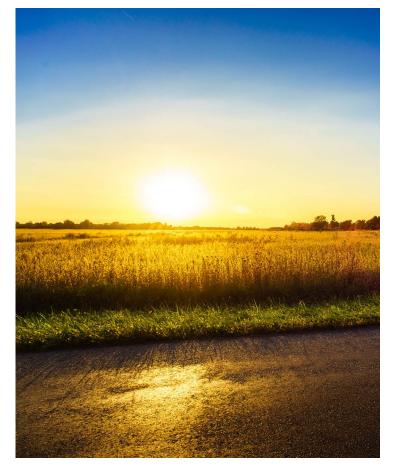




We are working as sky scientists to help Sai figure out why the sky looked different to him than to his grandma when they talked on the phone.

Investigation Question:

What can we see in the sky at different times?



This picture shows what Sai saw in the sky when he called his grandma.

How is what we observed in the sky outside our school the **same** as what Sai saw? How is what we observed **different?**



This picture shows what Sai's grandma saw in the sky when Sai called her.

How is what we observed the **same** as what Sai's grandma saw? How is what we observed **different?**



Activity 2 Making New Sky Observations



Today, we will go outside again to make new **observations** of the sky at a different time.

When we make our new sky observation, we can look for what is the **same** as, or **different** from, what we noticed during our first sky observation. This will help us answer our Investigation Question.

Date: Name **Sky Observations 2** Directions: 1. Observe the sky. 2. Draw what you observe in the sky. 3. Label your drawing. 5 Spinning Earth—Lesson 1.2 © 2018 The Resents of the University of California. All rights reserved. Permission granted to photocopy for classroom us

Just like we did in our first sky observation, we will use our notebooks to **record** what we **observe** in the sky.

Remember never to look directly at the sun.

Going Outside to Make Sky Observations 2

2.





1.

Observe the sky. Make sure NOT to look directly at the sun. **Draw what you observe** in the box on page 5 of your notebook.



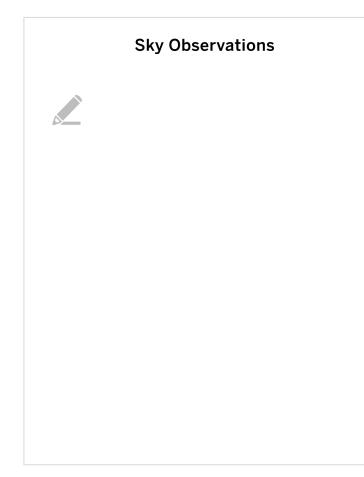
3.

Label your drawing.



Activity 3 Reflecting on Sky Observations





We can use this chart to record all of our observations of the sky.

What did we **see** when we went outside to observe the sky?

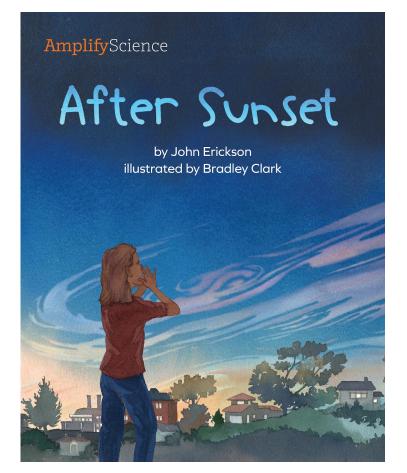
We observed the sky at different times during the daytime. What about the **nighttime?**

We are not at school at night, so we have not observed the sky then. We need another way to gather information about it. Scientists can also **read** books to gather **information**. That's what we will do.



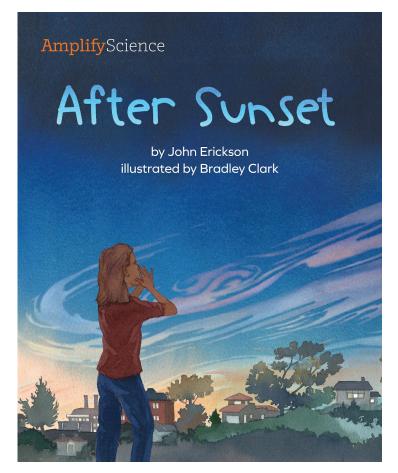
Activity 4 Reading: After Sunset





Today we will **read** a book about two kids who observe the sky, just like we did.

They make their observations when it is nighttime, after sunset.

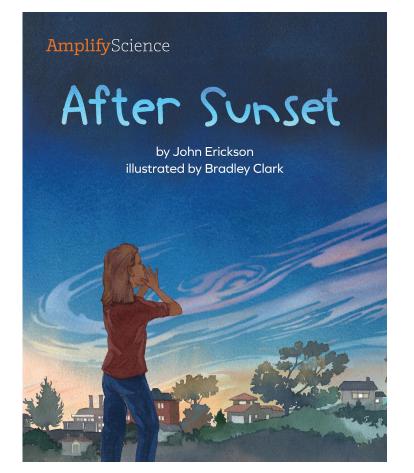


This book is called After Sunset.

What do you notice on the **cover** of the book?

An important way that readers learn from a book is to make **predictions**. When we make a prediction, we use what we already know to decide what we think might happen.

As we read, we can check our predictions to see if they match what we decided before we started reading.



I will use what I know to **predict** what the kids will observe after sunset.



"Hey, come watch the **sunset**," I called to my little sister.

We watched as the sky got darker. Some pigeons flew by. "I guess they're finding a place to rest for the night," I said.

"Let's go inside," said my sister. "It's getting dark, and we won't be able to see anything."

"Just wait," I said. "There's a lot to see after sunset." We watched the sky until the **sun** was below the **horizon**. A few bright **stars** appeared.



"Where do the stars come from?" my sister asked.

"The stars are just *there*," I said.

"But they weren't there a little while ago," she said.

"Is that what you think?" I asked her.

"The pigeons go rest at **nighttime** and come out in the **daytime**," she answered. "Do the stars go somewhere in the daytime and come out at nighttime?"



I said, "The stars are hard to see in the daytime, but they are still there. When the sky is bright with sunlight, you can't see stars. When the sky gets darker, the stars look brighter. Look at the sky now!"

We could see many more stars.



As we looked up, we saw the blinking lights of an airplane.

"Airplanes aren't like stars or pigeons," said my sister. "You can see them in the daytime when the sky is bright, and you can see them at nighttime when the sky is dark."

"You're right," I answered. "Stars and pigeons and airplanes are not alike."

"But they are all things we see in the sky," my sister added.



"Where is the **Moon**?" my sister asked. "I can't see it."

"I'm not sure," I said. "But I like it when the Moon is not in the sky at night. I can see the stars better."

"Isn't the Moon in the sky every night?" she asked.

"No," I told her. "Some nights we don't see the Moon at all. Sometimes we see the Moon in the daytime instead!"



Suddenly, we saw a **streak** of light in the sky.

"Ooh. A **meteor**!" | said.

"That was cool!" she said. "Will we see another one?"

"I don't know," I told her. "I don't think you can **predict** a meteor. But I do know we'll see the Moon again one night soon."



A dark shape flew over our heads. My sister said, "Did you see that bat? You were right. There *is* a lot to see after sunset."

Now what? As students share their predictions with the class, repeat one or two that were based on students' prior knowledge or experience. Highlight the way that students used their prior experience with observations of the nighttime sky to make their predictions. For example, you might say something such as I heard Eduardo say that he predicted the children in the book would see lights on an airplane in the sky during the nighttime because he has seen lights on an airplane in the sky during the nighttime before. Eduardo used what he already knew to decide what he thought might happen.

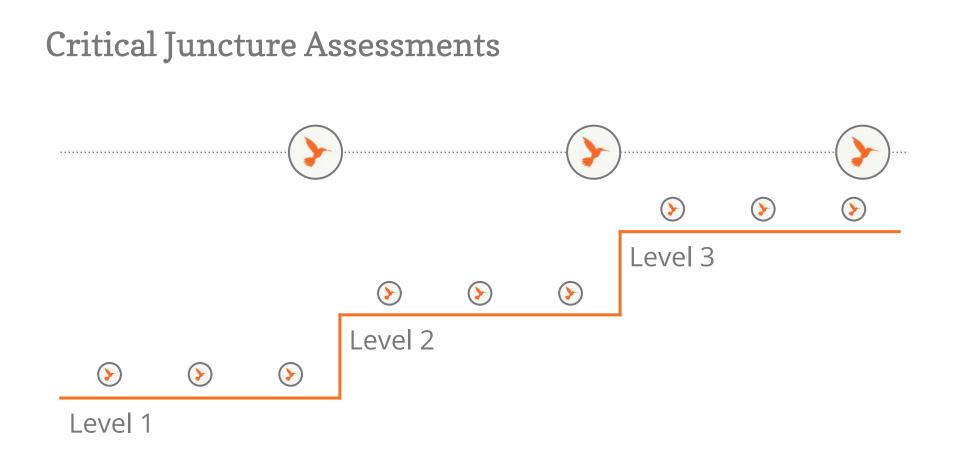
Additional formative assessment information

On-the-Fly Assessments

In addition to assessing concepts in the Progress Build, some On-the-Fly Assessments provide data about:

- Science and Engineering Practices
- Crosscutting Concepts
- Literacy skills
- Student collaboration





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Critical Juncture Assessments 1.5 2.4 3.6 Track student progress between Progress ۲ **Build levels** Embedded into instruction • Assessment resource includes "Assess ۰ Level 3 Understanding" and "Tailor Instruction" Level 2 Where do the Critical Juncture assessments Level 1 appear in Spinning Earth?

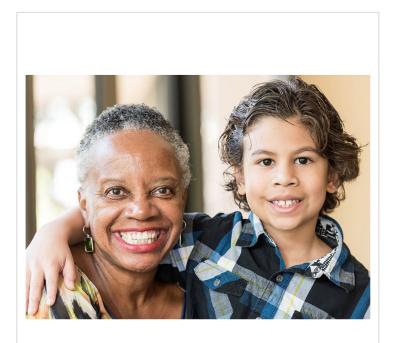


Grade 1 | Spinning Earth Lesson 1.5: Explaining the Sky in Different Places

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Activity 1 Discussing the Sky in Different Places



Remember that we are working as sky scientists to help Sai understand why the sky looked different to him than to his grandma when they talked on the phone.





Sai saw the sun in the sky, but his grandma saw the stars.

Today, we will **write** to Sai to **explain** why the sky looked different to them.

The Sky from Different Places		
Place	Daytime or Nighttime?	
1.		
2.		
3.		
4.		
5.		
6.		

We observed what the sky looked like in **different places** at the **same time**.

Then, we used this table to **organize** our observations.

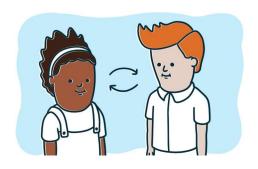
Scientists often **share their ideas** with other scientists so they can learn more. They talk about their ideas, and they listen to new ideas.

Next, we will do some **Shared Listening**. That means we will take turns talking about our own ideas and listening to other people's ideas.

Shared Listening







1.

2.

3.

Partner A shares. Partner B listens.

Partner B responds. Tell Partner A if you agree or if you disagree.

Partners switch.

Shared Listening Question:



What does the sky look like to people in **different places** on Earth right now?





Key Concept

Right now, the sky looks different to people

in different places on Earth.



Activity 2 Reflecting on Daytime and Nighttime



We have been investigating what people in **different places** see in the sky.

We will now think about what two people see in the sky and talk and write about where they live.





Mya and Rico are observing the sky at the same time.

Mya observes that it is daytime, and Rico observes that it is nighttime.

Name:	Date:		
The S	ky for Mya and Rico		
Directions:			
1. Read about Mya and	d Rico below.		
2. On the next page, dr	aw what Mya sees in the sky right no	w.	
3. Then, draw what Ric	o sees in the sky right now.		
4. Read the question or	n the next page.		
5. Talk with your p			
drawings to hel			
question.	Name:	Date:	
6. Write your ansv thinking.	The Sky for Mya and Rico (continued)		
ci ili iki ig.	What Mya sees right now	What Rico sees right now	
Mya and Rico are daytime, and Rico	Do you think Mya and Rico live i		
8 0.008 The Register.	places? Explain why you think th		
	Spinning Earth	h—Lesson 1.5 9 Island Perrission granted to phetocryp for classicom asis.	

Turn to pages 8–9 in your notebooks.

I am going to read and explain the first three steps of the directions.

You will work on those steps first.

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Lesson 1.5: Explaining the Sky in Different Places

Date	_		
y for Mya and Rico			
Rico below.			
aw what Mya sees in the sky right no	w.		
sees in the sky right now.			
the next page.			
	_		
Name:	Date:		
The Sky for Mya	The Sky for Mya and Rico (continued)		
What Mya sees right now	What Rico sees right now		
Do you think Mya and Rico live in places? Explain why you think th			
	Rico below. w what Mya sees in the sky right nov sees in the sky right now. the next page. Name:		

It is daytime for Mya right now. It is nighttime for Rico.

In the first box, draw what Nya sees in the sky.

In the second box, draw what Rico sees.

Lesson 1.5: Explaining the Sky in Different Places

Name:	Date:	_	
The S	ky for Mya and Rico		
Directions:			
1. Read about Mya and	d Rico below.		
2. On the next page, dr	aw what Mya sees in the sky right no	ow.	
3. Then, draw what Ric	o sees in the sky right now.		
4. Read the question or	n the next page.		
5. Talk with your p drawings to help question.			
6. Write your answ	Name:	Date:	
thinking.	The Sky for Mya and Rico (continued)		
0	What Mya sees right now	What Rico sees right nov	
daytime, and Rico	Do you think Mya and Rico live places? Explain why you think th		
8 0.2031 The Reports			
	Spinning Earth	h—Lesson 1.5	

Now you will explain whether you think Mya and Rico live in the **same place** or **different places**.

First, you will talk to your partner, and then you will write your answer.

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

Together, let's look at each word on our word rings.

Tailor instruction: If many students are not showing evidence of this understanding, we recommend offering additional instruction in Lesson 2.1. In Activity 3 of Lesson 2.1, you can take time for a more focused review and instruction about daytime and nighttime. (See the Augmenting Instruction: Differentiating in Response to Critical Juncture Assessment note in the Teacher Support tab in that activity for details.) If a smaller number of your students are not showing evidence of understanding those ideas, you can lead a similar discussion with just those students, before or during Lesson 2.1.



Formative assessment information

Locating assessment resources

Full text of assessment

- Embedded Formative Assessments document
- Instructional guide
- Classroom Slides notes

New you will copian what we you will copian what we you will copian what we you will copian what we you will copian the same	Leases 1.5. Explaining for Silves Officers Activity 2			
place or different places. First, you will dark to your parties, and then you will write your answer.	Terre for a former			
Arrow The sector and	Talk about whether you think Mya and Rico live in the same place or in different places.			
Image: Second	Then, write your answer on the lines.			
Activity 1				
Writing to Sai	Teacher action: As students discuss, prompt them to share their drawings of what Mya and Rico see in the sky with their partners.			
Reference a processor to make Reference a processor to the set of the set of the set of the Ally when the scalar?	Teacher action: Allow students a few minutes to answer the question in their notebooks.			
The state of Sale grades	Teacher action: Collect Investigation Notebooks and word rings.			
poor in the sky when he called her?	Critical Juncture Assessment 1: Objects in the Sky Observed from Different Places			
	Assess understanding: Observing and questioning students as they complete their notebook pages and talk in pairs provides an opportunity for you to assess their understanding that 1) the sun can be seen in the sky during the daytime when the sky is bright, and the stars can be seen in the sky during the nighttime when the sky is dark,			
Chapter 1 Question Mry dd fea siy bail diffwart in Eal Ban In In grandwat	and 2) the sky can appear different to people in different places on Earth at the same time. The Clipboard Assessment Tool is available as a reference for the relevant questions and as a place to record notes on students' responses. In general, students who understand these ideas should draw or write that Mya would see the sun in a bright sky since it is daytime for her, and Rico would see stars in a dark sky since it is inghttime for him. They should say that since they see different things in the sky. Mya and Rico			
	must live in different places on Earth.			

Embedded Formative Assessments

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Spinning Earth

Teacher References

Embedded Formative Assessments

teacher of what to do, based on what was observed.

On-the-Fly Assessments and Critical Juncture Assessments (listed below in lesson order) are embedded formative

assessments designed to heip the teacher monitor and support students' progress throughout the unit. These assessments present the most oportune moments for a galinops into iduents' developing conceptual understanding and their facility with the practices. Each assessment opportunity indicates the specific concepts and practices to look for or listen for a suburdnet snaps with the learning experiences. followed by suggestions to the

Additional formative assessment information

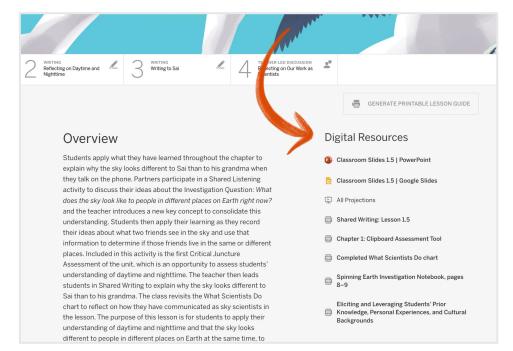
Locating assessment resources

Full text of assessment

- Embedded Formative Assessments
 document
- Instructional guide
- Classroom slides notes

Additional resources

Lesson Brief: Digital Resources

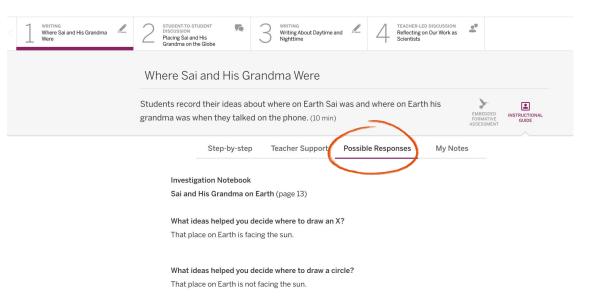


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Additional formative assessment information

Possible student responses

- Within assessments:
 - "Look fors" (OtF)
 - "Assess Understanding" (CJ)
- Possible responses within the Instructional Guide
- Digital resources
 - Assessment Guides
 - Teacher References



Independent planning On-the-Fly and Critical Juncture Assessments

- 1. Use the Embedded Formative Assessments document to get familiar with On-the-Fly and Critical Juncture Assessments in your unit.
- 2. Download the classroom slides for a lesson with an On the Fly assessment or Critical Juncture.
- 3. Read through the teacher notes and make note of any possible student responses. (You can copy and paste them into your notes for that slide.)



Additional formative assessment information

Student Self-Assessments

Lesson 5.2: Exploring and Explaining Daylight in Different Seasons

Activity 4

- End of each chapter
- Grades K-1: Pair Share activity
- Grades 2-5: Independent Investigation
 Notebook activity

Self-Assessment: Share a new idea you learned.







Partner B repeats. *I heard you say* . . .

2.



3. Partners switch.

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Data Collection Tool

			Date:		Student Name	Look for 1	Look for 2
		Chapter:	Lesson:				
Direc	tions:						
1. 2.	Navigate to the lessor Select the embedded What?. Determine the Look for below: a. Look for 1: b. Look for 2: c. Look for 3:	formative assessment ico	n and read the Look for and Now mative assessment opportunity				
4.	the standard the	10 10 10 10 10 10 10 10 10 10 10 10 10 1	ed on the Look for evidence				
5.	 Place a plus (+) if student demonstrates a <u>strong understanding</u> of the Look for, a backslash (-) if student demonstrates <u>some understanding</u> and a delta (b) if student demonstrates <u>no understanding</u> of the above Look for. 						
6.		n the embedded formative eas on how to respond to	e assessment opportunity, refer to your students' needs.				

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-

Look for

3

Look for Look for

5

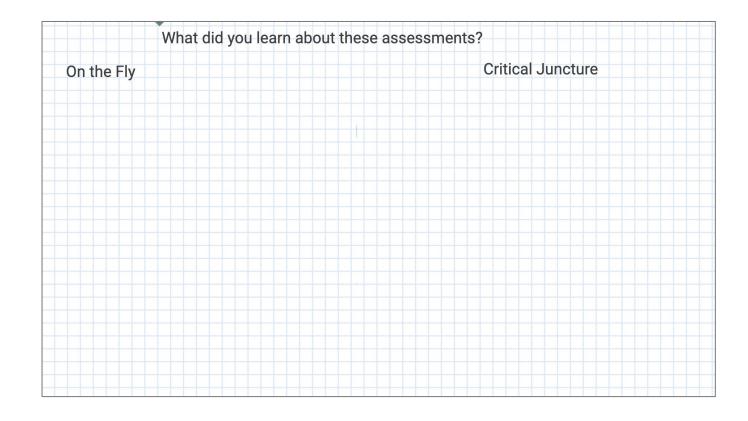
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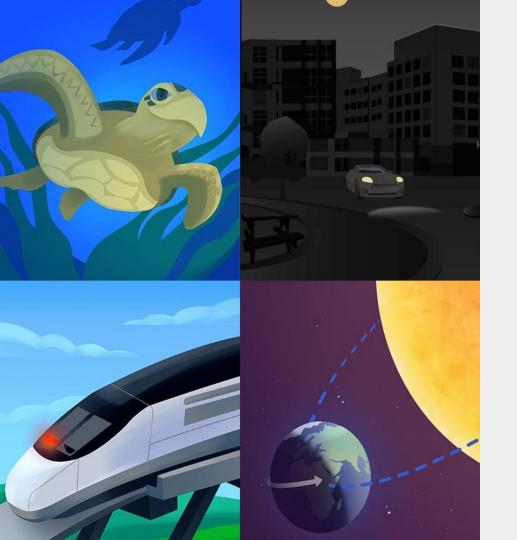
Notes

Share Out

Jamboard

Go to the link in the chat and share your thoughts.





Plan for the day: Part 1

- Introduction and Framing
- Unit Overivew
- Assessment System
- Closing

Overarching goals

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

- □ Internalize the unit
- Describe the overall structure of the Assessment System
- Describe the overall structure and purpose the Formative Assessments.

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Additional resources

Welcome, caregivers!

EDREPORTS A

Grades 6-8

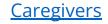




We hope you enjoy learning more about Amplify Science and what students are learning in science this year.

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



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Welcome to Amplify Science!

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Additional resources and ongoing support

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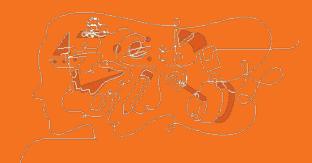




Amplify Chat



End of Part 1





Amplify Science

Unit 3: Spinning Earth (with an assessment focus)

Grade 1, Part 2

School/District Name: LAUSD Date: Presented by:









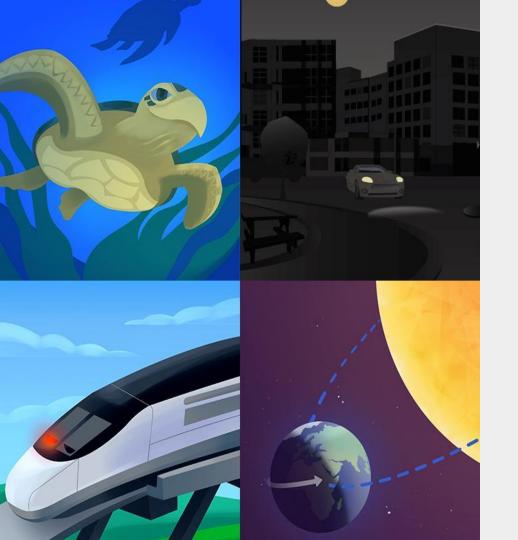
Overarching goals

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

- Understand the pre and post assessments in this unit.
- Understand how the formative assessments build to the summative assessment.

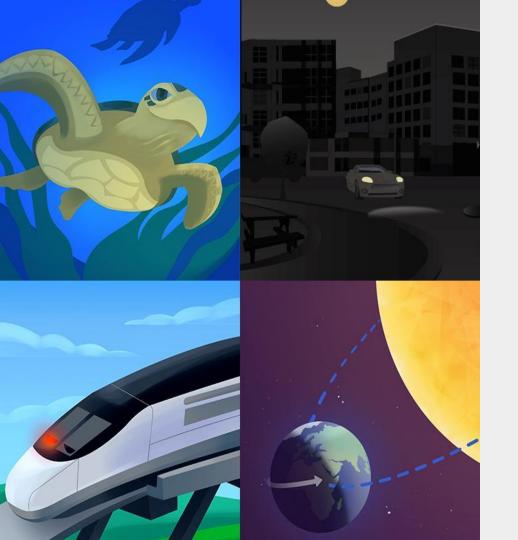






Plan for the day: Part 2

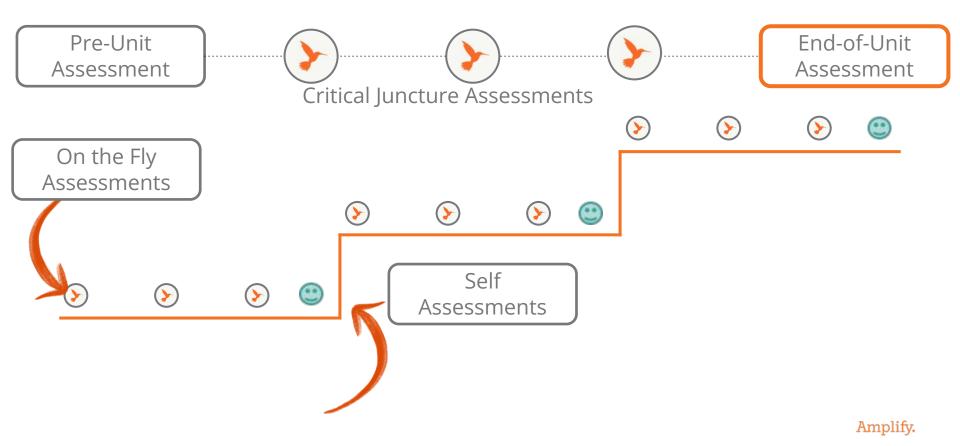
- Pre Unit Assessment
- Summative assessment
- Closing



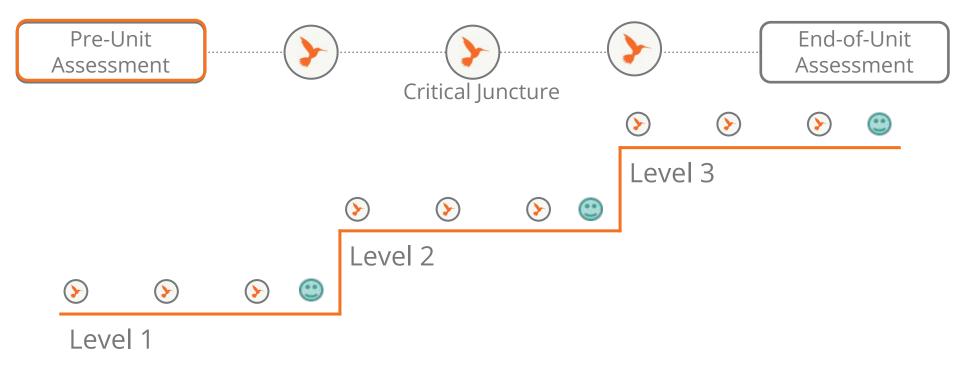
Plan for the day: Part 2

- Pre Unit Assessment
- Summative assessment
- Closing

K-5 Assessment System



K-5 Assessment System



Grade 1 | Spinning Earth Lesson 1.1: Pre-Unit Assessment

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Activity 1 Leading the Pre-Unit Assessment Conversation





Today, we are going to begin investigating what we see in the **sky**.

These are photos of the **sky** above a place. They were taken at **different times** on one day.



What do you notice in these pictures?



Why does the sky look different **at different times?**





These pictures show the sky in the morning and at night.

How is the sky **different** at these two times?





Why does the sky look different at these two times—in the **morning** and at **night?**



These pictures show the sky in the morning and in the afternoon.

How is the sky **different** at these two times?





Why does the sky look different at these two times—in the **morning** and in the **afternoon?**

These pictures show the sky in the **morning**, the **afternoon**, and the middle of the **night**.





Imagine that we took another picture of the sky, the next morning.



What would the sky look like the **next morning?** Why would it look like that?



Unit Question

Why does the sky look different at different times?

Pre-Unit Assessment

Lesson 1.1

Locate the Assessment Guide in Lesson 1.1 of your unit and read it.

TEACHER-LED DISCUSSION Introducing Sai and His Grandma Making Sky Observations FEACHER-LED DISCUSSION Discussing Sky Observations GENERATE PRINTABLE LESSON GUIDE **Digital Resources** Overview Overview Materials & Preparation Students' Initial Explanations Classroom Slides 1.1 | PowerPoint Differentiation Students are introduced to the Spinning Earth unit. The teacher leads Standards Classroom Slides 1.1 | Google Slides a conversation to elicit students' observations of the sky and to gather students' initial explanations about changes that can be All Projections observed in the sky during the daytime and the nighttime. The oral explanations students provide in this lesson serve as a pre-unit Classroom Videos 1.1 | Zip assessment for formative purposes, designed to reveal students' Assessment Guide: Interpreting Students' Preinitial understanding of some of the unit's core content, both unit-Unit Explanations About the Sky Images specific science concepts and the crosscutting concept of Patterns, prior to instruction. As such, these three-dimensional assessments Crosscutting Concept Tracker offer a baseline from which to measure growth of understanding over the course of the unit. These explanations can also provide the Eliciting and Leveraging Students' Prior Knowledge, Personal Experiences, and Cultural teacher with insight into students' thinking as they begin this unit. Backgrounds

This discussion will allow the teacher to draw connections to students' experiences and to watch for preconceptions that might

get in the way of students' understanding so they can be addressed during instruction. The teacher introduces students' role as sky

scientists who will help a boy named Sai figure out why he and his grandma saw different things in the sky when he called her on the

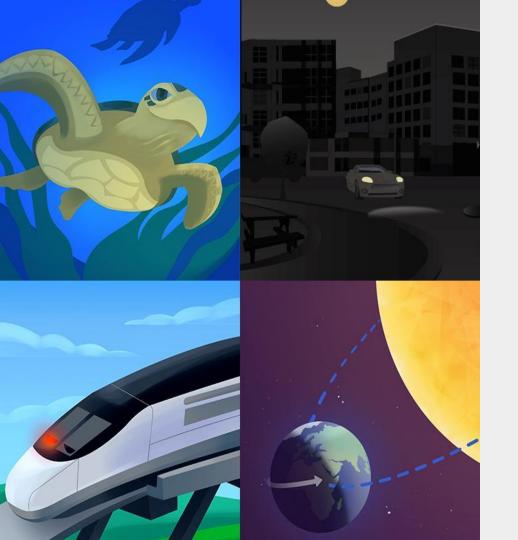
phone. Students go outside to make and record observations of the

students with an overview of the unit content and their role as sky scientists in order to motivate their learning about patterns in the sky

daytime sky to reach the conclusion that during the daytime, you can see the sun in the sky. The purpose of this lesson is to provide

- Completed What Scientists Do chart
- Preparing for Sky Observations in This Unit
- Investigation Notebook
- Questioning Strategies for Grades K-1
- Spinning Earth Investigation Notebook, page 4
- Spinning Earth Family Connections Letter

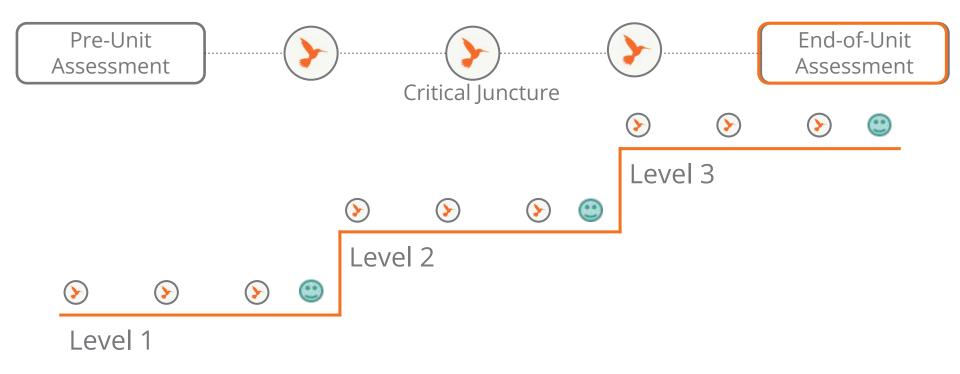
throughout the unit.



Plan for the day: Part 2

- Pre Unit Assessment
- Summative assessment
- Closing

K-5 Assessment System





End-of-Unit Assessment

3-dimensional assessment opportunity

- Summative assessment of mastery of science concepts
- Formative assessment of Science and Engineering Practices



End of Unit Assessment for Spinning Earth Summative assessment.

Chapter 5: Why was it nighttime for Sai when he called his grandma during the winter?

JUMP DOWN TO CHAPTER OVERVIEW

Lesson 5.1: A Walk Through the Seasons

Lesson 5.2:

Exploring and Explaining Daylight in Different Seasons Lesson 5.3 End-of-Unit Assessment



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Grade 1 | Spinning Earth Lesson 5.3: End-of-Unit Assessment

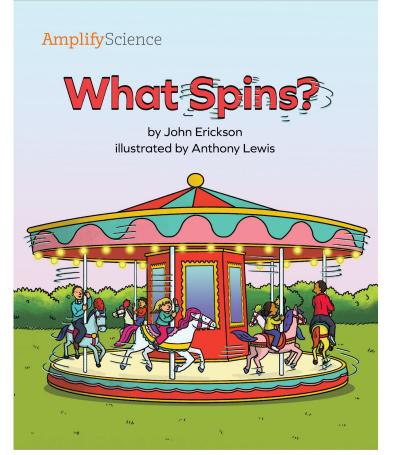
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Activity 1 Talking with Students About Sky Patterns



You and I will talk together about **why the sky looks different** at different times.

We have been working as sky scientists to help Sai figure this out.



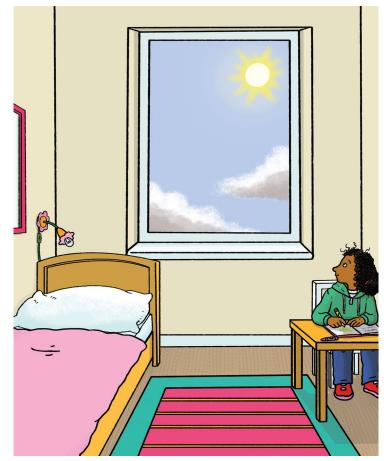
In this book, a girl sees different things in the sky at different times, the same way that Sai does.

I am going to ask you to **explain** why she sees the things that she does.



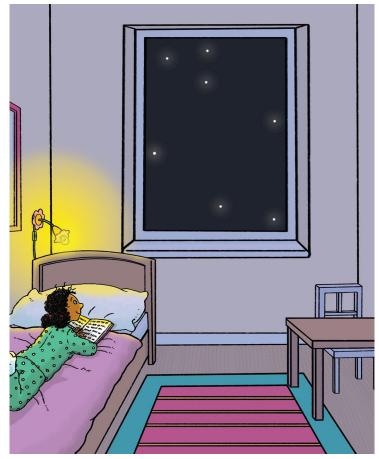
When the girl wakes up in the **morning**, she sees the sun is **low** in the sky outside her window.





At **lunchtime**, she sees the sun **high** in the sky.





At **bedtime**, she sees **stars** in a dark sky.

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She wakes up in the middle of the **night** and still sees **stars** in a dark sky.

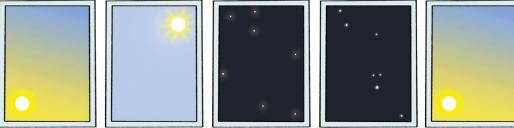




When she wakes up the **next day,** she sees the sun **low** in the sky again.



She sees the sun **low** in the sky and then **high** in the sky. Then she sees **stars** in a dark sky. Then she sees **the sun low** in the sky again.

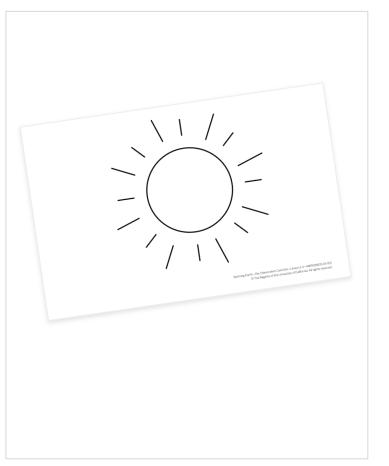


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We have been using **globes** like this one to help us think about what people in a place on Earth see in the sky.

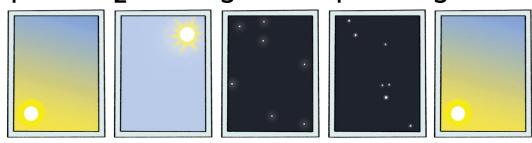
Imagine that the girl lives **near where we live**.



We have been using the **Sun Card** to think about where the sun is in space.

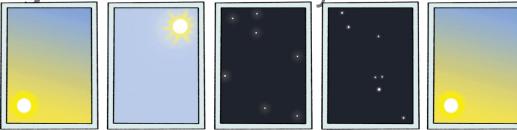
You can use the Sun Card and globe to help **explain** what the girl sees. 2

Why does the girl see these things in the sky?





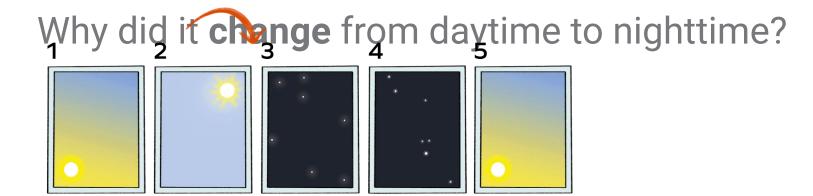
Which pictures show **daytime**, and which show **nighttime**? How do you know?



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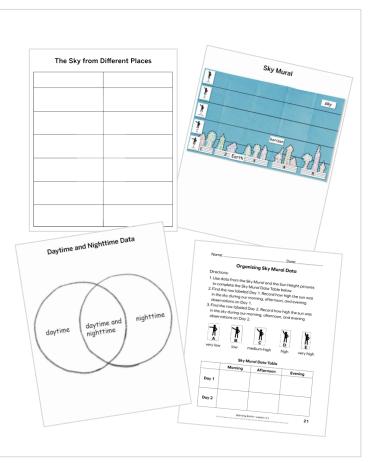




Why did the girl see the sum in the same place in the sky again the next day?



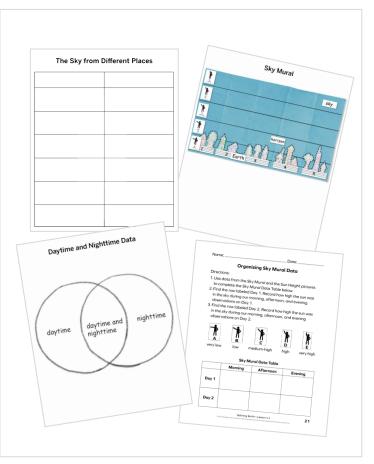




As sky scientists, we looked for **patterns.** A pattern is something you observe to be similar over and over again.

These are all organizers that help us see patterns.

What is one **pattern** that you see in the organizers we used?



We also learned that scientists like us **organize** our data to help us see patterns.

We organized what we observed in several different ways.

Choose one of these organizers and **describe** to me how it helped the class see a **pattern**.



Lesson 5.3: End-of-Unit Assessment

End of Lesson





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Locate End of Unit Assessment



ES RESET LESSON

Overview Materials & Preparation Differentiation Standards Vocabulary

Overview

Students' Explanations

The end-of-unit assessment for the Spinning Earth unit is designed as a one-on-one conversation between the teacher and individual students about the images in What Spins? and data organizers from the unit. The teacher presents the student with the sequence of sky observations by the girl in What Spins? and asks them to explain why they happen as they do. She then presents the primary data organizers from the unit and asks the student to identify a pattern and then to describe how a data organizer helped them see a pattern. The purpose of these conversations is to gather detailed evidence of each student's three-dimensional understanding of unit-specific science concepts, the crosscutting concept of Patterns, and the practice of analyzing and interpreting data. Plan on each one-on-one conversation taking approximately 10–15 minutes. One-on-one conversations may be scheduled across the week following the end of the unit. GENERATE PRINTABLE LESSON GUIDE

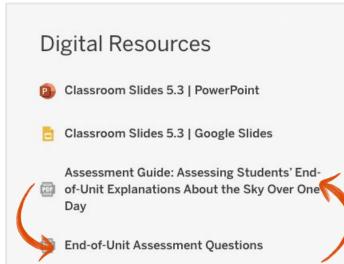
Digital Resources

Classroom Slides 5.3 | PowerPoint

Classroom Slides 5.3 | Google Slides

Assessment Guide: Assessing Students' Endof-Unit Explanations About the Sky Over One Day

End-of-Unit Assessment Questions



Open your End of Unit Assessment

End-of-Unit Assessment Questions (continued)

End-of-Unit Assessment Questions

Science Content: Patterns of Day and Night

 We have been working as sky scientists to help Sai figure out why the sky looks different at different times. In this book, a girl sees different things in the sky at different times, the same way Sai does. I am going to ask you to explain why she sees the things that she does.

Prompt the student to explain the sequence of sky images. Point to the row of images on page 23 as you ask the following question.

· Why does the girl see these things in the sky?

Ask follow-up questions to probe for ideas that students did not mention. If students do not mention ideas that were the focus of the unit, they may still have some understanding of those ideas, even if they did not independently use them in their explanations. You can ask the following questions to probe for ideas that students did not include.

If the student does not identify daytime and nighttime.

· Which pictures show daytime and which show nighttime? How do you know?

If the student does not explain daytime vs. nighttime due to Earth's orientation, point to Pictures 1 and 2. Then point to Pictures 3 and 4.

· Why was it daytime for the girl here but nighttime for her here?

If the student does not explain the change from daytime to nighttime due to Earth's spin, point to Picture 2. Then point to Picture 3.

Why did the girl see it change from daytime to nighttime?

If the student does not explain the sun returning to the same position after a full rotation, point to the sun in Pictures 1 and 5.

Why did the girl see the sun in the same place in the sky again the next day?

Crosscutting Concept: Patterns

Prompt the student to identify a pattern from one of the organizers. Point to the data organizers where you posted them or where you spread them out between you and the student.

- As sky scientists, we looked for patterns in what we observed in the sky. A pattern is something
 you observe to be similar over and over again. These are all things that helped us see patterns.
- · What is one pattern that you see here?

e: Organizing Data to See Patterns

organizer helped the class see a pattern.

us organize our data to help us see patterns. We organized ant ways.

d describe to me how it helped the class see a pattern.

End-of-Unit Assessment Guide

Work time

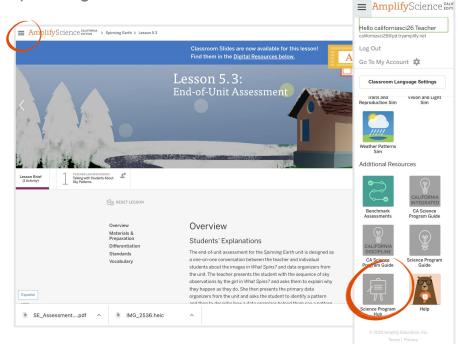
Open and skim your End-of-Unit Assessment Questions and Assessment Guide for lesson 5.3

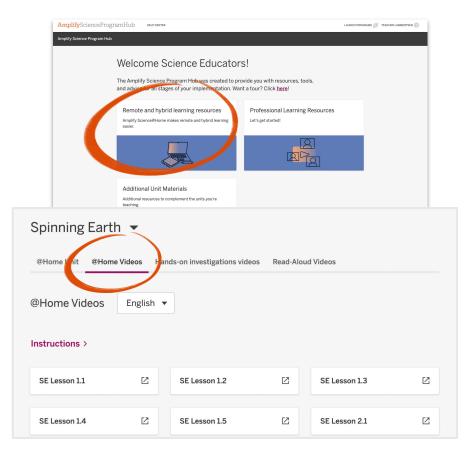
		ſ		
		Responses sible student responses are provided to illustr	ate an accurate response	
	to each question.			to the data organizers ie student.
	Rubric 2: Assessing Students' Understanding of the Cross Rubric 2 focuses on students' identification and description science and engineering.			A pattern is something you 1 us see patterns.
			oks different at different he same way Sai does. I	1 the same place in
	Rubric 2: Assessing Students' Understanding of the			
Rubric 1 focuses on students' exp	inderstanding of Science Concepts in the Unit Janations of what the sky looks like over the course of a day, which disciolinary core ideas in the unit. Rubric 1 is designed to guide the essing students' understanding and may be used summatively	ganizers? For example:		ittern. itterns. We organized what
Assessment Guide: Assessing Students' End-of-Unit Explanations	ling of science concepts from the unit. anations for grading purposes, we recommend using a 5-point	veral other places. iart of Earth.	till nighttime. The next fore, and she sees the	ss see a pattern.
About the Sky Over One Day This End-of-Unit Assessment is an opportunity for students to show their growth over the course of the	es an accurate and sufficient response to each question listed nation that does not provide an accurate response to any itions that provide accurate responses to some but not all	part of Earth. Her along an arc in the sky.		ces on the globe, it helped art of Earth.
xiit. See the 3-D Assessment Objectives (under Printable Resources) for a summary of how summative and formative assessments across the unit, grade and grade band reveal student knowledge and use of the three dimensions to support progress toward the focal Performance Expectations for this unit.	your discretion. For guidance on what could be considered an see the Possible Accurate Student Responses table on	I day, it was in the same place in	? / is bright.	
In the culminating lesson of the Spinning Earth unit, the teacher sits with students, one at a time, and prompts them to look at a page from the book What Spins ? and explain a sequence of images howing the sky at the different times of day. The teacher also asks students to look at a set of data spinisers from the unit, describe a pattern they see in one of the organizers, and describe how that	nts' Understanding of Science Concepts in the Unit	rganizing Data to See Patterns can help scientists see patterns.	y is bright. iky is dark. in, point to Pictures 1	
riganizer helped them see a pattern. These one-on-one conversations are an opportunity to assess kudents' progress toward the core learning goals of the unit—their understanding of discipline-specific oncepts: their application of the crossoutting concept of Patterns; and their developing facility with	e the images showing the sun in a bright sky as daytime? e the images showing stars in a dark sky as nighttime?	Organizing Data to See Patterns	so she could see it	
rganizing data to see patterns, which is a key practice of science and engineering. To support the aacher's assessment of students' responses, we have provided three rubrics. he assessment task in this lesson provides guidance for assessing student understanding of the	daytime for the girl (or that the girl could see the sun) because ies was facing the sun?	of the data organizers helped the	facing the sun, so the	
ne absetsoment task in mis resson provides guidance for assessing student understanding of the allowing standards: Cience and Engineering Practice Practice 4. Analyzing and Intercreting Data	nighttime for the girl (or that the girl could see the stars but not h where the girl lives was not facing the sun?	daytime, the stars are only seen in	Earth's spin, point to	
The Universe and its Stars: SLA: The Universe and its Stars: Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and rearried (1.2531).	I saw it change from daytime to nighttime (or that the girl could d see the stars but not the sun) because as Earth spun, the vent from facing the sun to not facing the sun?	l ighttime. places and whether it was is daytime in some places on	here she lives went from ark and she could see	
954.8: Electromagnetic Radiation: 954.8: Electromagnetic Radiation: 9 Objects can be seen if light is available to illuminate them or if they give off their own light. (J-PS4-2)	I saw the sun in the same place again the next day because e same time the next day, the place where the girl lives was	the places were on Earth. It id all the nighttime places were on	full rotation, point to	
rosscutting Concept Patterns	licit understanding of the crosscutting concept of Patterns and	day all on the same chart, and it	› vay around, so the place	
he assessment task in this lesson can provide an opportunity for students to demonstrate nderstanding of the following additional standards: clience and Engineering Practices:	g focal practice (organizing data to see patterns) respectively. prosscutting concepts and their dexterity with science practices			1.75
Centroit and Engineering Practicos. Practice 2: Developing and Using Models Practice 3: Constructing Explanations and Designing Solutions Practice 8: Obtaining, Evaluating, and Communicating Information	across multiple units, mastery is outside the scope of a single itended to be used formatively to guide teacher feedback and be a score or a grade.	days.	1) 4	de 1) 5
crosscutting Concepts: Cause and Effect Systems and System Models		ky (Grade 1)		
Spinning Earth: Investigating Patterns in the Sky (Grade I) • Environment and automative administrations 1		3		
	Investigating Patterns in the Sky (Grade 1) © The Regents of the University of California	2		

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Program Hub

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Additional resources

Welcome, caregivers!

EDREPORTS A

Grades 6-8





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End of Part 2

