Weather and Seasons
Lesson 5: Weather Detectives

Grade: Kindergarten	**Length of lesson:** 45 minutes	**Placement of lesson in unit:** 5 of 5 lessons on weather
Unit central questions: Is weather the same everywhere all of the time? How do you know?		**Lesson focus question:** How can we use what we know about weather patterns to decide whether a mystery city is Pomona?
Main learning goal: Weather patterns vary by time and place, but certain weather patterns are typical of specific places.		
Science content storyline: Weather isn't the same everywhere. We can use weather data to compare the weather in different places and identify weather patterns that are typical for specific locations. For example, locations in Southern California are less likely to experience many days of rain per month, but this weather pattern may be more common in other places (such as our mystery city). By graphing and analyzing weather data, we can determine which weather patterns are more likely to occur in specific locations at certain times of the year. For example, we determined that the mystery city isn't likely to be Pomona because the weather pattern is much more cloudy and rainy.		
Ideal student response to the focus question: Weather isn't the same everywhere. Knowing about weather patterns in Pomona can help us decide whether a graph of weather data is from Pomona or another city. The graph we looked at for a mystery city showed a weather pattern in January of mostly cloudy days with a lot of rain. This mystery city couldn't be Pomona because our weather pattern in January is mostly sunny, with some cloudy days a just a little bit of rain.		

Preparation

Materials Needed
- Science notebooks
- Chart paper and markers
- Class weather calendars (from previous lessons)
- Class weather and temperature graphs (from previous lessons)

Student Handouts
- 1.2 Pomona Weather Patterns for September (from lesson 1b)
- 1.4 Pomona Temperature Patterns for September (from lesson 1c)
- 2.1 Pomona Weather Patterns for January (from lesson 2a)
- 2.3 Pomona Temperature Patterns for January (from lesson 2c)
- 3.3 Morning and Afternoon Temperature Chart (from lesson 3b)
- 4.1 Detroit Temperature Patterns for January (from lesson 4a)
- 4.2 Detroit Weather Calendar for January (from lesson 4a)
- 5.1 January Weather Graph for Pomona (1 per pair) (See options in Ahead of Time)
- 5.2 January Weather Graph for a Mystery City (1 per pair)

Ahead of Time
- Review the content background document.
- Review and modify the PowerPoint slides as needed. You may want to change the structure of slide 14 or record student ideas and evidence for the mystery city on chart paper instead.
- Display the class weather calendars and class weather and temperature graphs for September and January for students to refer to throughout the lesson.
- **Options:** Handout 5.1 (January Weather Graph for Pomona) shows typical weather data for Pomona in January. Using this graph will make the logistics easier for you and the contrast with the mystery city more obvious for students. Alternatively, you could have students use their own picture graphs from lesson 2a (handout 2.1, Pomona Weather Patterns for Pomona). This will be more challenging for them.
- Arrange desks or tables so that two students can work side by side in pairs, with another pair of students sitting side by side across the table.
- **ELL support:** Meet with ELL students in advance and introduce them to the lesson content, structure, materials, and activities so they know what's expected and can participate more fully during the lesson. Identify vocabulary terms in the lesson plan to review with students in advance, including *weather/temperature pattern*, *data*, *predict/prediction, claim,* and *evidence*.

Lesson 5 General Outline

Time	Phase of Lesson	How the Science Content Storyline Develops
8 min	**Link to previous lessons:** The teacher engages students in summarizing key science ideas from previous lessons. Then students review their predictions about when and where the *Snowy Day* story took place.	• Weather patterns are different in different places at the same time of year. We can observe, collect, and graph weather data to help us identify weather patterns in different places.
1 min	**Lesson focus question:** The teacher introduces the focus question, *How can we use what we know about weather patterns to decide whether a mystery city is Pomona?*	
4 min	**Setup for activity:** The teacher summarizes the importance of using evidence to identify weather patterns in different places. Then students consider the kinds of evidence they will look for to help them decide whether a mystery city is Pomona.	• We can use weather data from graphs as evidence to help us identify and compare weather patterns in different places.
10 min	**Activity:** Working in pairs, students examine a weather graph for a mystery city in January and compare it with their January graphs for Pomona. Then they use evidence from their graphs to help them decide whether the mystery city is Pomona.	• We can use weather data as evidence to help us identify and compare weather patterns in different places so we can determine which patterns are more common in certain places. For example, Pomona has very few rainy days in January, but this weather pattern may be more common in other places (such as our mystery city).
8 min	**Follow-up to activity:** Students work with their partners to develop claims about the identity of the mystery city and use evidence from their graphs to support their ideas. After students share their claims and evidence in a class discussion, the teacher reveals that the mystery city is Seattle.	• Analyzing and comparing weather graphs can help us determine which weather patterns are more likely to occur in specific locations at certain times of the year. We can use this evidence to develop claims about the identity of a mystery city.
10 min	**Synthesize/summarize today's lesson:** To summarize what they learned about weather patterns, students draw pictures of the weather pattern in Seattle in January. Then the teacher reviews the focus question, and students summarize their evidence and conclusions.	• Weather isn't the same everywhere. Weather patterns change from month to month and throughout the day. Using weather data, we can identify weather patterns that are more likely to occur in specific locations at certain times of the year. For example, the weather pattern in Seattle in January is mostly cloudy and rainy.
4 min	**Summarize lesson series:** The teacher engages students in reviewing key science ideas from the lesson series by having them observe and describe a variety of weather-related pictures. Then students answer the unit central questions.	• Weather patterns are different in different places at the same time of year. They also change from month to month and throughout the day. Graphing weather data can help us identify weather patterns that are more likely to occur in specific locations at certain times of the year.

Time	Phase of Lesson and How the Science Content Storyline Develops	STeLLA Strategy	Teacher Talk and Questions	Anticipated Student Responses	Possible Probe/Challenge Questions
8 min	**Link to Previous Lessons** **Synopsis:** The teacher engages students in summarizing key science ideas from previous lessons. Then students review their predictions about when and where the *Snowy Day* story took place. **Main science idea(s):** • Weather patterns are different in different places at the same time of year. We can observe, collect, and graph weather data to help us identify weather patterns in different places.	Engage students in making connections by synthesizing and summarizing key science ideas. Engage students in analyzing and interpreting data and observations. Engage students in constructing	**Show slides 1 and 2.** In this unit, we've learned so much about the weather in Pomona and in other places, too. We've also been thinking about two big questions: *Is weather the same everywhere all of the time? How do you know?* Today we're going to use everything we've learned to answer these questions. Who can tell me what weather is? **Show slide 3.** That's right! And one thing we learned in this unit is that weather changes from month to month and even from morning to afternoon. How did our weather pattern in Pomona change from September to January? What did we find out when we compared our weather in September with our weather in January? **NOTE TO TEACHER:** *During this review, challenge students to provide evidence from the class weather calendars and graphs for September and January in Pomona. Also encourage them to refer to their handouts from previous lessons (see overview page).*	Weather is what it looks like and feels like outside. It was warmer in September than in January.	Can you show us your evidence? What do our weather calendars and graphs show

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		explanations and arguments.	**ELL support:** Starting off with an open-ended question, such as "What have we learned about weather in different places?" might invite more responses from ELL students. **Show slide 4.** We also learned that weather can change during the day, like from morning to afternoon. How did the weather change on the day Alisa and her classmates went to the zoo?	Our graphs show that there were *[19]* hot and warm days in September and only *[five]* warm days in January, with no hot days. There were more clouds in January than in September. The graphs show that there were *[seven]* cloudy days in January and only *[two]* cloudy days in September. It was sunny in the morning, but it rained and snowed in the afternoon. It was cool in the morning, but it turned cloudy and	us? Can you show us your evidence from the graphs?

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			How does the weather in Pomona usually change from morning to afternoon? **NOTE TO TEACHER:** *Challenge students to provide evidence from the Morning and Afternoon Temperature Chart (handout 3.3).* **Show slide 5.** Another thing we learned is that weather patterns are different in different places at the same time of the year. What patterns did we notice when we compared the weather in Detroit and Pomona in January? **NOTE TO TEACHER:** *Challenge students to provide evidence from the class weather calendars and temperature graphs for Pomona and Detroit in January.* **Show slide 6.**	colder during the day. It's usually cooler in the morning and warmer in the afternoon. We noticed that the weather is cold and snowy in Detroit in January, but in Pomona, it's mostly cool or warm and sunny. Detroit had *[18]* cool and cold days in January and *[eight]* snowy days, but Pomona didn't have any snow at all.	Can you show us some evidence to support your claim? What evidence do you have?

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			In our last lesson, we read a story called *The Snowy Day*, and you predicted where and when the story took place. Who can tell me what a *prediction* is? That's right! A prediction is a sentence or statement that says what we think will happen. **NOTE TO TEACHER:** *You may want to remind students that scientists use what they already know about weather patterns to predict what might happen, even if they don't have all of the data they need.* What was the weather like in the story? What clothes did Peter wear in the story? What did we predict about *where* the story took place?	It's what we think will happen. It was cold and snowy. He wore really warm clothes to play in the snow. We thought it might be Detroit because our weather calendar showed that it snows there in January. We didn't think it	Did we have any other ideas about where the story might take place?

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				could be Pomona because we don't get any snow here. Mount Baldy gets snow, so it could be there.	
			So we predicted that the story took place in Detroit or near Mount Baldy because both places have snow. What did we predict about *when* the story took place?	We predicted that it could be January because we know from our graphs that it's cold and snowy in January in Detroit. It could also be December or February, but we don't know for sure. Because we don't have weather calendars for those months in Detroit.	Any other ideas about when the story took place? Why don't we know for sure?
			Bravo for supporting your claims with evidence from our weather calendars and graphs!		

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		Summarize key science ideas.	**Show slide 7.** So like scientists, we used what we already know about weather patterns to help us make predictions about where and when the *Snowy Day* story took place. Based on what we know, we decided that the story might have taken place in Detroit in January, but we can't know for sure without more weather data.		
1 min	**Lesson Focus Question** **Synopsis:** The teacher introduces the focus question, *How can we use what we know about weather patterns to decide whether a mystery city is Pomona?*	Set the purpose with a <u>focus question</u> or goal statement. Make explicit links between science ideas and activities.	**Show slide 8.** Today we're going to be weather detectives again and investigate another mystery city. During our investigation, we'll think about a new focus question: *How can we use what we know about weather patterns to decide whether a mystery city is Pomona?* **NOTE TO TEACHER:** *Write the focus question on the board and draw a box around it.* To help us solve this new puzzle, we'll look at weather graphs for our mystery city. Then we'll use what we know about weather patterns in Pomona to figure out if the mystery city is Pomona or another city.		
4 min	**Setup for Activity**	Ask questions to elicit student	Do you think that the weather patterns in two different places will be the same?	No!	

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	Synopsis: The teacher summarizes the importance of using evidence to identify weather patterns in different places. Then students consider the kinds of evidence they will look for to help them decide whether a mystery city is Pomona. **Main science idea(s):** • We can use weather data from graphs as evidence to help us identify and compare weather patterns in different places.	ideas and predictions. Engage students in communicating in scientific ways.	**Show slide 9.** How can we find out if the weather patterns in two different places are the same or different? **NOTE TO TEACHER:** *Record students' ideas on chart paper during this discussion.*	Because our weather calendars for Detroit and Pomona showed different weather patterns. Because the stories about Alisa and Peter showed different weather in different places. We can look at what the weather and temperatures are like in both places. We can see if the weather calendars and graphs for both places are the same or different. If we want to know	OK. But how do you know that the weather in different places isn't the same?

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				if the weather pattern is the same in two places, like Detroit and Pomona, we can count the rainy and snowy days. Or we can see if the temperatures are the same.	
		Summarize key science ideas.	OK. So one way we can find out if two places have the same weather pattern is by comparing the weather data we collect for both places. Then we can use this data as evidence to help us decide whether they have the same or different weather patterns. **Show slide 10.** Who can tell us what evidence is?	Evidence is like a clue that helps us answer a question or explain something.	
		Highlight key science ideas and focus question throughout.	So evidence is a clue or information we can use to answer a question or explain something we're learning about. What are some examples of evidence?	The number of sunny, cloudy, and rainy days we recorded on our weather calendar.	

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				Or it could be what the temperatures are in the morning and the afternoon.	
			Those are great examples! Why do you think evidence is important?	It tells us whether our ideas are right!	
				It shows us what the weather is like in different places.	
			Why do scientists collect evidence?	To help them figure out what the weather is like in different places.	
				To help them explain something.	
		Summarize key science ideas.	So evidence is important because it helps us know whether our ideas are right, and it tells us what the weather is like in different places. Scientists use evidence to support their ideas and explain them to other scientists.		
			What kinds of weather evidence did we collect in this unit?	We counted the number of hot or warm days and cool or cold days.	
				We counted the	

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				number of sunny, cloudy, rainy, and windy days. On our class weather calendars. On our weather and temperature graphs	Where did we record our evidence?
		Make explicit links between science ideas and activities **before** the activity.	So evidence can be how hot or cold the temperatures are. Or it can be the number of sunny or cloudy days, or how many rainy or snowy days there are. These are all pieces of evidence that can help us know what the weather patterns are like in different places. Today you're going to look at weather graphs for a mystery city and Pomona and use what you know about weather patterns to decide whether this city could be Pomona. **Show slide 11.** What kinds of evidence could we look for to help us decide whether the mystery city is Pomona? **NOTE TO TEACHER:** *Record students' ideas on chart paper.*	We could count the sunny, cloudy, and rainy or snowy days on the weather graph for the mystery city.	How would this

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			Next, you'll pair up with a partner, and I'll give you two weather graphs to study. One graph shows the sunny, cloudy, and rainy days in January for our mystery city, and the other shows the sunny, cloudy, and rainy days during the same month for Pomona.	Well, it there are lots of rainy days, we know it can't be Pomona. Because our graphs show that Pomona only gets a little rain. We could compare the warm and cold days for the mystery city and Pomona. If the mystery city has a lot of cold days, we'll know it's not Pomona because our weather is mostly warm and sunny.	help us decide whether the mystery city is Pomona? How would we know it's not Pomona? Any other ideas? And how would that help us?

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			You and your partner will compare the two graphs and talk about the weather patterns you notice for each city. Then you'll use the evidence on the graphs to help you decide whether the mystery city is Pomona. **NOTE TO TEACHER:** *Have students pair up for the activity. If possible, have four students sit at a table together, with two students sitting side by side and the other pair sitting side by side across the table so pairs can share their findings after the activity.*		
10 min	**Activity** **Synopsis:** Working in pairs, students examine a weather graph for a mystery city in January and compare it with their January graphs for Pomona. Then they use evidence from their graphs to help them decide whether the mystery city is Pomona. **Main science idea(s):** • We can use weather data as evidence to help us identify and compare weather patterns in different places so we	Select content representations and models matched to the learning goal and engage students in their use. Engage students in analyzing and interpreting data and	**NOTE TO TEACHER:** *Distribute handouts 5.1 (January Weather Graph for Pomona) and 5.2 (January Weather Graph for a Mystery City).* *The Pomona graph shows typical weather data for January. Using this graph will make the logistics easier for you and the contrast with the mystery city more obvious for students. Alternatively, it might be more challenging for students to use their own weather graphs from lesson 2a (handout 2.1) instead.* Before we begin, who can tell me again what you'll look for to help you decide whether the mystery city is Pomona?	We can count the sunny, cloudy, and rainy or snowy days	

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	can determine which patterns are more common in certain places. For example, Pomona has very few rainy days in January, but this weather pattern may be more common in other places (such as our mystery city).	observations. Engage students in using and applying new science ideas in a variety of ways and contexts. Make explicit links between science ideas and activities **during** the activity.	That's a great idea! OK. Let's get started. **Show slide 12.** I'll give you and your partner some time to look at your two graphs and compare the sunny, cloudy, and rainy days. Make sure to look carefully at all of your evidence. Then decide whether you think the mystery city could be Pomona based on the weather patterns for each city. When you share your ideas, be ready to make a claim about whether the mystery city is Pomona and give evidence from your graphs to support your claim. This will involve counting the sunny, cloudy, and rainy days! Use one of the sentence starters on the slide to construct your claims. Let's read these sentences together. *We claim that the mystery city is Pomona. Our evidence is _____.*	on the weather graphs for the mystery city and Pomona and see if they're the same or different.	

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			We claim that the mystery city is NOT Pomona. Our evidence is _____. **NOTE TO TEACHER:** *Read the sentence starters together. Then have several students read them aloud by themselves*. OK. You can begin your investigation of our mystery city now. **NOTE TO TEACHER:** *As pairs work together, circulate around the room and ask questions about the evidence they've found on their graphs. This could include comparing the number of sunny, cloudy, and rainy days for the mystery city and Pomona. Ask students the following questions:* • *Are the numbers of sunny and cloudy days the same or different for both cities?* • *Are the numbers of rainy days for both cities similar or different?* • *What is similar on the two graphs?* • *What is different on the two graphs?*		
8 min	**Follow-Up to Activity** **Synopsis:** Students work with their partners to develop claims about the identity of the mystery city and use evidence from their graphs to support their ideas. After students share		**NOTE TO TEACHER:** *Before the class share-out, you may want to have pairs share their claims and evidence with the other pair at their table and reach an agreement about what to share. Then have a representative from each table present their claims and evidence to the class*. **Show slide 13.**		

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	their claims and evidence in a class discussion, the teacher reveals that the mystery city is Seattle. **Main science idea(s):** • Analyzing and comparing weather graphs can help us determine which weather patterns are more likely to occur in specific locations at certain times of the year. We can use this evidence to develop claims about the identity of a mystery city.	Make explicit links between science ideas and activities **after** the activity. Engage students in constructing explanations and arguments. Engage students in communicating in scientific ways. Ask questions to probe student ideas and	Now that you've studied your graphs and decided whether the mystery city is Pomona, let's hear your claims and evidence. Tell your classmates why you think the mystery city is or is not Pomona. And make sure to tell us what your evidence is from the graphs. Use one of the sentence starters on the slide when you present your claims and evidence. *We claim that the mystery city is Pomona. Our evidence is _____.* *We claim that the mystery city is NOT Pomona. Our evidence is _____.* As your classmates share their claims and evidence, listen carefully. Be ready to agree or disagree with their ideas, ask questions, or add your own ideas or evidence to the discussion. **NOTE TO TEACHER:** *Have students designate a representative for each pair or table group to come up and present the claim and evidence for the pair/group. Display the graphs for Pomona and the mystery city on a document reader and challenge students to point to the data to support their claims. Ask the presenters probe and challenge questions during the discussion (see column 6) and encourage other students to agree or disagree, add on, or ask questions.*		*Probe and challenge questions to ask as students present their claims and evidence:* • What do you mean by "it"?

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		predictions. Ask questions to challenge student thinking.	*As representatives share their claims and evidence, record them on chart paper using the table on slide 14 as a model. (You may organize the data in a different way if you prefer.) Then tally the decisions about whether the mystery city could be Pomona and discuss the results with the class.* **ELL support:** You may need to model for ELL students how to present their claims and evidence using the sentence starters. **Show slide 14.** So let's look at the claims and evidence on our class chart. It sounds like we've concluded from comparing our graphs that the mystery city isn't Pomona but is some other city. Do we all agree? We know from our evidence that Pomona has mostly sunny weather and doesn't have a lot of		• Can you say that in a complete sentence using the sentence starter? • Do you have any counting evidence to support that? • What is your evidence? • How do you know? • Can you show us your evidence on the graph(s)? • Why do you say that? • Does anyone agree or disagree? • Does anyone want to add on? • Does anyone have a question? • How should I write that on our chart?

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			cloudy or rainy days in January like our mystery city. What do you think our mystery city could be if it isn't Pomona? **Show slide 15.** If you were thinking that our mystery city might be Seattle, Washington, you're right! Seattle is way up north from here on this map of the United States. **NOTE TO TEACHER:** *Show students where Seattle is on the PowerPoint map. You might also want to show students a photograph of Seattle, Washington, or give a local weather forecast.* Seattle has a lot more cloudy and rainy days than Pomona, and it doesn't get many sunny days in January.	Maybe it's a city in Hawaii! I heard that they get a lot of rain. I think it might be Portland or Seattle, because they get a lot of rain too.	
10 min	**Synthesize/Summarize Today's Lesson** **Synopsis:** To summarize	Engage students in	**Show slide 16.** Remember the pictures you drew in your science notebooks of the weather patterns in Pomona and		

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	what they learned about weather patterns, students draw pictures of the weather pattern in Seattle in January. Then the teacher reviews the focus question, and students summarize their evidence and conclusions. **Main science idea(s):** • Weather isn't the same everywhere. Weather patterns change from month to month and throughout the day. Using weather data, we can identify weather patterns that are more likely to occur in specific locations at certain times of the year. For example, the weather pattern in Seattle in January is mostly cloudy and rainy.	making connections by synthesizing and summarizing key science ideas. Engage students in using new science ideas in a variety of ways and contexts. Select content representations and models matched to the learning goal and engage students in their use.	Detroit in January? Find those pictures now. Next, you're going to draw a picture showing the weather pattern in Seattle in January. Do you think your picture will look like the picture you drew of Pomona in January, or will it look different? Do you think your picture of Seattle will look like your picture of Detroit, or will it look different? **Show slide 17.** As you draw your picture showing what Seattle's weather is like most of the time in January, show children playing outside and the clothes they might be wearing. Also think about how the weather in Seattle compares with the weather in Pomona and Detroit in January. **Individual work time (6 min).** **NOTE TO TEACHER:** *As students work on their drawings, circulate around the room and ask the*	It'll look different because I drew sunshine for Pomona, but Seattle has mostly cloudy weather and rain! Different! Because our graph showed that Seattle didn't have snow in January.	

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		Ask questions to probe student ideas and predictions. Ask questions to challenge student thinking. Engage students in constructing explanations and arguments.	*following challenge questions:* • *Why are you drawing …?* • *Is that what weather in Seattle is like most of the time? How do you know?* • *Can you add something to show what you think children would be wearing in Seattle in January?* • *Why did you include a thermometer in your drawing? How do you know it's [warm/cool/cold] in Seattle in January? Do you have any evidence to support that idea?* *If students included thermometers in their drawings, ask them to explain their reasoning, which may be logical (e.g., "It's cloudy, so it must be cool."). Make sure they understand that they can't know what the temperatures are like in Seattle in January because they don't have any temperature data.* **Whole-class share-out:** Let's have a few of you tell us about your drawings. Make sure to explain the different kinds of weather you drew and why the children in your drawing are wearing certain kinds of clothes. **NOTE TO TEACHER:** *Invite as many students to share their drawings as time allows. But make sure to leave enough time to review and discuss the focus question at the end of the phase.* **Show slide 18.**		

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		Highlight key science ideas and focus question throughout.	Let's revisit today's focus question, *How can we use what we know about weather patterns to decide whether a mystery city is Pomona?* How did you use the weather graphs to help you decide whether the mystery city was Pomona? What did the graphs show you? While you were drawing your pictures of Seattle, I asked you to think about how the weather in Seattle compares with the weather in Detroit and Pomona. How could you tell that our mystery city wasn't Detroit?	We counted the sunny days for Pomona and Seattle, and Pomona had more. We counted the rainy days, and Seattle had more than Pomona. Seattle had a lot more cloudy days than Pomona. We could tell it wasn't Detroit, because there weren't any snowy days on the graph.	

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		Summarize key science ideas.	How could you tell that our mystery city wasn't Pomona? So we used what we know about weather patterns from our calendars and graphs to help us figure out that our mystery city wasn't Pomona or Detroit. Good thinking, everyone!	Because Pomona doesn't have that much cloudy and rainy weather!	
3 min	**Summarize Lesson Series** **Synopsis:** The teacher engages students in reviewing key science ideas from the lesson series by having them observe and describe a variety of weather-related pictures. Then students answer the unit central questions. **Main science idea(s):** • Weather patterns are different in different places at the same time of year. They also change from month to month and throughout the day. Graphing weather data can help us identify weather patterns that are more likely to	Engage students in making connections by synthesizing and summarizing key science ideas. Select content representations and models matched to the learning goal and engage students in their use. Engage students in using and	Before we wrap up this unit on weather, I'm going to show you some pictures, and I want you to reflect on what we learned about weather and weather patterns in different places? **Show slides 19–24 (one at a time).** **NOTE TO TEACHER:** *Summarize the following key ideas during this review:* • *Weather is what it looks like and feels like outside (slide 19).* • *Weather patterns are what the weather is like most of the time in a specific place at a certain time of year (slide 20).* • *Weather patterns can change from month to month (slide 21).* • *Weather patterns can change during the day (slide 22). In Pomona, it's usually cooler in the morning and warmer in the afternoon.* • *Weather patterns are different in different places at the same time of year (slide 23).*		

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	occur in specific locations at certain times of the year.	applying new science ideas in a variety of ways and contexts.	• *Observing, collecting, recording, and graphing weather data helps us identify weather patterns (slide 24).* **Show slide 25.** Throughout this unit on weather, we've been thinking about two big questions: *Is weather the same everywhere all of the time? How do you know?* These important questions are our unit central questions. Based on everything we've learned about weather in this unit, how would you answer these questions? Let's hear your ideas and reasons.	Weather isn't the same everywhere all of the time. It's different in different places. We saw from our weather calendars and graphs that the weather is different in Pomona, Detroit, and Seattle in January, so that tells us it can't be the same everywhere all of the time.	How do you know? Any other ideas?

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			So we know that weather isn't the same everywhere all of the time because the evidence we collected shows that the weather patterns in different places, like Pomona, Detroit, and Seattle, are different at the same time of year. And we also saw that the weather in Pomona changes from month to month and even during the day. You've done a great job as weather detectives!	Our graphs showed that the weather and temperatures in Pomona are different from month to month, not the same. We also saw that the temperatures in Pomona can change from morning to afternoon.	