

Weather and Seasons Lessons: Scope and Sequence

Lesson Number	Focus Question(s)	Main Learning Goal	Science Content Storyline
0a (prelesson)	What is weather?	Weather is what it looks like and feels like outside. Weather includes temperature, sunlight, clouds, wind, and rain or snow.	Weather is the combination of many conditions outside, such as temperature, sunlight, rain or snow, and wind. Sometimes it can be sunny, but other times, it might be cloudy or rainy. Sometimes it's warm outside, but other times it's cold. All of these things make up our daily weather.
0b (prelesson)	How can we describe our weather?	Weather can be described by looking at it and feeling it.	Weather is what it looks like and feels like outside. Weather includes temperature, clouds, sunlight, rain or snow, and wind. We can describe weather by looking at it and feeling it. We can use our eyes to observe the weather outside, and we can use our skin to feel temperatures, breezes, and rain or snow.
0c (prelesson)	How can we measure the temperature outside?	Weather can be observed and described, but the temperature can also be measured using a thermometer.	Weather is what it looks like and feels like outside. Weather includes temperature, sunlight, clouds, rain or snow, and wind. Sometimes it's warm outside, and other times, it's cold. We can observe and feel weather, but we can also measure how hot or cold it is outside (temperature). Thermometers are used to measure the temperature.
0d (prelesson)	How can we keep track of the weather?	We can use symbols and calendars to keep a record of the weather from day to day.	Weather is what it looks like and feels like outside. Weather includes temperature, sunlight, clouds, rain or snow, and wind. In addition to observing the weather, we can measure temperatures using a thermometer. We can also use symbols and a calendar to keep track of the weather from day to day.
1a	What was our weather in Pomona like in September?	By observing and studying the weather over time, we can identify patterns. Weather patterns tell us what the weather is mostly like at a given time of year in a specific place, such as the weather in Pomona during the month of September.	Weather is what it looks like and feels like outside. Weather includes temperature, sunlight, clouds, rain or snow, and wind. Sometimes it can be sunny, but other times, it might be cloudy or rainy. When weather is observed and recorded over time in a specific place, we can identify patterns in the weather. These weather patterns can tell us what the weather is like most of the time. Is it sunny, cloudy, or rainy most of the time? Is it hot or warm, cool or cold most of the time? In Pomona in September,

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			the weather pattern is mostly sunny and hot.
1b	How can we show the weather patterns in September in a different way?	Counting and graphing weather data helps reveal weather patterns over time.	By studying the September weather calendar for Pomona, we found that the weather pattern was mostly sunny and hot. But we can use a more scientific method to identify weather patterns. Data from our weather calendar can be counted and represented in a bar graph to provide more accurate evidence for weather patterns. Graphing this data helps reveal weather patterns—makes the patterns more visible and easier to identify.
1c	What do bar graphs show us about temperature patterns in September?	Counting and graphing temperature data helps reveal temperature patterns over time.	Observing and graphing weather over time can help us identify weather patterns in a specific place. Counting and graphing the number of sunny, cloudy, and rainy days on the class weather calendar revealed that Pomona has a pattern of mostly sunny weather in September. But weather also includes temperature. To help us identify temperature patterns in Pomona during September, we counted the number of hot or warm days and the number of cold or cool days on the weather calendar. We then used this data to make a bar graph. The graph clearly revealed a pattern of mostly hot or warm temperatures in Pomona during September. By looking at all of our graphs, we see that Pomona has a pattern of mostly sunny and hot or warm weather, with very little rain or wind in September.
2a	What was our weather mostly like in January? OR What was Pomona's weather pattern in January?	Counting and graphing weather data helps reveal weather patterns over time.	Using weather data, we can create graphs to help us find weather patterns at a given time for a specific place. In January, the weather pattern in Pomona was both sunny and cloudy.
2b	How did our weather	Weather patterns can change from	Looking at the weather data we collected can help us identify

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	change from September to January?	one month to another month.	weather patterns, especially if we make a picture/bar graph. Our picture graph for January showed that the weather pattern in Pomona was sunny, with almost as many cloudy days. Our graph for September showed that the weather pattern was mostly sunny and hot or warm, with few clouds and very little rain. When we compared our observation charts and picture graphs for both months, we discovered that the weather pattern changed from September to January. September had more sunny days than January, and January had more cloudy days than September. So weather patterns can change from one month to another month, and comparing our weather charts and graphs for September and January provided evidence to support this idea.
2c	What was the temperature pattern in Pomona in January?	Graphing temperature data helps reveal temperature patterns at a given time of year in a specific place.	Using weather data, we can create graphs to help us identify weather patterns at a given time in a specific place. Our picture graphs for January showed that the weather pattern in Pomona was both sunny and cloudy. We can also create graphs to help us identify temperature patterns in Pomona during the month of January. Our bar graph showed a pattern of mostly cool temperatures in Pomona during January.
2d	How did our temperature pattern change from September to January? What is our evidence?	Temperature patterns can change from one month to another month.	We can use weather data to make graphs that help us identify weather and temperature patterns at a given time in a specific place. These patterns describe a variety of conditions (sunny, cloudy, rainy or snowy, windy, hot or cold). In this lesson, we examined how temperature patterns change from one month to another month. By comparing our bar graphs for September and January, we discovered that the temperature pattern in Pomona changed from one month to another. Temperatures are warmer in September and cooler in January.
3a	How can weather change during the day?	Weather can change quickly during the day.	Weather patterns can change slowly from month to month, but they can also change quickly during the day. The weather can be sunny in the morning and then become cloudy and rainy in

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			<p>the afternoon. Temperatures can change during the day too. Graphing weather data can help us identify weather patterns and show how they change from month to month or during the day. We can use weather data to describe how the weather in our story about Alisa's trip to the zoo changed throughout the day. But how does the weather change in Pomona during the day? We can also investigate how weather changes from morning to afternoon in Pomona and look for patterns.</p>
3b	<p>How does our weather in Pomona change from morning to afternoon?</p>	<p>Analyzing weather data reveals patterns in how the weather changes from morning to afternoon.</p>	<p>Weather can change during the course of the day. For example, it can be cloudy in the morning and sunny in the afternoon. Temperatures can also change during the day. Using weather data, we can identify patterns in how the weather changes throughout the day. Our weather data for Pomona showed a pattern of cooler, cloudy mornings and warmer, sunnier afternoons.</p>
4a	<p>How is weather the same or different in different places? What is the weather like in January in a faraway city called Detroit?</p>	<p>Different places have different weather patterns.</p>	<p>Weather can change from morning to afternoon and from month to month. Does weather also change from place to place? Graphing and analyzing weather data can help us identify weather patterns in January in a faraway city like Detroit, Michigan. Detroit's weather pattern in January is cool or cold and snowy. We predict that this pattern is different from our weather pattern in Pomona in January.</p>
4b	<p>How is weather the same or different in different places? How are the January weather patterns for Detroit and Pomona the same or different?</p>	<p>Different places have different weather patterns at the same time of year.</p>	<p>We know that weather can change from morning to afternoon or from month to month, and that graphing and analyzing weather data can help us identify weather patterns in different places. For example, our weather data for Detroit showed a pattern of cool or cold and snowy weather in January. But does Detroit have the same weather pattern in January as Pomona? When we compare weather calendars and graphs for both cities in January, we see different weather patterns. The weather pattern in Detroit was mostly cold and snowy, while the weather pattern in Pomona mostly cool or warm and sunny, with some</p>

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			rainy days. So weather patterns are different in different places at the same time of year.
4c	How can we use what we know about weather patterns to make predictions?	Different places have different weather patterns at different times of the year.	Weather patterns are different in different places. Some places have sunny, warm weather with very little rain, while other places can be cooler with more clouds or precipitation. Graphing and analyzing weather data can help us identify weather patterns in different places, as well as similarities and differences in patterns from one place to another. We can also use weather data to make predictions about where and when an event takes place.
5	How can we use what we know about weather patterns to decide whether a mystery city is Pomona?	Weather patterns vary by time and place, but certain weather patterns are typical of specific places.	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.