These activities are created to incorporate reading and writing into the Science curriculum. Each lesson is designed to last about a week, and encourage student participation.

Lessons are aligned with the Common Core State Standards and the Texas Essential Knowledge and Skills.

- CCSS.ELA-Literacy.RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.
- CCSS.ELA-Literacy.RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
- CCSS.ELA-Literacy.RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
- CCSS.ELA-Literacy.RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- CCSS.ELA-Literacy.RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

TEKS (5.8) Earth and space. The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to (A) differentiate between weather and climate; **Supporting Standard**

(4.8) Earth and space. The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to (A) measure and record changes in weather and make predictions using weather maps, weather symbols, and a map key; **Supporting Standard**

(8) (B) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts; and
weather vs. climate

Sample Lesson Plan for the week

Attention Grabber: *Weather Words Searches (2) and Weather Forecast Page*

Word Wall Building Activities

Reading with Graphic Organizer: *Weather vs. Climate with a Cloud Venn Diagram*

Writing with Key Terms: *Weather vs. Climate*

Lab/ Activity: *Making a Weather Map with Forecast Writing and Climate Zone Coloring Page*

Writing Extension Activity

Daily Science Starters: *Weather vs. Climate*
### Sample Lesson Plan

**I can statement for the week**

| I can explain the difference between weather and climate. |

**Activities**

<table>
<thead>
<tr>
<th>Monday</th>
<th>Students answer Science Starters question of the day. Go over the question and answer as a class. Ask for volunteers to share what they wrote. Discuss any new ideas and misconceptions.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Write the word “weather” on the board. Have students give you a list of words that come to mind when they hear the word “weather”. Next write the word “climate” on the board and have the students give you a list of words for climate. Discuss the similarities and differences between the two lists. Keep the list up while studying weather and climate and come back to it when the week is over to see if they had any misconceptions about either word. Have the students work on the Attention Grabber Activity. When the students have completed the activity, use it as a learning tool and go over the correct answers as a class.</td>
</tr>
<tr>
<td></td>
<td>Introduce the word wall (or key terms) for this week. Ask students what they think the words mean and let them know they will find out the real definitions this week! Create a chart on the board to record the word wall activities for the week.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tuesday</th>
<th>Students answer Science Starters question of the day. Go over the question and answer as a class. Ask for volunteers to share what they wrote. Discuss any new ideas and misconceptions.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hand out the reading with a graphic organizer. Ask students to read the passage and use context clues to define the key terms. After they have read the passage, they will complete the graphic organizer. After the students have completed the graphic organizer, lead a discussion about the facts they gathered from the reading.</td>
</tr>
<tr>
<td></td>
<td>Complete the second column of the word wall builder as a class. Ask students to give their new definitions of the word wall words based on what they read today.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wednesday</th>
<th>Students answer Science Starters question of the day. Go over the question and answer as a class. Ask for volunteers to share what they wrote. Discuss any new ideas and misconceptions.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hand out the summary writing with key terms. After they have written a complete summary, ask for a few volunteers to share what they wrote. You can...</td>
</tr>
</tbody>
</table>
also let the kids “pair and share” their summary with a partner.

Complete the last columns of the word wall builder as a class. Write the actual definitions of the word wall words and have the students help you illustrate each word.

| **Thursday** | Students answer Science Starters question of the day. Go over the question and answer as a class. Ask for volunteers to share what they wrote. Discuss any new ideas and misconceptions.  

Set up and guide the students through the lab activity for the day.  

Have students record the word wall chart for the week into their word wall journal. They can record this on notebook paper, in their science notebook, or you can print the Word Wall Chart handout for them. |
|---|---|
| **Friday** | Students answer Science Starters question of the day. Go over the question and answer as a class. Ask for volunteers to share what they wrote. Discuss any new ideas and misconceptions.  

The students will complete the Extension Writing Activity to show what they learned this week.  

Use today to guide the students through your interactive science notebook activities. (I have an Interactive Science Notebook with Science Vocabulary Activities available in my store: Elementary Ali)  

I also like to create a routine of science review stations for Fridays to help the students remember science topics they have learned in the past and will learn in the future. (I have my STAAR Science Stations available in my store: Elementary Ali) |
<table>
<thead>
<tr>
<th>Word</th>
<th>What I think it means...</th>
<th>What I learned it means from context clues...</th>
<th>What the word actually means...</th>
<th>Illustration</th>
</tr>
</thead>
</table>

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# Weather Words Search 1

<table>
<thead>
<tr>
<th>ACCUMULATION</th>
<th>AIRPRESSURE</th>
<th>BAROMETER</th>
<th>BAROMETRIC PRESSURE</th>
<th>BLIZZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CELL</td>
<td>COLDFRONT</td>
<td>DEGREE</td>
<td>DEPRESSION</td>
<td>DEWPOINT</td>
</tr>
<tr>
<td>FLASHFLOOD</td>
<td></td>
<td>FORECAST</td>
<td>HEATINDEX</td>
<td>HUMIDITY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HURRICANE</td>
</tr>
</tbody>
</table>

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V D T C W R K R W B F O R E C A S T E S
P M E I T H B S N I A P L C A G R G R C
I H V G Z Q D E R O O R P L F H M M U E
Y P H H R D P B A J I F O Q I N N O S L
E R U S S E R P C I R T E M O R A B S L
D F W W R S E G G G G E T A I E F X O E P
B L B C R S E A L H A P S L E T T W R V
H H V Q B V A A U K J S Z M U C E I P E
E S Z C R K K R H X E Q J B F M I R R N
S T C E G F R A T R R P D B H K U W I K
D S B D C I L O P B F Q J C A A B C A P
C R W P C H F E G X Y F B D B J B T C F
O G A A X E D N I T A E H Z A B O N M A
L I N Z B F E M I Y R L A J I W X I Y K
D E Q S Z Z W D R Q F L A S H F L O O D
F N W H E I I I F I P L Y R C R K A P G W
R W K S U M L O M L A U F H Q T B W S T
O L F W U N Q B I U J L C A J W Q E D B
N T N H D G V P J K D R G W U Q W D V S
T T D C U I C G J M G J V E K K K Q U J
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WEATHER WORDS SEARCH 1

Answer Key

ACCUMULATION AIRPRESSURE BAROMETER BAROMETRICPRESSURE BLIZZARD
CELL COLDFRONT DEGREE DEPRESSION DEWPOINT
FLASHFLOOD FORECAST HEATINDEX HUMIDITY
HURRICANE

V D T C W R K R W B F O R E C A S T E S
P M E I T H B S N I A P L C A G R G R C
I H V G Z Q D E R O O R P L F H M M U E
Y P H H R D P B A J I F O Q I N N O S L
E R U S S E R P C I R T E M O R A B S L
D F W W R S E G G G E T A I E F X O E P
B L B C R S E A L H A P S L E T T W R V
H H V Q B V A A U K J S Z M U C E I P E
E S Z C R K K R H X E Q J B F M I R R N
S T C E G F R A T R R P D B H K U W I K
D S B D C I L O P B F Q J C A A B C A P
C R W P C H F E G X Y F B D B J B T C F
O G A A X E D N I T A E H Z A B O N M A
L I N Z B F E M I Y R L A J I W X I Y K
D E Q S Z Z W D R Q F L A S H F L O O D
F N W H E I I F I P L Y R C R K A P G W
R W K S U M L O M L A U F H Q T B W S T
O L F W U N Q B I U J L C A J W Q E D B
N T N H D G V P J K D R G W U Q W D V S
T T D C U I C G J M G J V E K K K Q U J

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WEATHER WORDS SEARCH 2

DROUGHT  FOG  HAIL  JETSTREAM
RAIN  SLEET  SNOW  METEOROLOGIST
THUNDERSTORM  TORNADO  WARNING
RADAR  THERMOMETER  WATCH
STORM

H K V K M M N J H M P J Q H M W U C F
O P I A R Z T T C F R B V U P U E M S F
Y H Z P O R W T G X O R A I N R E ON F
R G F I T C A A F N T B Q R W F J R D S
F J R I S W S B C T S W E S T F R N M W
H S F T F W H L N Z E A E X R M U H M A
L V I Q Q P O G S M D B N L N W R V M J
I H W G W F B U O X N G S P A G A E F Z
C S O V O T H M L U U J D C D G W O A S
Z H D T G L R Q W H H S W R O T G I H G
H J U B X E O S Z AT A N R O U E E S Z
A X S H V C R J F R T L O F U B E E L
I M T T B C R W O N R M G P W R G K L B
L M J R N Q L B I E S E R A W T C H L S
Z P E N X N P N E M T H X N Z M R P T V
B W K N U I G F Y N Q E Z P T H F Q R V
J E T S T R E A M Z M E M P B E I N P Y
Y C V S O V B C O T X S K I Y N N L H P
C T V B G G E T F T B I B R A D A R R C

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Weather Words Search 2

Answer Key

Drought Fog Hail Jetstream Meteorologist Radar
Rain Sleet Snow Tornado Thermometer Storm

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A good website to get all of the current conditions and daily forecast for any location is

www.wunderground.com

*Print a forecast page for each student.

Show the students the current conditions for your area and help them fill in their forecast page. Then, take a quick walk outside or to a large window and allow the students to make observations for their drawing.

This is an activity that you could complete each day of this week to show students how weather changes daily.

***This could be a homework assignment if you have the students watch the weather at home and see how much of the page they can complete.
Today's Weather Forecast:

Date: 
Current Temperature: 
High: _____  Low: _____
Humidity: _____
Visibility: _____  Pressure: _____
Wind Gusts: _____  Wind Direction/ Speed: _____
Sunshine/ Clouds: ______________________
Precipitation: ________________________
Rainfall: _____
Snow Depth: _____
Wind Chill: _____
Dew point: _____

Draw the weather conditions for today:
Many people use the terms weather and climate as having the same meaning. However, they actually mean two very different things. Weather is the daily conditions for a certain location. Climate is the average conditions over a very long period of time.

**Weather** would describe what it is like outside in your city. For example, on December 27th it is currently 27 degrees Fahrenheit in New York City and it is 61 degrees Fahrenheit in Miami, Florida. Two cities, in two different states, that have two very different temperatures. Weather covers many **conditions** besides the temperature. If you watch your local meteorologist on TV, they will give you the humidity percentage which is the amount of water vapor in the air. Higher humidity levels are what make it feel muggy outside. **Meteorologists** will also talk about atmospheric pressure which is the amount of force in the atmosphere. High pressure systems mean sunny days with little cloud cover or precipitation. Low pressure systems usually bring cloud coverage and precipitation. Another term you hear on the weather report is wind chill. This is the temperature it feels like on your skin when you consider the temperature outside with the wind blowing on you. Heat index is similar, but it is the temperature it feels like on your skin considering outside temperature with humidity. A breezy day can make it feel cooler, while a humid, summer day can make it feel warmer.

Storms are another report you get from the local meteorologist. Spring usually brings more thunderstorms and tornados, which means we need to watch for warnings and watches in our area. A watch lets us know our general area could experience this condition (flood, thunderstorm, tornado), while a warning is more severe and means the **hazardous** weather is happening or about to happen in your area. Meteorologists have important jobs and can save people’s lives by providing us with warnings to take shelter in hazardous weather conditions. In the summer, we can watch the weather for heat advisories, tropical storms, and hurricanes. Winter weather conditions to watch for are heavy snowfall, blizzards, and ice on the roads.
Weather vs. Climate Continued...

Climate describes the long-term average weather condition patterns for certain areas. Climate is going to depend on the location of the area. For example, areas closer to the north or south poles will experience colder, dry conditions, while areas closer to the equator will experience warmer, humid conditions. Climate also depends on the landforms and bodies of water near the area. Deserts experience dry, hot conditions, while mountains are colder with more precipitation.

There are six main climate zones on Earth which are based on average temperatures and precipitation. Because the Earth is a sphere, the sun’s energy has to travel farther to reach the north and south poles. This gives us the Polar climate zone where it stays dry and extremely cold all year. The equator is closest to the sun, so it stays warm. This is where we find the Tropical climate zone, and it stays wet and hot throughout the year. In between these two extreme climate zones, the other four vary greatly in conditions. Tundra is a climate zone which is very cold all year and sits close to the Polar zones. The Temperate climate zone is also farther away from the equator, but closer than the Polar and Tundra giving it mild summers and cold winters. Getting closer to the equator, the climate gets warmer and warmer. The Arid climate zone stays hot and dry all year, and is where deserts are found. With its close proximity to the ocean, the Mediterranean climate zone experiences hot summers and mild winters. Mediterranean areas experience less of a temperature range due to the fact that the sea doesn’t change temperature as quickly as land, helping give the land near it more mild temperature changes.

Climate is based on long term conditions, while weather focuses on short term conditions. They are related to each other because factors of climate zones influence the weather. However when we talk about weather, we are just talking about the current conditions in our area.
In which climate zone do you think your school is located? How do you know?
**weather vs. climate**

Write a summary about weather using your key terms from the reading.

<table>
<thead>
<tr>
<th>Weather</th>
<th>Conditions</th>
<th>Meteorologist</th>
<th>Hazardous</th>
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</table>
Weather vs. Climate

Write a summary about climate using your key terms from the reading.

<table>
<thead>
<tr>
<th>Climate</th>
<th>Average</th>
<th>Poles</th>
<th>Equator</th>
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<tbody>
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</table>
Key term definitions:

Weather- day to day state of the atmosphere

Conditions- a state of being

Meteorologist- Person who studies the atmospheric conditions (weatherman)

Hazardous- Life-threatening/ Dangerous

Climate- long term average weather conditions

Average- summary of conditions over time

Poles- northern and southern most points on Earth

Equator- Horizontal line across the center of the Earth
<table>
<thead>
<tr>
<th>Day</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>How would you describe the weather today?</td>
</tr>
<tr>
<td>Tuesday</td>
<td>What is the importance of the news giving weather updates?</td>
</tr>
<tr>
<td>Wednesday</td>
<td>How does the humidity affect the heat index?</td>
</tr>
<tr>
<td>Thursday</td>
<td>Why is the climate in Central America different than the climate in Alaska and Canada?</td>
</tr>
<tr>
<td>Friday</td>
<td>How is weather different from climate?</td>
</tr>
</tbody>
</table>
Monday  
How would you describe the weather today?

Answers will depend on the current day’s weather conditions.

Tuesday  
What is the importance of the news giving weather updates?

Knowing the forecast can help us plan ahead of time for any changes in the weather. We will know what to wear, how driving conditions will be, and even when to take shelter in severe weather.

Wednesday  
How does the humidity affect the heat index?

Higher humidity levels make it “feel” warmer, which raises the heat index. It is the temperature that it feels like outside.

Thursday  
Why is the climate in Central America different than the climate in Alaska and Canada?

Central America is located along the equator which has more direct energy from the sun to keep it warmer throughout the year. Alaska and Canada are far north and the curve of the Earth makes them farther from the sun’s energy.

Friday  
How is weather different from climate?

Weather is short term, current conditions and climate is long term, average conditions.
Climate Zone Coloring Map

Show the students the sample map (next page) to color in their map.

Have them draw a star at your location and write at the bottom which climate zone you are in.

Weather Map Activity

Show the students a current weather map (forecast chart) and allow them to draw what it looks like on their blank map. You can use this link to see today’s national forecast chart:

http://www.hpc.ncep.noaa.gov/national_forecast/natfcst.php?day=1

This is a link to the national forecast chart key:


I find it best to let them see a current map that represents what they feel outside. They can relate the symbols on a map to what they see in the real world around them. This website also allows you to pull up previous forecast charts. An extension to this activity would be to pull up a chart from another season and let them see what it looks like compared to today. They could even draw that chart, too- Just print another blank map.

***Watching a televised weather forecast can help them write their weather forecast.
Color each of the 6 Climate Zones using the Key:

- Polar = blue
- Tundra = gray
- Temperate = green
- Arid = brown
- Mediterranean = orange
- Tropical = yellow
Making a Weather Map

Cold Front
Warm Front
Stationary Front
Occluded Front

Trough
Squall Line
Dry Line
Tropical Wave

Light Rain
Light Snow
Snow with other
Precipitation

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Weather Map Forecast

Write a script for a meteorologist to read on the teleprompter to give today’s forecast on TV. Use your Weather Map for the conditions in your area today.

________________________________________________________________________________________
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Writing Extension Activity

Have the students use writing to show you what they know. They will be writing an encyclopedia page with information they learned about this week’s topic. This will also help build skills in writing informational texts. Use the week’s “I can…” statement to guide the writing topic.

### Science Writing Rubric

<table>
<thead>
<tr>
<th></th>
<th>Grammar and Punctuation</th>
<th>Accurate Scientific Information</th>
<th>Product Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excellent</strong></td>
<td>Free from errors, incomplete sentences, and run on sentences</td>
<td>Information and facts are 100% correct</td>
<td>Neatly written and colorful illustrations</td>
</tr>
<tr>
<td><strong>Good</strong></td>
<td>Minor errors with good sentence structure</td>
<td>One or two errors in information or facts</td>
<td>Minor problems with writing or illustrations</td>
</tr>
<tr>
<td><strong>Proficient</strong></td>
<td>Some errors and multiple sentences written incorrectly</td>
<td>A few errors in information or facts</td>
<td>A few presentation elements are missing or messy</td>
</tr>
<tr>
<td><strong>Needs Improvement</strong></td>
<td>Many errors and sentences written incorrectly</td>
<td>Many errors in information or facts</td>
<td>Messy writing and illustrations, lacking writing or illustrations</td>
</tr>
</tbody>
</table>
My Encyclopedia Page

topic: ________________________________________________________________

Illustrations or Diagrams