Cedar Grove Elementary

P4 Team: Moore, Trent, Wells

Subject: Science- Weather/Climate 2nd Semester

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| **Next Generation Standards** | **Day 1** | **Learning Target:**I can explain what weather is.**Materials:**[Weather and climate flipchart](file:///F%3A%5CPROGRAMS%5CTeachers%5C3rd%20Grade%5C3rd%20Grade%5C2014-2015%20Lesson%20Plans%5CScience%5CScience%20flipcharts%5CWeather%20and%20Climate%20%28new%20science%20book%29.flipchart)  |

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| **Introduction:*** Begin the lesson by asking the students what they know about weather. Create a list on the board of all the weather words the students know.
* Explain to the students that during this unit we will be learning about weather and climate and how they are alike and different. We will also be learning about the different types of weather hazards.

**Procedure:*** As a whole class, work through pages 1-5 in the [weather and climate flipchart](file:///F%3A%5CPROGRAMS%5CTeachers%5C3rd%20Grade%5C3rd%20Grade%5C2014-2015%20Lesson%20Plans%5CScience%5CScience%20flipcharts%5CWeather%20and%20Climate%20%28new%20science%20book%29.flipchart). Discuss weather, weather instruments, seasons and patterns and predictions. Be sure to discuss the Wrap It Up questions at the end of each page.

**Assessment:** * Exit slip: Write down 3 things you learned from today’s lesson.
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| **3-ESS2-1.** Represent data in tables and graphical displays to describe typical weather conditions expected during aparticular season. **3-ESS2-2.** Obtain and combine information to describe climates in different regions of the world.**3-ESS2-c**. Obtain and communicate information about the similarities and differences between weather and climate.**3-ESS3-1**. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.**Vocabulary:**Weather ClimateWindPrecipitationAir pressureFront |
| **Day 2** | **Learning Target:**I can explain what weather is. I can explain how weather hazards affect people. **Materials:**[Weather and climate flipchart](file:///F%3A%5CPROGRAMS%5CTeachers%5C3rd%20Grade%5C3rd%20Grade%5C2014-2015%20Lesson%20Plans%5CScience%5CScience%20flipcharts%5CWeather%20and%20Climate%20%28new%20science%20book%29.flipchart)US video: [Earth Science: Weather and Climate](http://app.discoveryeducation.com/player/view/assetGuid/E274E85E-BB04-4B95-A1D5-CAC5AB20D5B9) |

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| **Introduction:** * Begin the lesson by reviewing what students have learned so far about weather.
* Next, ask the students, “What is climate?” Discuss student responses.

**Procedure:** * As a whole class, work through the weather and climate flipchart starting with the climate page. Discuss with students what climate is and how weather hazards affect people. Be sure to discuss the Wrap It Up questions at the end of each page.
* If time allows, watch the United Streaming video: [**Earth Science: Weather and Climate**](http://app.discoveryeducation.com/player/view/assetGuid/E274E85E-BB04-4B95-A1D5-CAC5AB20D5B9) (20:00). Have students share what they learned.

**Assessment**:* Exit slip: “What is climate? “ How do weather hazards affect people?
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| **Day 3** | **Learning Target:**I can explain the difference between weather and climate. **Materials:** Venn diagram worksheetVocabulary words |  **Introduction:** * Ask the students, “What if I came to school today wearing shorts and sunglasses? Would that be ok? Why or Why not? Discuss with students that we know what to wear based on what we know about climate over the years and the local weather forecast. Today is about learning the difference between climate and weather.

**Procedure:** * Students can work independently or in groups to sort ideas onto the Venn diagram.
* Once students have completed the Venn diagram go over the answers together. Be sure that students recognize that while weather can be very unpredictable, a climate in a region typically stays the same.
* If time permits introduce vocabulary words by giving each one to a student and having them explain it to the class.

**Assessment:** * Ask: “Who can explain how climate and weather are similar or different?” This should be evident in their Venn diagram and the questions at the bottom.
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| **Day 4** | **Learning Target:**I can compare and contrast the characteristics of different climatic regions. **Materials:**[Clothing & Food Note Cards](https://www.teachengineering.org/collection/cub_/activities/cub_earth/cub_earth_lesson3_clothing_and_food_notecards.pdf) | **Introduction:** * Ask the class the following question: Do different climatic regions (such as tropical, desert, alpine, coastal) and weather patterns affect how people live their lives? How? Discuss.

**Procedure:** * Next, explain to the class they are going to be divided into groups and given a card. Tell the students that they represent separate families that live in very different parts of the world. “Today, you are going to role play for a little while to figure out where your family lives. Your "family" gets all your clothing and food from the area near where you live (it is not imported from another location)”.
* Hand out to the groups the descriptions of their family situations as cut from the [Clothing & Food Note Cards](https://www.teachengineering.org/collection/cub_/activities/cub_earth/cub_earth_lesson3_clothing_and_food_notecards.pdf). This card lists examples of clothing your families wear and foods your families eat.
* Tell students to take a few minutes to consider the clothing and food items, and think about what weather and climate conditions they might indicate. Have students write on the back of the card a description of the weather and climate conditions where their family lives, and their best guess at what type of *climate* they live in.
* After a few minutes let one person from each family tell the class what characteristics they wrote down on the back of their card. As students give the characteristics have someone write it down on the board. (For example, tropical: warm and moist year round, lush, lots of precipitation; desert: little precipitation, hot days, cold nights; coastal:near large bodies of water, cool temperatures, winds; alpine: low temperatures, high altitude, winds, short growing seasons.)
* Explain that each of these things are just some of the characteristics of a climate. Conditions change throughout the year as impacted by weather and seasons.
* Ask the students: Why do you think that different climates exist? (Answer: There are different factors that contribute to making different climates, including weather and seasons.) The five main things that determine climate are: latitude, altitude, land features, wind, and distance from large bodies of water. Discuss each of these as time permits. (see below for a description of each)

**Assessment:*** End the lesson by asking again: Do you think climatic regions and weather patterns affect how people live their lives? (Yes, they do!)
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| **Day 5** | **Learning Target:**I can describe weather related technologies and explain how they work. **Materials:**Worksheetcomputer | **Introduction:*** Pass out the image of weather related technologies. Ask students, “What are these?” “What do these images have in common?” Facilitate a conversation where students discover that these inventions all use weather to help people.

**Procedure:** * Divide the class into groups of 3. Explain to them that today they are going to research these inventions and tell how these have helped people.
* Give each group one worksheet about weather related technology. Encourage them to work together to discuss ways this technology has benefited societies as well ask follow-up questions on the worksheet.
* Give partners time to research one of their follow-up questions.

**Assessment:** * Have each partnership share their explanation about how this invention has benefited humans. Help students recognize how these technologies harness natural powers and put them to use in a renewable or safe way.
* The purpose of this investigation is for students to recognize how some weather related technology has transformed the way humans interact with each other.
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**The five main things that determine climate are:**

* First, where are tropical climates mostly present? That's right, around the *equator.* That means that a region's location on our planet, or***latitude***, is one factor.
* Are alpine climates found high or low above the earth's surface? They are found on mountains, so they are high above the earth's surface. The higher you go, the colder it gets, so the *elevation* or height is a factor that affects the temperature. This is an example of ***altitude***, so altitude also affects climate.
* What about hills, sand dunes, lakes, forests, even buildings? Do they affect the climate or temperature? Yes, they do. These are all ***land features*** and they also affect the environment.
* Next, the movement of air from high to low pressure is called wind. The movement of the earth's winds starts at the equator, where it is hottest. The air here rises (creating low pressure) and then cools and falls (creating high pressure). The air then moves back to the low pressure area. ***Wind*** is another factor that affects climate.
* And the final factor is ***distance from large bodies of water*** such as oceans, lakes and ocean currents. This distance affects the environment and climate.

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