

Changing Weather, Changing Seasons... A First Grade Unit

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Unit available in Adobe Acrobat® format at <http://www.meadowsnet.com/>

Invitation:

Young children love predicting the weather and experiencing a change in the seasons. Through the study of weather in their city and state to looking at how the weather and seasons change, the children will learn how to describe how location, weather, and the physical environment affects the way people live including their food, clothing, shelter, transportation, and recreation.

Unit Details:

Author: Debbie Meadows

Subjects: Language Arts, Social Studies, Science, Math, and Technology

Learning Level: First Grade, Primary

Standards:

Language Arts

Reading:

- 2.1 Identify text that uses sequence or other logical order
- 2.2 Respond to who, what, when, where, and how questions
- 2.6 Relate prior knowledge to textual information
- 3.3 Recollect, talk and write about books. Read during the school year.

Writing Strategies:

- 1.1 Select a focus
- 1.2 Use descriptive words
- 1.3 Print legibly and space letters, words, and sentences appropriately
- 2.2 Write brief expository descriptions of a real object, person, place or event using sensory details

Writing Sentence Structure:

- 1.1 Write and speak in complete, coherent sentences

Punctuation:

- 1.5 Use a period, exclamation point, or question mark at the end of a sentence

Capitalization:

- 1.7 Capitalize the first word of a sentence, names of people, and the pronoun I

Spelling:

- 1.8 Spell three- and four-letter short vowel words and grade-level appropriate words correctly

History/Social Studies

Students compare and contrast the absolute and relative locations of people and places and describe the physical and human characteristics of places by:

- 1.2.1 Using maps and globes to locate their local community, the State of California, the United States, the seven continents, and the four oceans.
- 1.2.4 Describing how location, weather and physical environments affect the way people live, including their clothing, shelter, transportation, and recreation

Science

Life Science:

- 2.a Different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places

Earth Science:

- 3.a How to use simple tools (e.g. thermometer, wind vane) to measure weather conditions from day to day and over the seasons
- 3.b The weather changes from day to day, but trends in temperature or of rain (or snow) tend to be predictable during the seasons

Math

Statistics, Data Analysis, and Probability:

- 1.2 Represent and compare data by using pictures, bar graphs, tally charts, and picture graphs

Technology

- K-2.1 Use input devices and output devices to successfully operate computers
- K-2.2 Use a variety of media and technology resources for directed and independent learning activities
- K-2.5 Work cooperatively and collaboratively with peers, family members and others when using technology in the classroom
- K-2.8 Create developmentally appropriate multimedia products with support from teachers, family members, or student partners

Situation:

The unit is planned for ten language arts and social studies/science days. Depending upon the number of students and the amount of time you have available, it may take a few days longer for all student to complete the assignments and present their doll and story. The teacher or parent volunteer will need additional time to scan and prepare the presentation.

Previous Knowledge:

Students should have worked in small groups and have an understanding of how to work together. Students should have studied the five senses, the Earth, continents, and oceans.

Tasks:

Preparation for the unit:

1. Gather books from the local library, school library, or ask students to bring in copies from home.
2. Read through the entire unit, prepare the charts and graphs.
3. At least one digital camera and online computer with a scanner will be necessary.
4. Software: PowerPoint® and a word processor.
5. Become familiar with the hotlist <http://www.kn.pacbell.com/wired/fil/pages/listweatherde4.html> and rubrics.
6. Have materials for art projects, story writing, and story illustrations prepared.
7. Train parent helpers in word processing and the use of PowerPoint®.
8. Collect magazines with pictures of the seasons and types of weather.
9. Purchase or have donated one styrofoam ball for each student's doll head.
10. Collect materials for doll making (soda or dishwashing liquid bottles, yarn, and cloth).
11. Prepare parent letter and send out two weeks in advance of the unit.

12. Have easily accessible thermometers in your classroom as well as outside for daily observation and recording. Have a class set of student thermometers for experiments.
13. Create space in the room for weather and season word charts.
14. Create a bulletin board with a map of the United States with your state and city clearly marked, also include a map of the world outlining the continents and oceans. If you need maps, you may download and print from <http://www.scottforesman.com/educators/>.

Use <http://www.kn.pacbell.com/wired/fil/pages/listweatherde4.html> for web sites in this unit.

Day 1:

Using the book What Makes the Weather by Janet Palazzo, read and discuss kinds of weather and the bear's reaction to his encounter with rain, snow, fog, and the sun. Compare and contrast the student's feelings about these types of weather. After reading and discussing the story, create weather word banks for use during this unit. At the end of this session you will know if you will have to supplement with additional weather activities before continuing with the unit. A good resource for additional weather activities is <http://www.prof-dev.okcps.k12.ok.us/coreunits/k%20science%20weather.htm>

Activity: Introduce the weather graph you and the students will be using for the next two weeks (Weather Calendar from Spring Fever, p. 61, Macmillian Seasonal Activity Packs). This should become a daily activity.

Day 2:

Read Caps, Hats, Socks, and Mittens by Louise Borden to the class. Introduce the discussion of the seasons by using NASA's page at <http://www.windows.ucar.edu/tour>. Read the information with the children and use the "Earth's orbit and rotation" link to explain how seasons change on earth. You can also use the search function on the site for many other pages discussing the seasons. Show the movie of the Earth's rotation <http://www-ssv.jpl.nasa.gov/SSV/glearth.html>

Activity: Make a weather wheel (Weather p.9. Macmillian Early Science Activities).

Write a poem to describe things you would see, hear, feel, and touch during a seasons.

Day 3:

During the day, read stories about the four seasons. Recommended books are: How Do You Know It's Fall? How Do You Know it's Spring? How Do You Know It's Summer? How Do You Know it's Winter? by Allan Fowler. Compare and contrast the differences in the seasons as shown in this series of books. Create word banks for each season.

Activity: Break students into groups of four. Give each group a large piece of chart paper labeled with the four seasons and magazines. You can also use Teacher Created Material's *Seasons Clip Art* software. The groups should work together to create a poster of pictures about the four seasons.

Assessment: Cooperative Group Rubric

Activity web site: <http://www.eduplace.com/ss/act/seasons.html>

Day4:

The student will sort picture cards into a sequential cycle of seasons. The student will be able to write two sentences telling about the season in each picture. Pictures are available at www.kidsdomain.com Select the appropriate season and clipart. The teacher can put groups of related pictures together for the children or the children, with adult help, can download and print the pictures they wish to use for this project. You can also use Teacher Created Material's Seasons Clip Art software.

Assessment: Picture Card Rubric

Read and discuss the story The Snowy Day by Ezra Jack Keats. Describe snow using all five senses. Make a winter collage using markers, construction paper, scissors and glue. Make paper snowflakes directions at <http://www.highhopes.com/snowflakes.html> Or make edible tortilla snowflakes at <http://familycrafts.about.com/cs/snowflakes/>

Day 5:

Introduce the seasons story and doll activity. The student will write a story to describe the things they would hear, see, feel, and touch during a favorite season. The doll will be a self-portrait and will be made in class using materials brought to school. The students will dress the doll in clothing appropriate to their selected season. The students will be given tag board to make a background picture for their doll. The doll and backboard will be photographed to include in the PowerPoint story presentation. When the stories are complete, the teacher or parent volunteer will put the PowerPoint presentation together for the class. The presentation will be given to the entire class with each child having the opportunity to read their story to the class. This activity should take five to seven class periods. It would be helpful to have parent or older students as helpers during the doll making activity.

Assessment: Seasons Project Rubric

Day 6:

During the morning calendar discuss the temperatures inside and outside the classroom. This week the children will record the temperature outside the classroom on a teacher made chart. The chart should include 4 columns with Day, Outside Temperature, Warmer Today?, and Colder Today? in the headers. Have a student check and record the outside temperature. As a group decide if the temperature is warmer or colder than the day before. Children will make a Penny Penguin Thermometer to go with this activity.

Activity: Make the Penny Penguin Thermometer from Weather Macmillian Early Science Activities pages 17, 18.

During science class do the following experiment:

Materials: two identical thermometers, two cups of warm water, ice cubes, paper towels, newspaper.

Procedure:

1. Discuss the thermometer and its use. Discuss these questions: What is this tool or instrument called? What is it used for? What is temperature? How does it work?
2. Fill both cups with the warm water. Place a thermometer into one cup of water. Have the children compare the temperature readings on both thermometers (other at room temperature). Which thermometer has a longer line (higher temperature)?
3. Place ice cubes in the other cup of warm water. Have the children predict what will happen to the thermometer when it is placed into the ice cube cup.

4. Place the other thermometer in the ice cube cup. What happened? Was your prediction correct?
5. Compare the temperature of the warm water cup to the ice cube cup. Discuss the experiment. Does the liquid in the thermometer go up or down when the air is cold? Where does the liquid move when the air is warm?

Experiment from Teaching Children About Science by Elaine Levenson.

Continue working on stories, doll, and back board.

Day 7:

While using laminated maps, the student will be able to accurately point to different land masses and bodies of water on the Earth's surface. I have a Nystrom Map skills kit with laminated world maps. If laminated maps are not accessible, you can copy a map showing the continents and oceans and have the children color the map specific colors as you direct.

Activity: Students will listen to the teacher's directions and mark their maps as instructed.

Read and discuss Gilberto and the Wind by Marie Hall Ets. Talk about the student's experiences on windy days. Make a pinwheel or windsock. Patterns available in Literature Based Art Activities by Darlene Ritter.

Continue working on stories, doll, and back board.

Day 8:

The student will be able to put together a puzzle of the continents to form a world map. (Beginning Geography Volume 3 by Jo Ellen Moore, published by Evan-Moore, page 16)

Read and discuss Miss Rumphius by Barbara Cooney. Talk about planting flowers and relate the life cycle of flowers, plants, and trees to the seasons. Make thumb print flower pictures. You may view a unit on Miss Rumphius at <http://www.sdcoe.k12.ca.us/score/rumf/rumftg.html> for additional suggestions.

Continue working on stories, doll, and back board.

Day 9:

Read and discuss One Hot Summer Day by Nina Crews. Talk about favorite things about summer activities. Make a beach picture using sand and glue.

Using the lesson at <http://www.first-school.ws/activities/seasons/trees.htm> online activity #2, take a look at the changes in trees during the seasons. Make the Metamorphosis Story Disk from Hands on Patterns and Props by Monday Morning.

Complete work on stories, doll, and back board.

Day 10:

Have a seasonal party while presenting the PowerPoint stories. Go to The Idea Box <http://www.theideabox.com/> and click on seasonal games. From this menu you can select a recipe from each season that would be appropriate for your party. Divide the class into four groups and assign each group a season. The groups will make party decorations appropriate to the season.

Interactions:

This unit is a combination of a variety of learning activities. The students will work in cooperative groups, teacher directed groups, parent-student teams, and individually. The rubrics will be provided at the beginning of the activity to allow the students the opportunity to be ready for the tasks at hand.

Assessments:

Name _____ Date _____

My job: _____

Cooperative Group Rubric

Objective	Not There Yet 1 point	Getting There 2 points	There! 3 points	Earned Points
I helped my group find materials.				
I used an inside voice while working.				
I shared information with my group.				
I listened to other's ideas.				
I did my part to complete the activity.				
I helped my group finish our activity on time.				
Our project is complete.				

Student Evaluation:

Things I liked:

Things I will change next time:

Teacher Evaluation:

Things I liked:

Things I would change next time:

Name: _____ Date: _____

Seasons Doll and Story Rubric

Exemplary:

I completed everything under proficient correctly
My sentences begin with different words
I made sure all the words are spelled correctly
My doll and backboard are very creative

Proficient:

My doll is dressed in clothing to match my chosen season
My backboard is colorful and neat
My backboard picture is of my chosen season
My story is about my chosen season
I included a sentence about each of the five senses
My sentences begin with a capital letter
My sentences end with the correct punctuation
My sentences have describing words
I made each sentence a complete thought
I spelled 3 and 4 letter words correctly
I have my name on the top of the paper
I used my best printing and left spaces between the letters, words, and sentences

Progressing:

I met nine of the twelve Proficient criteria
I am almost there

Not Yet Meeting Standards:

I met less than nine of the Proficient criteria
I will ask questions and keep trying

Self-Evaluation: _____

Teacher Evaluation: _____

Comments:

Name: _____ Date: _____

Picture Card Rubric

Exemplary:

I completed everything under proficient correctly
My sentences begin with different words
I made sure all the words are spelled correctly

Proficient:

My picture cards are in order
My picture cards are neatly colored
My picture cards are neatly cut and glued
My picture cards look like the model (teacher made model)
My picture cards are labeled with the correct season
My sentences begin with a capital letter
My sentences end with the correct punctuation
My sentences have describing words
I made each sentence a complete thought
I spelled 3 and 4 letter words correctly
I have two sentences about each picture
I have my name on the top of the paper
I used my best printing and left spaces between the letters, words, and sentences.

Progressing:

I met nine of the thirteen Proficient criteria
I am almost there

Not Yet Meeting Standards:

I met less than eight of the Proficient criteria
I will ask questions and keep trying

Self-Evaluation:

Teacher Evaluation:

Comments:

Tools:**Parent Letter:**

Dear Parents,

We will be learning about how the weather and seasons affect our lives. The children will study about the changes in clothing, shelter, transportation, and recreation needs as the seasons and weather change. While working on this unit of study, the children will be creating a computer book about the seasons. They will also create a "like me" doll and write a story about their experiences in a favorite season.

There are many recycled materials we can use for this project. If you have old magazines and/or scraps of cloth and yarn we would appreciate the donations. Please send them to school by January 23rd.

Each child will need to bring an empty plastic bottle for this project. The bottle can be a soda bottle (any size) or dishwashing bottle. Please send the bottle to school by January 20th, if you will not be able to send this to school, please let me know. As always if you have any questions, please send a note, give me a call, or e-mail me at dmeadods@meadowsnet.com.

Sincerely,

Debbie Meadows

Additional Student Books:

Adler, David *World of Weather*

Aliki, *My Five Senses*

Barrett, Judi *Cloudy with a Chance of Meatballs*

Berger Samantha *It's Spring*

Branley, Franklyn *Snow is Falling*

Brett, Jan *The Mitten*

Cole, Janet *Magic School Bus Kicks Up a Storm*

Cole, Janet *Magic School Bus Makes a Rainbow*

De Paola, Tomie, *The Cloud Book*

Fanelli, Sara *My Map Book*

Franko, Betsy *Fresh Fall Leaves*

Hale, Janet *Five Senses*

Hutchings, Amy *Picking Apples and Leaves*

Hutchins, Pat *The Wind Blew*

Lobel, Arnold *The Turnaround Wind*

Martin, Jr. Bill *Listen to the Wind*

McPhail, David *Snow Lion*

Palazzo, Janet *What Makes the Weather*

Prelutsky, Jack *It's Raining Pigs and Noodles*

Rockwell, Ann and Harlow *At the Beach*

Rogasky, Barbara *Winter Poems*

Santry, Lawrence *What Makes the Wind*

Sweeney, Joan *Me On The Map*

Toast, Sara *Snowy Owl*

Tomkins, Jasper *Nimby*

Venino, Suzanne *What Happens in Autumn*

Wilhelm, Hans *It's Too Windy*

Teacher Resource Books:

Moore, Jo Ellen *How to Use A Map*
Moore, Jo Ellen, *Land forms and Bodies of Water*
Moore, Jo Ellen *Continents and Oceans*
McCracken, Robert *Fall*
McCracken, Robert *Spring*
McCracken, Robert *Winter*
Judy Instructo *Four Seasons of Fun*—paper art patterns

Technology:

Polar Pairs game for winter

<http://www.mnh.si.edu/arctic/game/index.html>

Pictures and descriptions of animals during the seasons <http://www.nature.ca/notebooks/english/mon2.htm>

Seasons by NASA

http://windows.arc.nasa.gov/tour/link/the_universe/uts/seasons1.html

Crossword Puzzles

windows.arc.nasa.gov/tour/link=/earth/Atmosphere/crossword.html

Songs and Poems about the weather and seasons <http://www.canteach.ca/elementary/songspoems.html>

Kid's Domain web site for seasonal student activities

<http://www.kidsdomain.com/holiday/summer/>

<http://www.kidsdomain.com/holiday/spring/>

<http://www.kidsdomain.com/holiday/fall/>

<http://www.kidsdomain.com/holiday/winter/>

Favorite season—class vote

<http://www.teachervision.com/lesson-plans/lesson-3618.html>

Seasons Mini-book:

<http://www.education.com/common/resources/lp/sci/971006ks.pdf>

Reviewing the five senses

<http://www.eduplace.com/tview/tviews/m/myfivesenses.html>

Seasons web site listing

<http://www.scienceteacherstuff.com/seasons.html>

Earth's Rotation

http://www.bbc.co.uk/education/revisewise/science/physical/16_act.shtml

Software:

Teacher Created Material's Seasons Clip Art

Other Materials:

As noted in unit plan for lessons and activities

Reflection and Student Responses:

I was able to work with a group of seven K/1 students to teach a part of this unit. I combined parts of day two and four. We started by reading the book Caps, Hats, Socks, and Mittens and viewed the web sites from day two. The students were amazed by the site showing the Earth's rotation. It was the hit of the lesson. We discussed the fact that the seasons did not happen just because the calendar said a specific date. One little girl was astonished by this revelation. We talked about what they did during each season and wrote ideas on the board. We talked about our activity and the assessment for the picture card sequencing activity. Since it was so close to the beginning of the year, we decided that two sentences were

a lot, so one sentence became the Proficient standard and two or more sentences became the Exemplary standard. Due to the amount of time I had, we also dropped coloring the pictures as a standard. The children worked on the sequencing of the seasons, but were unsure of which one should go first. There was a lot of discussion about the “first” season. I did not intervene and the children came to no firm conclusion, so they didn’t start with a specific season. The kindergarten children has trouble sequencing the activity. When it came time for the sentence writing, the kindergartners dictated to me and wrote very well. The first graders struggled, but were better when we stopped a put a word bank on the board. The lesson concluded smoothly and easily. There were no discipline concerns.

Had I been in my own classroom, I would have used a survey to allow the students to reflect and comment on the unit.

Student reflection

Name _____ Date _____

Student Response to *Changing Weather, Changing Seasons* Unit

Circle you answer to each statement.

1. I liked the stories. Yes No Some
2. I liked working in groups. Yes No Some
3. I can read a thermometer. Yes No Some
4. I learned something new about weather and seasons.
Yes No Some
5. I enjoyed making my doll and backboard. Yes No Some
6. I enjoyed writing a story about my favorite season.
Yes No Some
7. I enjoyed making my computer presentation. Yes No Some
8. I enjoyed presenting my story to the class. Yes No Some

My favorite part of the unit was...

My least favorite part of the unit was...

Mrs. Meadows, the next time you teach this unit, I would...

Mrs. Meadows, the next time you teach this unit, I would not...

Name: _____ Date: _____

Picture Card Rubric #2 (Revised with students for lesson 11/6)

Exemplary:

I completed everything under proficient correctly
My sentences begin with different words
I made sure all the words are spelled correctly
I wrote two or more sentences about the seasons

Proficient:

My picture cards are in order
My picture cards are neatly cut and glued
My sentence begins with a capital letter
My sentence ends with the correct punctuation
My sentence has describing words
I made my sentence a complete thought
I spelled 3 and 4 letter words correctly
I have one sentence about each picture
I have my name on the top of the paper
I used my best printing and left spaces between the letters, words, and sentences.

Progressing:

I met seven of the ten Proficient criteria
I am almost there

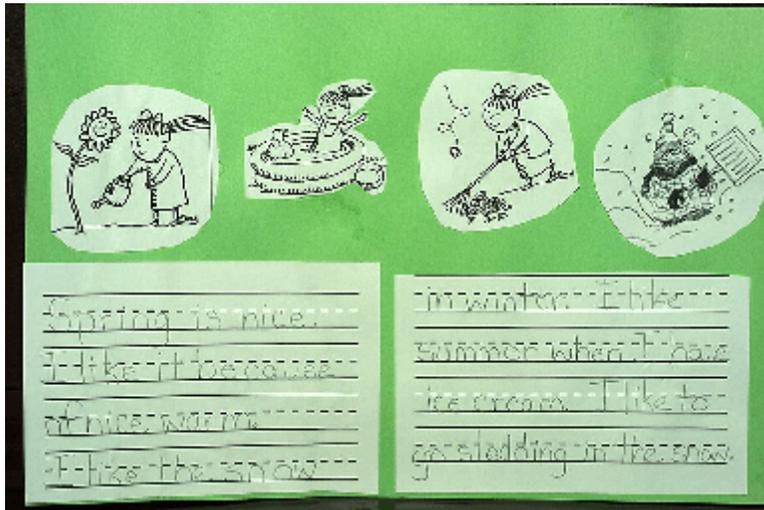
Not Yet Meeting Standards:

I met less than seven of the Proficient criteria
I will ask questions and keep trying

Self-Evaluation:

Teacher Evaluation:

Comments:

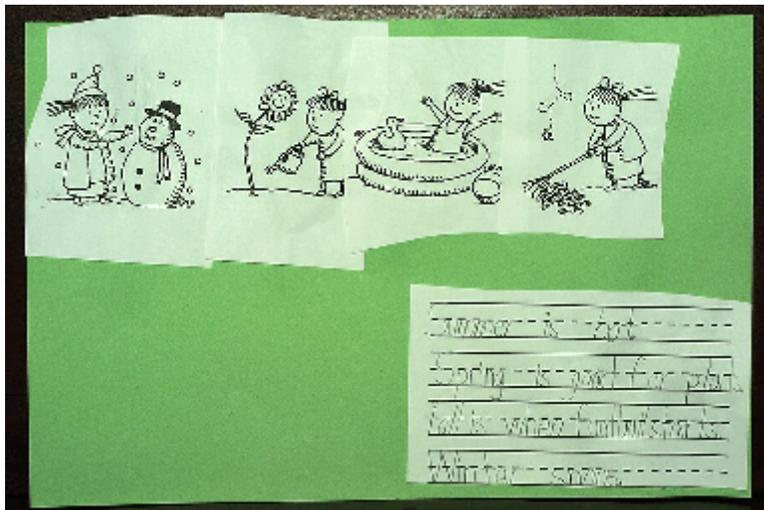


Sample Student Work:

Sample One: Dictated sentences by a kindergarten student

Rubric Evaluation: Seasons are in order, sentences are dictated to the teacher, but are well written.

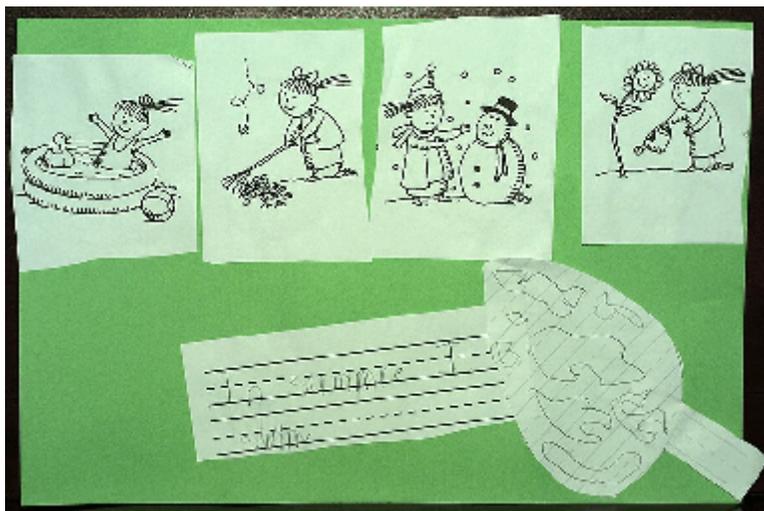
For a kindergartner, I would change the rubric to give credit for dictation as well as writing alone.



Sample Two: First grade student

Rubric Evaluation: Seasons are in order, Sentences are about a different season, student used best printing

Proficient



Sample Three: First Grade Student

Rubric Evaluation: Seasons are in order, only one sentence about a season, printing is satisfactory Progressing

This student was the one so impressed by the rotation lesson. He created the earth on its axis.