

WILD AND WONDERFUL WEATHER

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Lesson Summary for Grades 3 and 4

In this lesson, students learn what clouds are, why rain comes from clouds, and other facts about weather. Students make cloud bottles and create rain gauges and other weather instruments. This lesson also includes numerous cross-curricular activities linking weather topics with art, citizenship, mathematics, reading, and writing. Students read *Bring the Rain to Kapiti Plain*, by Verna Aardema, and *The Rains Are Coming*, by Sanna Stanley.

Science Activity 1: Making Clouds and Rain

Students make a cloud and a model of a water cycle and discuss the importance of rain to living things. Students read Bring the Rain to Kapiti Plain by Verna Aardema and The Rains Are Coming by Sanna Stanley.

Source: Gertz, S.E.; Portman, D.J.; Sarquis, A.M. "Making Clouds and Rain," *Teaching Physical Science Through Children's Literature*; McGraw-Hill: New York, 1996; pp 67–76.

Key Science Topics:

- weather
- water cycle
- changes of state
- effect of temperature on matter

Key Process Skills:

- observing
- collecting data
- charting

Ohio Proficiency Learning Outcomes for Science:

Fourth Grade

- I-1 Create and/or use categories to organize a set of objects, organisms, or phenomena.
- II-11 Identify characteristics of a simple physical change.
- III-14 Identify and/or describe the relationship between human activity and the environment.
- IV-16 Demonstrate an understanding of the basic needs of living things.

Procedure

In this activity, students learn what clouds are and why rain comes from clouds, chart daily weather observations, and produce a weather web to summarize their daily weather observations. Students also make cloud bottles and water cycle models and learn how clouds form and rain falls.

Follow the procedure in *Teaching Physical Science Through Children’s Literature*, pp 67–76.

Science Activity 2: Weather Forecasters

In this activity, students use barometers, humidity indicator, thermometers, and other tools to predict the weather. They read The Rains Are Coming by Sanna Stanley.

Source: Gertz, S.E.; Portman, D.J.; Sarquis, A.M. “Weather Forecasters,” *Teaching Physical Science Through Children’s Literature*; McGraw-Hill: New York, 1996; pp 77–86.

Procedure

In this activity, students make weather instruments, brainstorm a list of weather-forecasting words, and collect their own weather predicting “clues” (such as changes in atmospheric pressure, humidity, and temperature).

Follow the procedure in *Teaching Physical Science Through Children’s Literature*, pp 77–86.

Art Activity: Cloud Pictures

Students create “cloud pictures” using paints.

Materials

- white paint
- blue construction paper
- paintbrushes
- water
- smocks

Procedure

Put a glob of white paint on one side of a sheet of blue paper, fold the paper, and smooth. When the paper is unfolded, have students identify the type of cloud their picture represents (e.g., cumulus). Then have them look for a “picture” in the cloud and label it (e.g., a bunny).

Extensions

Have the students go outside and look for shapes and pictures in the clouds. Have them identify the types of clouds. Pass the paintings around to see what pictures the other kids find in each painted cloud.

Citizenship Activity: Reading Weather Maps

Using map skills, students read a weather map and explain what it means.

Ohio Proficiency Learning Outcomes for Citizenship:

Fourth Grade

III-7 Demonstrate map skills.

III-8 Use maps and diagrams as a source of information.

Materials

- current newspapers
- overhead

- transparencies
- markers
- paper

Procedure

Make overheads of weather maps from newspapers and have students practice reading them. Have them create their own weather situation and map to go along with it. Challenge them to role-play weather reporters in a TV newscast setting within their groups.

Language Arts Activity 1: Making New Words

Students learn to manipulate words to make new words, increasing word awareness and phonics skills.

Ohio Proficiency Learning Outcomes for Language Arts:

Fourth Grade

Reading:

- I-3 Demonstrate an understanding of text by retelling the story or poem, in writing, in the students' own words.
- I-4 Identify and interpret vocabulary.
- III-11 Summarize the text.
- III-12 Use graphical aids or illustrations.
- III-13 Demonstrate an understanding of text by retelling the information, in writing, in the students' own words.
- III-14 Identify and interpret vocabulary critical to the meaning of the text.

Writing:

This activity addresses the writing outcomes for fourth grade.

Materials

- Post-it[®] Notes
- pencil
- paper

Procedure

Have students write each letter of the word “cumulonimbus” on a Post-it Note. Then have them try to reorganize the Post-it Notes to form new words. Be sure that they record the number of words they find and that the words are spelled correctly.

Extensions

Have students use different words. Make it into a contest. Have them work on cursive handwriting. Have them look up the definitions of their new words in the dictionary.

Language Arts Activity 2: Weather Poem

Students create weather poems, focusing on adjectives and computer skills.

Ohio Proficiency Learning Outcomes for Language Arts:

Fourth Grade

Reading:

- I-3 Demonstrate an understanding of text by retelling the story or poem, in writing, in the students' own words.
- I-4 Identify and interpret vocabulary.
- III-11 Summarize the text.
- III-12 Use graphical aids or illustrations.
- III-13 Demonstrate an understanding of text by retelling the information, in writing, in the students' own words.
- III-14 Identify and interpret vocabulary critical to the meaning of the text.

Writing:

This activity addresses the writing outcomes for fourth grade.

Materials

- writing/typing paper
- pencil
- computer
- markers
- crayons

Procedure

Students create weather poems focusing on severe weather conditions. The use of descriptive adjectives should be strongly encouraged. The students then type their poem on the computer, to learn keyboarding and editing skills. Finally, they illustrate their poem for a class book.

Extensions

Have students memorize the poem and present it to the class using props and motions.

Language Arts Activity 3: Writing Tall Tales

Have students read Cloudy With a Chance of Meatballs by Judi Barrett, Judith Barrett, and Ron Barrett, another story about weather that's a good example of a tall tale. Have students write their own weather tall tales.

Ohio Proficiency Learning Outcomes for Language Arts:

Fourth Grade

Writing:

This activity addresses the writing outcomes for fourth grade.

Mathematics Activity: Story Problem

After reading The Rains Are Coming, students create story problems for others to solve.

Ohio Proficiency Learning Outcomes for Mathematics:

Fourth Grade

II-3 Select appropriate notation and methods for symbolizing a problem situation.

II-4 Identify needed information to solve a problem.

II-5 Explain or illustrate whether a solution is correct.

Procedure

Give students an example of a story problem. The students will have to come up with four problems (addition, subtraction, multiplication, division) with solutions for their classmates to solve.

Music Activity: Rain Sticks

Students make rain sticks.

Materials

- toilet paper or paper towel rolls
- beans
- tape or rubber bands
- paper
- markers
- scissors

Procedure

Seal off one end of the tube by fastening a piece of paper with tape or a rubber band. Add beans to the tube and seal off the other end. Decorate using markers.