



* Science

Changes in the Weather?

Santa and Rudolph were feeling the effects of foggy winter weather as they started their package delivery on Christmas Eve. What would happen if those conditions quickly changed? What would they need to do in order to deliver their packages on time?

Kentucky Science Standards

Patterns, Systems, Scale and Models, Constancy, and Change Over Time (2.2-2.6) > Changes in Earth and Sky—Weather Grades K-3

Academic Expectations:

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

Ohio Science Standards: Earth and Space Sciences

Weather

Benchmarks Grades K-2

C. Observe, describe and measure changes in the weather, both long term and short term.

Grade 3

D. Analyze weather and changes that occur over a period of time.

(Note: Grade 3: Emphasis is on the impact of weather on rock and soil; formation & erosion)

Objective:

Students will:

- Describe the changes in weather and the effect it has on events, people, and other things.

Assessment:

Students will be able to:

- Use observation skills and prior knowledge to generate inferences regarding weather changes and required adaptations by people and other things.
- Problem-solve a weather dilemma faced by Santa and Rudolph as they prepare for a winter delivery.

Sample selected response items to gauge student understanding:

1. Which of the following would not be a welcomed condition by Santa and Rudolph as they prepare on Christmas Eve?
 - a. fog
 - b. snow
 - c. high winds
 - d. high temperatures
 - e. cold temperatures

Answer: D. High temperatures

2. If the weather changed from sunshine and warm to cold and rainy, what changes in your daily routine would you need to make?

Answer: Wear different clothing like a rain coat, or sweatshirt; carry an umbrella, play inside instead of outside, have indoor recess, etc.

3. Describe a change in weather conditions or seasonal changes that you like and tell why.

Answer: Individual student response. Emphasis on a correct identification of a seasonal or weather change accompanied by a valid reason that demonstrates understanding of the conditions that occur (e.g., I like thunderstorms that come up suddenly. I like to see the sky change to grey and hear the loud boom of the thunder.

Vocabulary:

- Weather
- Season
- Change
- Attribute
- Category
- Classify

Materials:

- Pictures of seasonal items and weather conditions
- Cards/paper to record descriptions of pictures
- Drawing paper
- Crayons, markers, pencils

Activity

Not Your “Normal” Package Delivery

Teacher will:

1. Reflect with students on the production of *Rudolph, the Red-Nosed Reindeer*, and the weather conditions encountered by the characters.
2. Have students share weather conditions which they have encountered and actions they took to adjust to it.
3. Collect pictures of different weather conditions and seasonal items, or assign this task as a class or homework assignment for the students.
4. Have students sort and classify the pictures into categories based on their prior knowledge about weather and seasonal changes. Have students describe the attributes used to place each picture into a specific category/group, and then label.
5. Debrief the activity. Have students present their grouping and share their thinking for decisions made.
6. Continue discussion and sharing by asking the following questions for each picture grouping.
 - What weather or seasonal changes occur, and what is necessary for one to do and adapt to the changes?

- Why information in the pictures helps you to know what changes occur, and what one would need to do?
5. Pose the following scenario. Santa and Rudolph are preparing delivery of their packages. The weather changes suddenly to that of thunderstorm with large hail stones. What must Santa and Rudolph do to make their journey?
 6. Instruct students to draw a picture of Santa and Rudolph that illustrates the action both will take to adjust to the new weather conditions, and add descriptive text that tells what is happening.
 7. Facilitate discussion as to whether or not Santa and Rudolph made good decisions and adapted well to the weather conditions in the production of *Rudolph, the Red-Nosed Reindeer*. Have students comment on how the visual presentation of the play added to their understanding of the story of Rudolph.