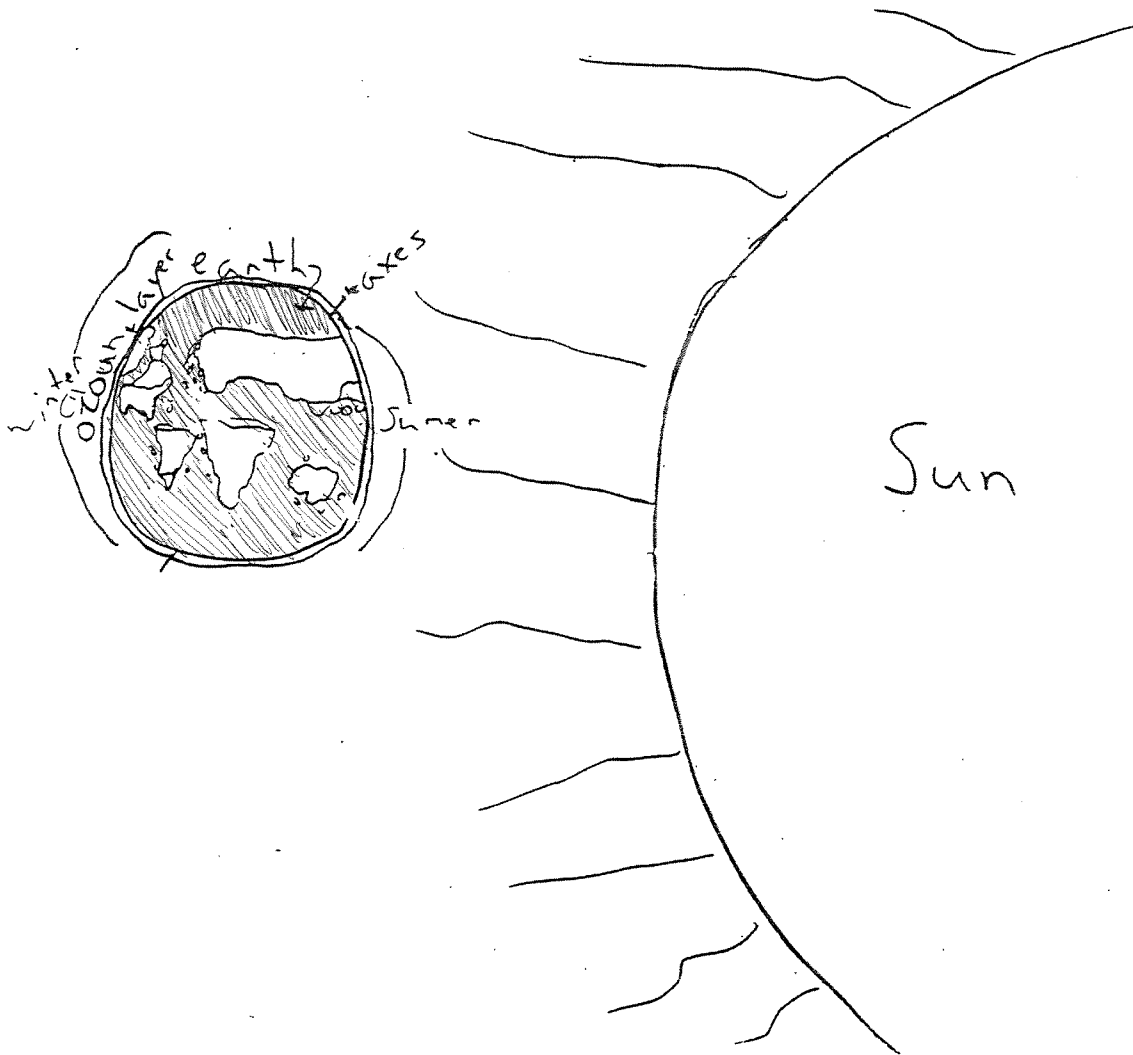


SAMPLE STUDENT WORK

Using words and / or pictures, explain why it is hot in the summer and cold in the winter.

It's cold in the winter because ^{half of the} the earth is tilted away from the sun and not as much heat is on the side where the earth is tilted away from it. The other half is tilted to the sun and it's getting most of the heat.



Interview

Interview Assessment

Checklist for Interview Assessment

• Topic _____ *

Targeted concepts:

- Results of written preassessment/classroom observations/prior experiences**
What characteristics of the concept make it difficult for students?

What important subconcepts are necessary for understanding?

What prior misunderstandings do students bring to the subject area ?

• Interview setting

- ___ Individual
- ___ Small group
- ___ Whole group

• Recording method

- ___ Checklist/handwritten observations
- ___ Audiotape
- ___ Videotape

• Interviewees

- ___ Volunteers
- ___ Determined by results of written preassessment
- ___ Determined by classroom observations
- ___ Students selected representing range of conceptual achievement

• Opening question *

- "Can you explain..."
- "What do (did) you mean by..."
- "How would you..."
- "Tell me everything you know about..."
- "How would you explain... to another student."

• Possible follow-up questions **

- "Tell me more about..."
- "Explain using an illustration/
this picture/these instruments..."
- "How are ... related?"
- "Show me..."
- "What if..."

Self-Test

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ASSESSING STUDENT UNDERSTANDING IN SCIENCE

FORM 6.4

I Can Measure With A Ruler! (Integrates Domains)

1. I can start from the left end of the ruler.
2. I can measure in inches.
3. I can measure in feet.
4. I can measure four (4) things.
5. I can draw a picture of each thing I measured.
6. I can write the measurement under each picture.

Portfolio

Portfolio Assessment

Student-led Conferences

Directions: Discuss each of the following with your parent/guardian/teacher.

During this quarter I :

PART I: Learned the following about [topic(s)]

Show the pages in your portfolio that best illustrate your new understanding about [topic(s)].

PART II: Improved in my ability to :

Show the pages in your portfolio that best illustrate how you have improved.

PART III. Need improvement in the following areas

Show the pages in your portfolio that indicate areas you wish to improve.

Part IV. Describe your quarter plan for improving in one area that you have described in Part III.

SCIENCE PERFORMANCE-BASED ASSESSMENT

Curriculum Alignment:

1. Topic ("Big Idea") *Properties of gases*

2. Goals/Objectives

A. Content:

6.3 Demonstrate knowledge of solutes and solubilities.

B. Process:

<i>communicate</i>	<i>measure</i>
<i>interpret data</i>	<i>experiment</i>
<i>control variables</i>	

3. Purpose of activity/expected outcome:

Students will devise a controlled experiment to answer the question. Student will consider factors such as effect of temperature and agitation on solubility.

4. Skills necessary to complete assessment:

Student must be able to as collect and measure the volume of gas.

ITEM DESCRIPTION:

1. Problem statement (Student task)

You are in charge of refreshments for the spring dance. After surveying your classmates you discover that they are willing to drink any of the soft drinks on the market but they prefer soda that will keep its fizz for a long time. Using the five soda samples on the table plan and implement an experiment to determine which soda you will buy. Clearly communicate your procedure, your findings, and your soda selection.

2. Item Logistics

A. Materials needed:

- | | |
|--|--|
| <ul style="list-style-type: none"><i>• 5 different types of soda</i><i>• plastic tubing</i><i>• plastic syringes</i> | <ul style="list-style-type: none"><i>• beakers</i><i>• one hole rubber stoppers</i><i>• graduated cylinder</i> |
|--|--|

B. Projected Student Completion time: *50 minutes*

C. Space requirement: *1 large table*

D. Advanced Preparation required: *Collection of materials, purchasing soda.*

STUDENT ANSWER SHEET FORMAT: *Student will produce.*

Multiple-Choice

he best answers are indicated by an asterisk.

Concept: When water freezes, its volume increases.

Application Question: Which one of the following is the main reason that water should not be stored in the freezer in a container totally filled and sealed?

- A. The taste of the water will change.
- B.* The container might break as the water expands.
- C. The water reacts with the glass at low temperatures.
- D. Water will not freeze if there is not enough space for it to change to ice.

Concept: The time to warm an object that is in a boiling liquid depends on the amount of material making up the object and how much of its surface is exposed to the boiling liquid.

Application Question: Which of the following examples will cook most slowly when placed in boiling water?

- A.* A single 1-pound potato
- B. One pound of small potatoes
- C. One pound of medium-sized potatoes
- D. One pound of potatoes cut into small pieces

1. Concept: Most bird identification guides are based on knowledge of a bird's shape, size, color, and patterns of markings.

Application Question: While sitting at the breakfast table on a winter morning, you notice a species of bird you have never seen before. What one of the following would you recommend to best guarantee that you will be able to identify the bird?

- A. Make a note of the bird's favorite food.
- B. Observe the behavior of the bird.
- C.* Study the size and coloration of the bird.
- D. Determine the sex of the bird.

4. Concept: The temperature at which water boils decreases with altitude; therefore, the temperature of boiling water at high altitudes will not be as high as the temperature of boiling water at sea level. A pressure cooker is a kitchen appliance where high pressure and high temperature are maintained inside the cooker despite the altitude.

Application Question: Where would it be more efficient to have a pressure cooker for cooking food?

- A. Below sea level
- B. At sea level
- C. At low elevations
- D.* In the high mountains

Concept Map

FIGURE 2.1. Water Cycle Concept Map Made From Written Beginnings

