



4.11 EVALUATION: CONCEPT AND SKILL INVENTORY

OBJECTIVES

The students

- Assess their own understanding of weather and climate concepts.
- Assess their own ability to perform the skills taught.
- Describe, demonstrate, or teach their knowledge of concepts.
- Demonstrate their ability to perform or teach skills.

BACKGROUND

This activity is a unique evaluation component that is designed to engage the students in becoming aware of the concepts they understand and the skills they have mastered. The instrument used is called a Concept and Skill Inventory.

In DASH the term **concept** includes a whole array of connections and ideas associated with a particular word or phrase. The term **skill** means the ability to do something. Concepts and skills develop with the student. A third grader's concept of weather will be far broader than that of a kindergartner. Likewise, a fifth grader's skill in measuring temperature will exceed that of a third grader.

The students distinguish four levels of understanding with teaching as the highest level of achievement.

- 0 **No** understanding of the concept or ability to do the skill
- 1 **Beginning** to understand the concept or beginning ability to do the skill
- 2 **Good** understanding of the concept or good ability to do the skill
- 3 Can **teach** someone else the concept or skill

It is suggested that first the teacher independently rate each student's mastery. After the teacher and the students have completed their ratings, the teacher can resolve discrepancies by discussing them with the students. At the level of understanding the students can be asked what they know about a concept. At the teaching level they can be asked to teach the teacher the concept. In DASH teaching is seen as the highest level of achievement. The students should be constantly striving to gain the capacity to teach someone else both concepts and skills. In the case of skills, the students' ability to perform or carry out a given skill can be directly tested by giving them a task involving the skill.

The Concept and Skill Inventory, the Suggested Script, and the Teacher Evaluation appear in the Teacher's Guide following this activity. Each student will need a copy of the Inventory. Make enough copies of the Teacher Evaluation to accommodate the number of students in the class. The Concept and Skill Inventory can be used as a reporting mechanism for parents but some communication should accompany the inventory describing how it should be interpreted. The concepts and skills listed in the instrument are but a suggestion. The teacher may make additions, substitutions, or deletions as needed.

STUDENT ROLE

Evaluator

MATERIALS

Suggested script for administering the Concept and Skill Inventory

Teacher evaluation

Student Concept and Skill Inventory

PRODUCTS

Completed Concept and Skill Inventories

PROCEDURES

1. **Explain the purpose of the Concept and Skill Inventory to the students.**
Include such things as the evaluation
 - Allows students to tell what they think they know.
 - Allows teachers to check their observations with what students think.
 - Shows what yet needs to be mastered or understood.
 2. **Go over examples of what is meant by each level of the Inventory. Read the concepts and skills where necessary and have the students check their level of understanding and mastery.**
 3. **Discuss with individuals differences in teacher and student perception of mastery and understandings.**
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SUGGESTED SCRIPT**Climate Education Grade Four Concept and Skill Inventory**

There are four possible answers to each of the following questions: **No**, I cannot do that. **Begin**, I am beginning to be able to do that. **Good**, I can do that. And, I can **teach** a friend who cannot do this how to do it. Please check only ONE answer only: **no, begin, good, or teach.**

1. Can you describe the weather? ...**NO**, I do not know what weather is; **BEGIN**, I know some things about the weather; **GOOD**, I can describe the weather; or, I can **TEACH** a someone what weather is so they can describe it. Put a check under the answer that best describes what you can do.
2. Do you know how to measure rainfall? Continue as above until all the students understand the pattern.

Name: _____

Date: _____

**Grade 4 Climate Education
Concept and Skill Inventory**

There are four possible responses to each of the following
 No I have no understanding of the concept or I cannot do this.
 Begin I am beginning to understand the concept or I am beginning to do this.
 Good I have a good understanding of the concept or I can do this.
 Teach I can teach someone else to understand the concept or to do this.
 Check ONE response.

Concept or Skill	No	Begin	Good	Teach
1. Describe the weather				
2. Measure rainfall				
3. Name some kinds of precipitation				
4. Measure wind speed				
5. Find wind direction				
6. Measure the temperature				
7. Describe some fair-weather clouds				
8. Describe some storm clouds				
9. Describe two kinds of clouds				
10. Describe the amount of cloud cover				
11. Describe some things that can help predict changes in the weather				
12. Describe the water cycle				
13. Describe the difference between weather and climate				
14. Describe some different climates on Earth				
15. Tell what global warming means and describe some of the impacts of this				
16. Tell some ways climate change may affect the local environment				
17. Describe what erosion is and what causes it				
18. Tell some ways we can help protect the local environment and resources				
19. Describe the local climate				
20.				