

Adequate Evidence

Adds on three cubes that correctly follow the pattern the teacher started; also describes some way of knowing that he or she is following a rule based on color, for example, may say, "After green comes blue."

Strong Evidence

Adds on at least three cubes that correctly follow the pattern the teacher started, and demonstrates that the pattern can continue on and on; is able to describe how she or he added on cubes on the basis of repetition of the colors, and indicates the infinite possibility of the task, for example, may say, "It has to be green then blue then green then blue. It goes on forever."

Looking for Evidence of Understanding

After assessing his prekindergarten pupils, one teacher stated, "I felt comfortable determining a level of understanding, since I watched and listened to every one of my students and kept a record of the conversation." He noted that some children easily added on to the pattern he had made and were eager to keep adding more cubes. For other children, the task was very difficult. He commented, "I could see in their demeanor that I was asking too much of them. Even though some of these kids could show me what comes next, they didn't have the language or reasoning skills to say much about how this works."

Curtis: No Evidence

	Yes	No	Comments
Adds next piece in pattern		✓	"I like red!"
Is able to continue the pattern with additional pieces		/	C. adds 3 more red cubes and is all done.
Demonstrates an understanding of how the pattern works		/	work with C. on some activities for
Articulates why specified pieces were added to the pattern		/	
Describes the repeating core of the pattern		/	copying pattern.

Curtis remarked that he liked red and then snapped on three red cubes. He did not show any awareness of the green-blue pattern presented by the teacher.

Using this assessment task: This task is designed to be used with individual students, small groups, or the whole class. Make one copy of the "Comparing Shapes" blackline master for each student. Be sure to remind the students that the figures above the line are all alike in some way. The goal of the activity is for students to examine the characteristics of the shapes to find commonalities among the shapes above the line that distinguish them from the shapes below the line. Teachers have found that preparing an anecdotal recording sheet like the one below is helpful for recording the students' reasoning.

Student name:	Date:		
	Yes	No	Comments
Says the figures are closed.			
Indicates that the figures above the line are all triangles.			
Recognizes that each figure above the line has exactly three sides (and/or three corners/angles).			
Indicates that figures with curves are not triangles.			
Shows an awareness that figures need to be closed.			

Solution: The shapes above the lines are all triangles. Each one is a closed shape with three sides and three angles. The shapes below the line are not triangles, because of one or more of the following reasons:

- The figure is not closed.
- The figure includes a curve.
- The figure has more than three sides.

Continuum of Understanding

Limited Evidence

May state that the figures above the line are triangles but not be able to identify the attributes that make them so; may indicate that some of the figures above the line are not triangles

Part 5: Interpret results

Students should make comparisons among categories using the terms *most* and *least* or numerical comparisons. The following are sample responses:

Most people liked soccer the best. Swimming second best. Hockey the least.

Five people liked soccer. Two people liked hockey. Four people liked swimming.

One more person liked soccer compared with swimming.

Continuum of Understanding

	Needs More Experience	Developing	On Target
Pose a question	Has difficulty posing questions that would be appropriate for a survey; is unable to identify possible responses other than his or her own	Once prompted, is able to pose two to three questions and provide two to three possible responses	Has little difficulty independently posing at least three ideas and at least three possible responses
Collect data	Requires ongoing assistance to collect data	Requires some assistance to initiate data collection; may need a teacher-suggested strategy to complete the data collection; makes generally accurate recordings	Works independently to collect data, and creates a record that allows him or her to accurately capture respondents' responses
Organize data	Uses a teacher-provided method for displaying the data, but produces an incomplete graph or makes several errors in transferring the data	Requires assistance to organize and display the data; may need prompting by the teacher to use a particular method; may require a teacher-supplied framework for displaying the data	Chooses an appropriate way to organize data; accurately transfers responses to the display; provides useful information, such as a title, labels, and categories, as well as a means to identify the frequency
Interpret results	Is unable to make appropriate interpretations of the results	Is able to identify which choice occurs most often or least often using words or pictures; makes no numerical comparisons of the data	Is able to identify which response occurred most often and which occurred least often using words or pictures; uses numerical comparisons

Looking for Evidence of Understanding

In the early grades students are not expected to distinguish between a sample and a population. Although most students engaging in this task will be surveying only a

Continuum of Understanding

	1	2	3
Combinations	Is unable to determine possible combinations after prompting	Is able to identify three (or four) combinations with some prompting (e.g., the teacher provides one combination)	Is able to identify the three (or four) combinations without prompting
Experiment	Is unable to keep records of the trials	Initially requires assistance with record keeping but is able to do it independently by the fifth trial	Correctly records the ten trials using pictures, words, or symbols
Interpret	Has difficulty identifying <i>most often</i> and <i>least often</i> ; may be unable to find a means to count or organize the trials in a way that helps make a distinction; is unable to infer what is in the bag even after prompting	Correctly identifies the combination that occurs most often and the one that occurs least often, but may need some prompting on <i>least often</i> if one combination did not occur	From the results of the experiment, correctly identifies the combination that occurs most often and the one that occurs least often; is also able to infer that the results likely indicate that more of one color than the other is present

Looking for Evidence of Understanding

Shea: Score 1-1-1

Shea was not able to identify the possible combinations. She kept saying that yellow and green were the only possibilities because those were the color of the sticks. She was not able to interpret the results of the experiment: “Most likely is yellow because it’s so bright ... green’s not very good. I don’t like dark green.” She drew lines to match the colors of the sticks as they were drawn from the bag but did not organize or track the number of trials. She observed that she was “getting more yellows and more greens and yellows” midway through the experiment.

