Clay Pots

3 Native American Indians made 6 clay pots. Show how many each could have made.

Grade Levels Pre-K-2

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Context

This task shows the students' understanding of number sense, problem solving and different ways to make a sum. This is an open-response task because there are multiple correct solutions.

What This Task Accomplishes

The task shows the children's mathematical thinking about combining different numbers in many different ways to equal a given sum. Students will see that there are several solutions/combinations that correctly answer this problem.

What the Student Will Do

In solving this problem, the student may use manipulative materials to show the different combinations possible to make the pots. They will record the finding through drawings/writings and numerical equations. Students may find only one or numerous solutions. The number of correct solutions and the explanation of them will determine the level of performance.

Time Required for Task

Less than one hour

Children will need varying amounts of time and the number of solutions found will also vary depending on the maturity, confidence and developmental level of the individual. During a conference/share time the teacher will be able to decide which factor(s) may interfere with or enhance their performance.

Interdisciplinary Links

This task can easily be integrated with social studies curriculum.

Teaching Tips

Students should be encouraged to explore a variety of solutions. Students should be allowed to select manipulative and writing/drawing supplies they are comfortable with and motivated by. A lot of paper should be available so students can self-correct and edit their work. Students need

to have had previous opportunities to work on and share multiple answer problems. Students need to explain/defend their solutions in a variety of ways - writing, drawing and telling.

Suggested Materials

- A variety of manipulative materials
- Pictures of Native Americans and their pottery
- Writing and coloring utensils
- Several sheets of plain paper per person

Possible Solutions

6 + 0 + 0
5 + 1 + 0
4 + 2 + 0
4 + 1 + 1
3 + 3 + 0
3 + 2 + 1
2 + 2 + 2

Children may have 1 + 3 + 2 and 1 + 2 + 3 as well as 3 + 1 + 2. All are acceptable as separate solutions at this level.

Benchmark Descriptors

Novice
The student is unable to apply the problem-solving process to this situation. A drawing or words may be present, but they are not related to a solution or in defense of explanation of an idea.

Apprentice
The student displays an understanding of putting numbers together to get a solution. Some equations are incomplete and/or inaccurate. A solution is found, but there is a random or weak explanation of strategy.

Practitioner
The student understands the problem and uses the appropriate equation. The student has one correct solution and can communicate/describe the strategy used to solve the problem.

Expert
The student has more than one solution and has an appropriate equation for each. The student can explain the difference between the solutions as well as the process or strategy for each solution. The student gives an elaborated discussion on process(es).