Going to the Zoo Level 1, Sample 1

A

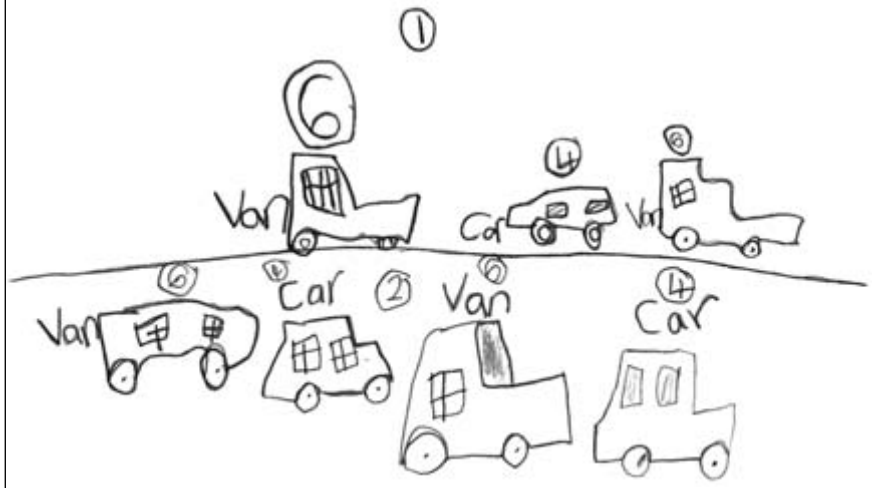
16 people are going to the zoo.

Vans and cars can be used to drive everyone to the zoo.

The most a van can hold is 6 people.

The most a car can hold is 4 people.

How many cars and vans could be used? Show as many ways as you can to organize the 16 people in cars and vans.



B

Explain how you solved the problem.

I learned ABC.
I used cubes.
I learned 123.

Teacher's Notes

Problem Solving

– The student selects and applies a problem-solving strategy that leads to an incomplete or inaccurate solution (e.g., uses only full cars and vans to find combinations).

Understanding of Concepts

– The student demonstrates a limited understanding of combining numbers to obtain the sum of 16 (e.g., of the two combinations offered, the first has a total of 16 and the second, a total of 20).

Application of Mathematical Procedures

– The student uses concrete materials and mathematical procedures, making many errors and omissions and arriving at an incomplete or a limited solution (e.g., in this limited solution, the second combination does not satisfy one of the conditions of the problem, which is to organize 16 people, not 20, in cars and vans).

Communication of Required Knowledge

– The student uses pictures, words, or numbers to describe and illustrate with limited clarity the methods chosen for investigating the cars-and-vans problem (e.g., draws vans and cars and writes above the vehicle the numeral representing the number of people in each car or van; does not include addition sentences to show solutions).
– The student describes with limited clarity the strategy used (e.g., "I learned ABC. I used cubes. I learned 123").

Comments/Next Steps

– The student needs to practise counting and computational skills, using concrete materials, in order to develop an understanding of the correlation between the concrete materials and the symbols of mathematics.
– The student needs to work with concrete materials to find combinations for given sums.
– The student should discuss problem-solving experiences in order to strengthen communication skills.
– The student needs to read questions carefully and to think about or even rephrase what is being asked.

Going to the Zoo Level 1, Sample 2

A

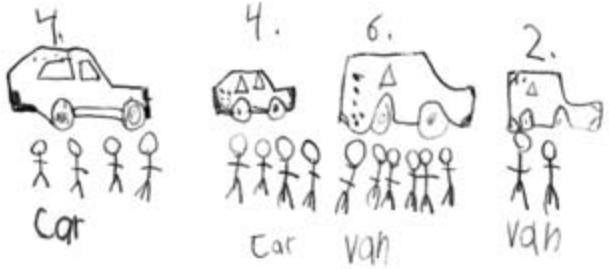
16 people are going to the zoo.

Vans and cars can be used to drive everyone to the zoo.

The most a van can hold is 6 people.

The most a car can hold is 4 people.

How many cars and vans could be used? Show as many ways as you can to organize the 16 people in cars and vans.



there are 4. people in a car.
and there are 6. people and there are 2. people in a van.

B

There are 2. people in the
There are 4. people in the car.
and 6. people in a van.
and 4. people in a car.

C

Teacher's Notes

Problem Solving

– The student selects and applies a problem-solving strategy that leads to an incomplete or inaccurate solution (e.g., gives one combination, then records the same combination again).

Understanding of Concepts

– The student demonstrates a limited understanding of combining numbers to obtain the sum of 16 (e.g., gives only one combination).

Application of Mathematical Procedures

– The student uses concrete materials and mathematical procedures, making many errors and/or omissions and arriving at an incomplete or a limited solution (e.g., shows a combination that has been accurately computed, but shows only one combination; does not include an addition sentence in the solution).

Communication of Required Knowledge

– The student uses pictures, words, or numbers to describe and illustrate with limited clarity the methods chosen for investigating the cars-and-vans problem (e.g., uses a labelled picture to show the number of people in vans and cars and attempts to use words that summarize the picture).
– The student describes with limited clarity the strategy used (e.g., attempts to explain how the problem was solved but states only, "I pute 6 people in a van. and I pute a in the ltr 6 in a van and I pute 4 in a car. and I pute 4 in a car").

Comments/Next Steps

– The student needs to work with concrete materials to find combinations for given sums.
– The student should orally rehearse answers before writing them to improve the clarity of his or her written work.