

The following examples of student work illustrate achievement at the mathematics standards for years 2 and 3.

Sorting Sports Balls

The task used in this illustration was part of a regular Number lesson in a year 2 class. The task relates to achievement objectives for Number and Algebra from the mathematics and statistics learning area in *The New Zealand Curriculum*.

Sorting Sports Balls

Make counters and “bags” available for students who may need or want to use them.



*There are 12 balls to go into 3 bags.
Each bag should have the same number of balls.
How many balls should you put into each bag?*

Some features of students' work used to make judgments in relation to the mathematics standards are described below.

Sorting Sports Balls

New Zealand Curriculum: Level 1

In solving problems and modelling situations, students will:

Number and Algebra

- use a range of counting, grouping, and equal-sharing strategies with whole numbers ... (number strategies)

Mathematics Standard: After two years at school

Number and Algebra

- apply ... simple grouping strategies to combine or partition whole numbers
- use equal sharing and symmetry to find fractions of sets ... and quantities

The teacher observed that Caleb responded to the task by sharing out the counters one at a time into each bag until all 12 counters were in the bags.



Discussion

This task provides some of the evidence needed to show that Caleb is achieving at curriculum level 1 and the year 2 standard in Number. By sharing out the balls one at a time until he has shared them all out, he has demonstrated that he has an understanding of equal sharing. This suggests that he is working at the Advanced Counting stage of the Number Framework.

Sorting Sports Balls

New Zealand Curriculum: Level 2

In solving problems and modelling situations, students will:

Number and Algebra

- use simple additive strategies with whole numbers ... (number strategies)
- know the basic addition ... facts (number knowledge)

Mathematics Standard: After three years at school

Number and Algebra

- apply basic addition facts and knowledge of ... symmetry to
 - combine or partition whole numbers
 - find fractions of sets ... and quantities

I noted you put 4 in each bag.
How did you know to do that?

I know $4 + 4 + 4 = 12$.



Emily then wrote:

$$4 + 4 + 4 = 12$$

4 balls in each
bag.

Discussion

This task provides some of the evidence needed to show that Emily is achieving at early curriculum level 2 and the year 3 standard in Number. She has demonstrated that she is able to use basic facts to partition a number and solve a “sharing” problem. This suggests that she is working at the Early Additive stage of the Number Framework.