Bears in the cave

Annotation

Moana is able to one-to-one match and counts all to solve this addition problem.

She pictures the first five bears as she counts them from 1, then continues the count using the bears from the second pottle.

Problem: Bears in the cave

The teacher places in front of the student two sets of bears hidden beneath two plastic pottles and poses this problem:

There are 5 bears in this cave and 3 in this cave. How many are there altogether?

Student response

Moana looks hard at the first pottle which she leaves in place, and nods her head 5 times saying, "1, 2, 3, 4, 5."

She uncovers the set of 3 bears, looks at them and nods 3 times. She then looks back at the first pottle, nodding and counting "1, 2, 3, 4, 5" and then moves each of the 3 uncovered bears saying "6, 7, 8." She then looks up and says, "There are 8 bears. I counted."

Teacher:	How would you write that?
Moana:	Well there's five so I could write 5. And then there's three so I can write 3. And all of them is eight, so I can write 8.

5 3   8

5   ε   8

Popping balloons

Annotation

Sam understands that this is a subtraction problem. He carefully checks by one-to-one counting each finger as he subtracts the correct amount and he checks that he has answered the question, "how many left?"

Problem: Popping balloons

The teacher shows this problem to the student and reads it with him as required:

There were 10 red balloons. 4 went pop! How many balloons were left?

Student response

Sam holds up 10 fingers. He carefully folds down 4 fingers, counting aloud as he does so. He checks again that 4 have been taken away. He keeps 2 hands (6 fingers) in the air and counts each of his 6 remaining fingers moving each as he does, to indicate to himself that they have been counted. He says, "There's 6 left. I took away the 4 and counted."

Teacher:	Tell me what you know that helped you.
Sam:	I know I have to take some away because they popped.
Teacher:	How would you write that?
Sam:	I'd write 10 because that's how many there were at the start. (He draws 10 balloons.) I do a takeaway sign and four because that's how many popped (He deletes 4 balloons with lines to show they have popped) and then I write equals six because that's what's left.
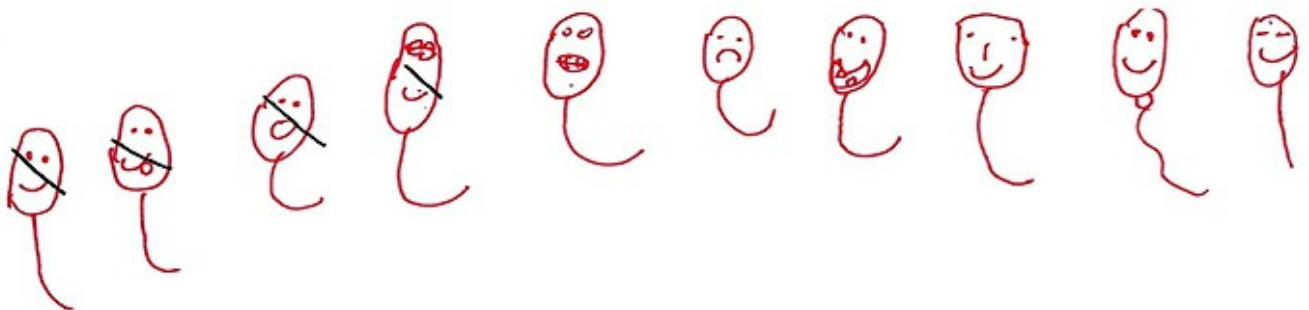
$$10 - 4 = 6$$

Visiting the library

Annotation

Amy counts all the items to solve this change unknown addition problem, firstly by accurately counting 5 and then counting 4.

Problem: Visiting the library

The teacher shows this problem to the student and reads it with her as required:

5 children were in the library. Some more came in. There are 9 children now. How many more came into the library?

Student response

Amy holds up one hand, nodding 5 times as she looks at each of her fingers and says, "5". She holds up her other hand and, as she raises 4 more fingers one at a time, she nods 4 times and says, "Six, seven, eight, nine."

She looks at each of her 4 fingers, nodding 4 times and says, "It's 4 because I counted the ones that came in."

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Teacher:	What do you know that helped you?
Amy:	I knew that some were already there because I could count them all.

Ladybirds

Annotation

Courtney understands the 'start unknown' problem and solves this by counting each of the ladybirds from 1.

Problem: Ladybirds

The teacher shows the student this picture and poses this problem:

There were some ladybirds on this leaf. 2 flew away and now there are 5 left. How many were on the leaf to start with?
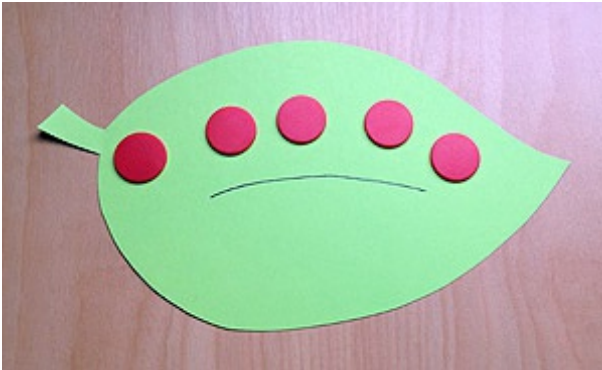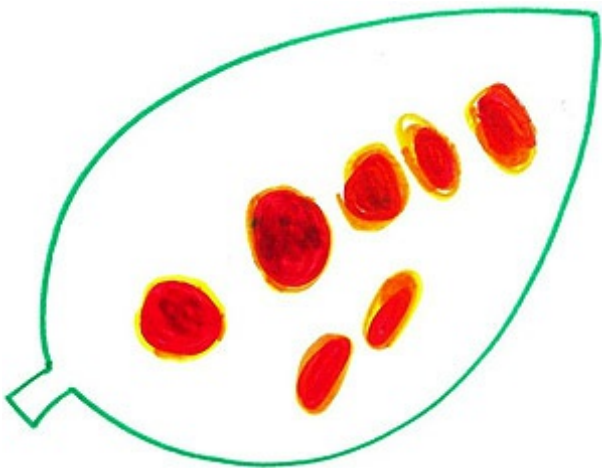

Student response

Courtney asks for a pencil and draws the 2 extra ladybirds. Then she counts the 5 on the leaf and the 2 in her drawing, pointing to each of the 7 as she does so, saying, "I think it must be 7 at the beginning."

Teacher:	What do you know that helped you?
Courtney:	I know it has to be those 5 there and some more. So I drew the 2 that flew away and then I could count them all.

Handy Counters

Annotation

Ihaka solves this addition problem by counting each item one-to-one to find the total.

Problem: Handy counters

The teacher places a group of counters in each of the student's hands and poses this problem:

You have 7 counters in this hand and 4 counters in this hand. How many counters do you have altogether?

Student response

Ihaka opens both hands. He tips the 7 counters onto the table and counts them with one hand from 1. He then opens his other hand and keeps the count going, saying, "8, 9, 10, 11. I've got 11. I counted them."

Teacher:	How would you write that?
Ihaka:	Like this. That's that seven (pointing) and that's that four (pointing) and that's how much all of them is (pointing to 11).