Rotten plums

Annotation

Emma knows that 10 can be partitioned into 1 and 9 and uses this to solve the problem. She refers to a mental model of 36 on the hundreds board and makes a connection between this and the problem posed. She draws on her knowledge of the addition and subtraction of 10s to subtract using rounding and compensation. Emma correctly applies the term 'subtraction' to this mathematical operation.

Problem: Rotten plums

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

Kat has 36 plums and she threw away 9 rotten ones. How many did she have left?

Student response

Emma:	Twenty seven.
Teacher:	Tell me how you did that.
Emma:	10 less than 36 is 26, so 9 less will be 27.
Teacher:	What do you know that helped you?
Emma:	I can go up and down in 10s and I know that I have to put one back on because 9 is one less than 10. I took away 1 too many.
Teacher:	Tell me why you did it that way.
Emma:	Because we've been practicing going up and down in tens on the hundreds board. I can start from any number so subtracting 10 is easy, and 9 is one off 10.
Teacher:	How would you record that?
Emma:	Well like this because it's subtraction (she writes 36 – 9 = 27) or like this (she writes 36 -10 = 26) and then I add 1 to this so it's then this (she writes 26 + 1 = 27).

$$36 - 9 = 27$$

$$36 - 10 = 26$$

$$26 + 1 = 27$$