The car ferry

Annotation

Mala solves this multiplication problem involving a 2-digit number by using a recently learned place value partitioning strategy. She understands and explains how she partitions and recombines numbers, correctly applying her knowledge of multiplication facts and addition.

Problem: The car ferry

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

The car ferry can take up to 16 cars at a time across the harbour. If the ferry makes 6 full trips, how many cars are carried to the other side of the harbour?

Student response

Mala:	It's 96 cars.
Teacher:	Tell me how you did that.
Mala:	Well straight away I know that I can split the 16 into a 10 and a 6 to work out the problem. We've done lots of place value ones like this. You've just got to know your sixes and I do. So that's 10 x 6 — which is 60, and 6 x 6 — which is 36. So when I put 60 and 36 together I get 96. So it's 96 cars.
Teacher:	What do you know that helped you?
Mala:	Well my tables like I said. But you've also got to know that when you split the 16 like that into the 10 and the 6 it's really the same as 'timesing' by 16. Of course you've got to know your adding too to be able to put those answers back together to get the proper one.