

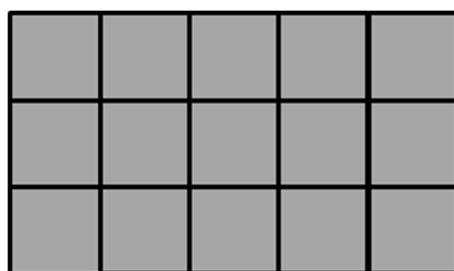
Idea 36: Multiplying by fractions (1)

The area concept of multiplication

The box method of multiplication uses the area model to show multiplication by partitioning.

The box method, also known as the grid method, breaks the calculation into interim steps. Each stage is recorded in boxes in tabular form. Provided that it is taught in a multi-sensory way, it makes the stages of long multiplication, and long division clear, and leads on to the standard written method.

First students revise the array concept of multiplication by modelling the calculation using unit cubes. Make sure they use concise, transparent language to discuss what they are doing. For example, say: "3 fives". This makes it clear that there are 3 rows (groups) with 5 cubes (objects) in each row.



Model of 3 fives using unit cubes

Next, students draw a diagram to make it clear that the array model links to the area model. Annotate the diagram to show that there are 3 rows with 5 squares in each row. This layout and annotation is the basis of the box method. Students describe the model in different ways. They write the calculation as shown.

