



MULTIPLICATION USING PLACE VALUE/BUNDLING MODELS

Students will learn/discover:

- How to model multiplication based on place value bundles

Why is this important?

When learning to multiply numbers greater than 9, modeling the multiplication using the set model becomes unwieldy. Using bricks to represent place values or bundles of 10, 100, 1000, etc., is an efficient way to model. It also helps expand students' understanding of place value as it pertains to multiplication.

This method of modeling helps leads to the understanding of multiplication through partial products.

SUGGESTED BRICKS

Size	Number
1x1	10
1x2	25 <small>(various colors)</small>
1x3	15
1x10	5

Note: A number of 1x10 or 1x12 bricks are also needed to serve as set separators.

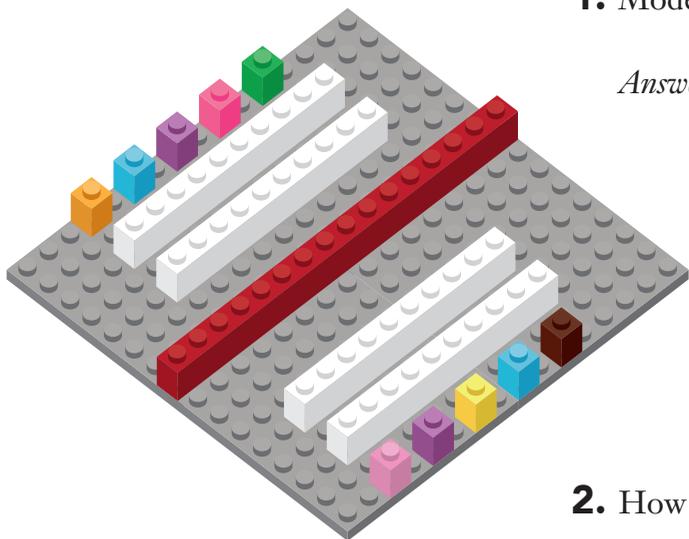
Note: Using a base plate will help keep the bricks in a uniform line. One small and one large base plate is suggested for these activities.



Part 1: Show Them How

1. Model 2×25 . What does that mean?

Answer: 2 sets of 25



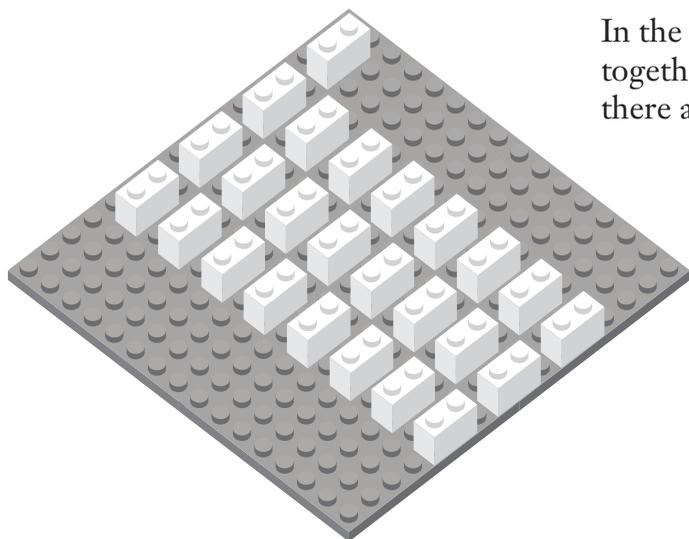
2. How is this different from 25×2 ?

Answer: That means 25 sets of 2.

Model 25×2 .

Answer: (Make sure students are modelling correctly here.)

In the 2×25 model, the tens and ones are bundled together into two tens and 5 ones. In the 25×2 model, there are 25 separate sets of twos.

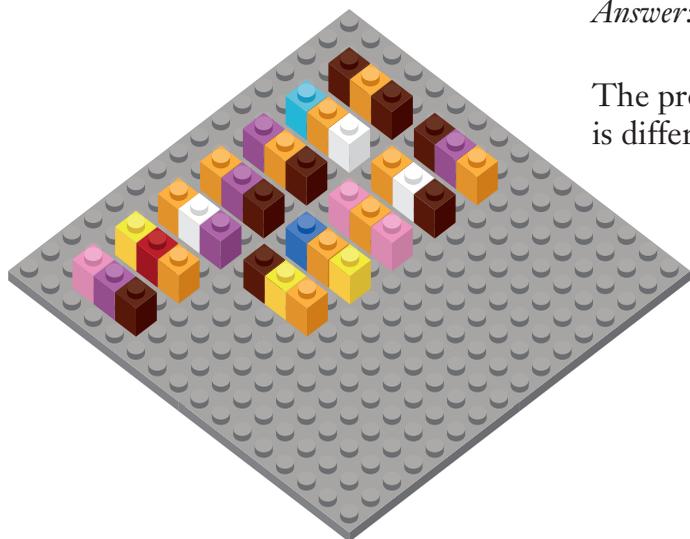




2. How is that problem different from 12×3 ? Can you show the difference? Can you explain the difference?

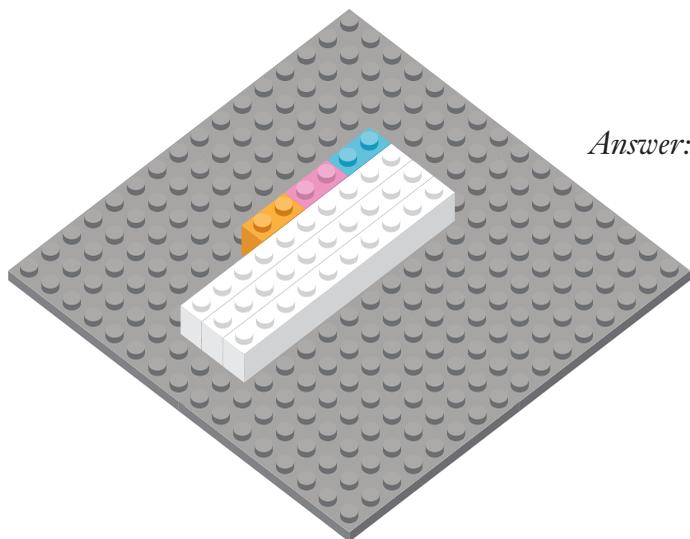
Answer: 12×3 shows 12 separate sets with 3 in each set.

The problems are different because the number of sets is different and the number in each one is different.



3. Can you bundle the 3×12 model together to show the product? What is the product?

Answer: the product of 3×12 is 36.





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1. What does it mean to multiply 2×25 ?

Use LEGO® bricks to model 2×25 . Draw your model.

