

MENTAL MATH

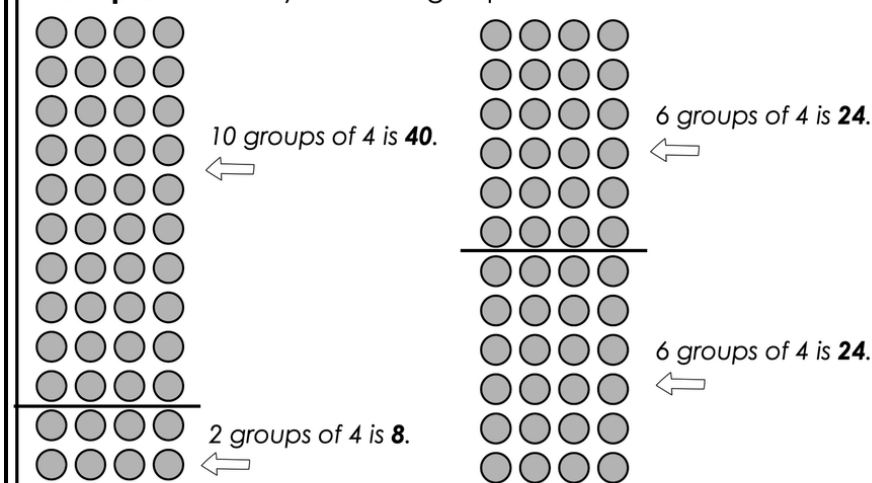
MULTIPLICATION

WITH VISUAL MODELS

Two Different Ways

There are many ways to break arrays into parts! We can choose the way that makes it easiest to find the total number of objects.

Example: This array shows 12 groups of 4.



In both examples, we

Solving BIG Problems!

The break apart strategy can be used to solve ANY multiplication problem. Do you think we could solve 25×7 in our heads using this strategy? Let's try!

$$25 \times 7$$

How could we imagine breaking up 25 groups of 7?

$$\begin{array}{r} 25 \times 7 \\ \swarrow \quad \searrow \\ 20 \quad 5 \end{array}$$

Option 1:
20 groups of 7 (20×7) is 140
5 groups of 7 (5×7) is 35

$$\text{So, } 25 \times 7 = 175$$

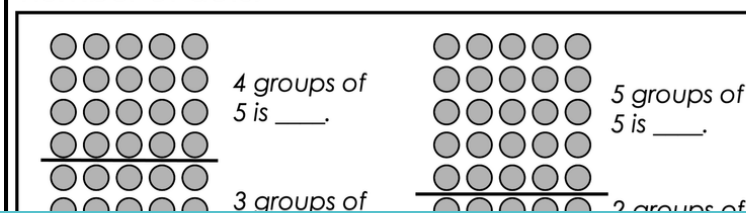
$$\begin{array}{r} 25 \times 7 \\ \swarrow \quad \searrow \\ 10 \quad 10 \quad 5 \end{array}$$

Option 2:
10 groups of 7 (10×7) is 70
10 groups of 7 (10×7) is 70
5 groups of 7 (5×7) is 35

$$\text{So, } 25 \times 7 = 175$$

Now it's your turn! Solve these BIG multiplication problems using the break apart strategy.

Now you try! Let's break up each array in two different ways and find the total number of dots.

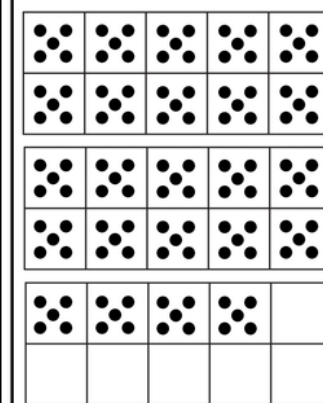


Extra Challenge!

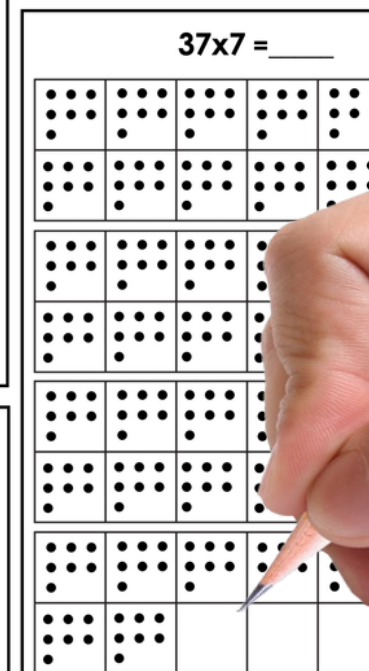
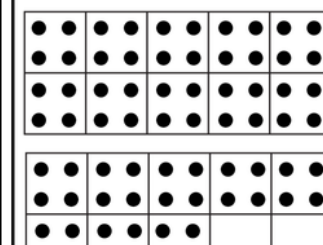
Can you use this way of visualizing to solve BIG multiplication problems?

$$24 \times 5 = \underline{\quad}$$

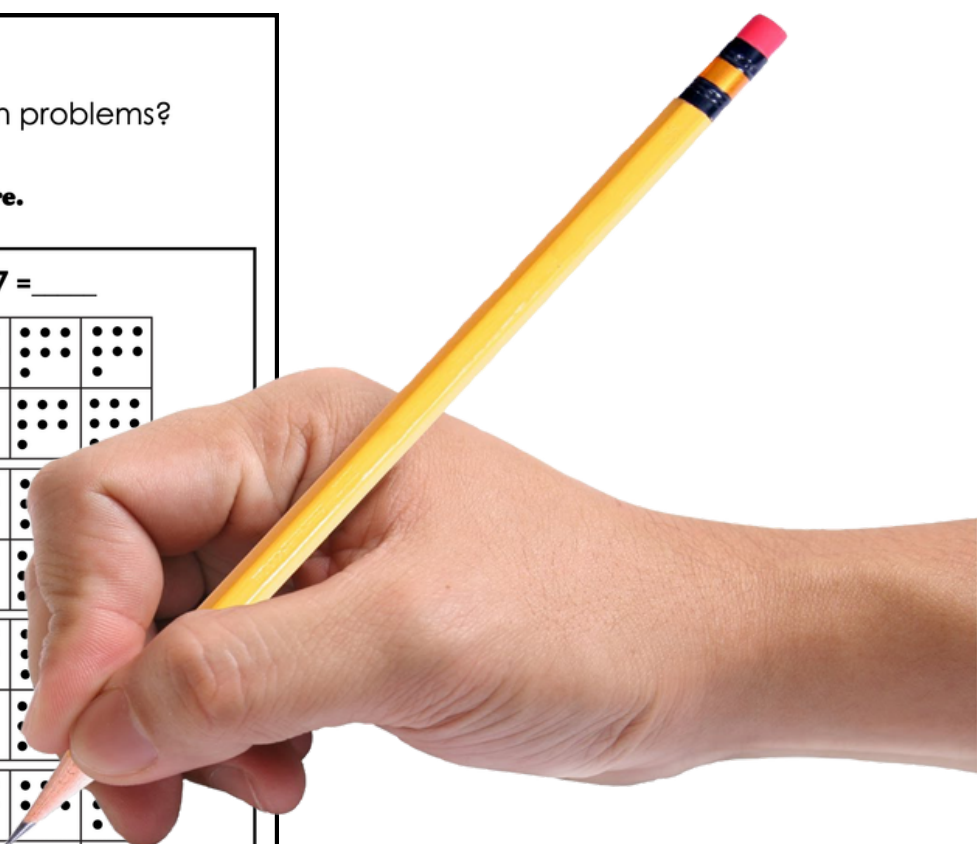
Show your thinking here.



$$18 \times 4 = \underline{\quad}$$



$$37 \times 7 = \underline{\quad}$$



Looking for a way to help your students make sense of multiplication?

Helping students truly UNDERSTAND multiplication rather than simply memorize the facts can be transformative for your students' math confidence and performance.

Two Different Ways

There are many ways to break arrays into parts! We can choose the way that makes it easiest to find the total number of objects.

Example: This array shows 12 groups of 4.

In both examples, we can see that there are **48 dots in all**.

Which is the easiest way to find the total number of dots?

Now you try! Let's break up each array in two different ways to find the number of dots.

So, 7 groups of 5 is 35.

Both ways show that 7 groups of 5 is 35. Circle the option that is easier to use.

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Solving BIG Problems

The break apart strategy can be used to solve big multiplication problems. Do you think we could solve 25×7 in our heads?

25x7

How could we imagine breaking up 25?

Option 1:
20 groups of 7 (20×7) is 140
5 groups of 7 (5×7) is 35

So, $25 \times 7 = 175$.

Extra Challenge!

Can you use this way of visualizing to solve BIG multiplication problems?

Show your thinking here.

$24 \times 5 = \underline{\quad}$

$37 \times 7 = \underline{\quad}$

$18 \times 4 = \underline{\quad}$

$36 \times 3 = \underline{\quad}$

$26 \times 8 = \underline{\quad}$

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Visualize multiplication!

Using arrays and ten frame models, your students will

- ✓ be able to **visualize** what multiplication really means
- ✓ strengthen **mental math** skills
- ✓ **see connections** between known and unknown facts
- ✓ develop the **confidence and understanding** that will allow them to solve ANY fact mentally!

Ideal for
daily
practice!

There are many ways to break arrays into parts! We can choose the way that makes it easiest to find the total number of objects.

Example: This array shows 12 groups of 4.

In both examples, we can see that there are **48 dots in all**.

Which way feels the easiest for you to find the total number of dots? Why?

Now you try! Let's break up each array in two different ways to find the number of dots.

Both ways show that $7 \times 5 =$ _____
Circle the option that you like best.

Both ways show that $4 \times 5 =$ _____
Circle the option that you like best.

Both ways show that $12 \times 3 =$ _____
Circle the option that you like best.

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Ready to get started?

Get these worksheets as
part of a bundle here



Making
Multiplication
Visual
Bundle