

MULTIPLICATION PowerPoints

2 digits x 2 digits

$$\begin{array}{r} \text{+2} \\ 35 \\ \times 24 \\ \hline 140 \end{array}$$

$$4 \times 5 = 20$$

$$4 \times 3 = 12$$

We are finished
multiplying the top
factor by 4. Cross
out **+2** on top

4th
GRADE

CCSS-Aligned: 4.NBT.B.5

TEKS-Aligned: 4.4C

$$\begin{array}{r} 288 \\ + 360 \\ \hline 648 \end{array}$$

$$8 \times 6 = 48$$

$$8 \times 3 = 24$$

$$1 \times 6 = 6$$

$$1 \times 3 = 3$$

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Student Recording Pages Included!

2x2 Partial PRODUCTS

CCSS: 4.NBT.B.5
TEKS: 4.4C

... than 1 digit can be

Multiplication problems that have a factor broken apart into smaller multiplication

Write 35 and 24 in expanded form.

$$\begin{array}{r} 35 \rightarrow 30 + 5 \\ \times 24 \rightarrow 20 + 4 \\ \hline 20 \times 30 = 600 \\ 20 \times 5 = 100 \\ 4 \times 30 = 120 \\ 4 \times 5 = 20 \\ \hline 600 \\ 100 \\ 120 \\ 20 \\ \hline 840 \end{array}$$

$$\begin{array}{r} 16 \rightarrow 10 + 6 \\ \times 15 \rightarrow 10 + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \rightarrow 50 + 6 \\ \times 24 \rightarrow 20 + 4 \\ \hline \end{array}$$

2x2 Area MODEL

Multiplication problems that have a factor with more than one digit can be broken apart into smaller multiplication problems. These models are not drawn to scale.

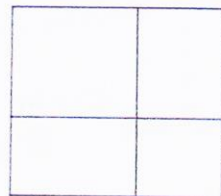
$$35 \times 24$$

	30	+	5	
20	$20 \times 30 = 600$	$20 \times 5 = 100$		20
+				120
4	$4 \times 30 = 120$	$4 \times 5 = 20$		100
				+600
				840

$$36 \times 18$$



$$16 \times 15$$



$$56 \times 24$$

2x2 Traditional MULTIPLICATION

CCSS: 4.NBT.B.5 TEKS: 4.4C

$$\begin{array}{r} 35 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ \times 18 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ \times 15 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 75 \\ \times 46 \\ \hline \end{array}$$

Included

PowerPoints:

- Partial Products
- Area Model
- Distributive Property
- Traditional Algorithm

$$\begin{array}{r} 35 \\ \times 24 \\ \hline \end{array}$$

30

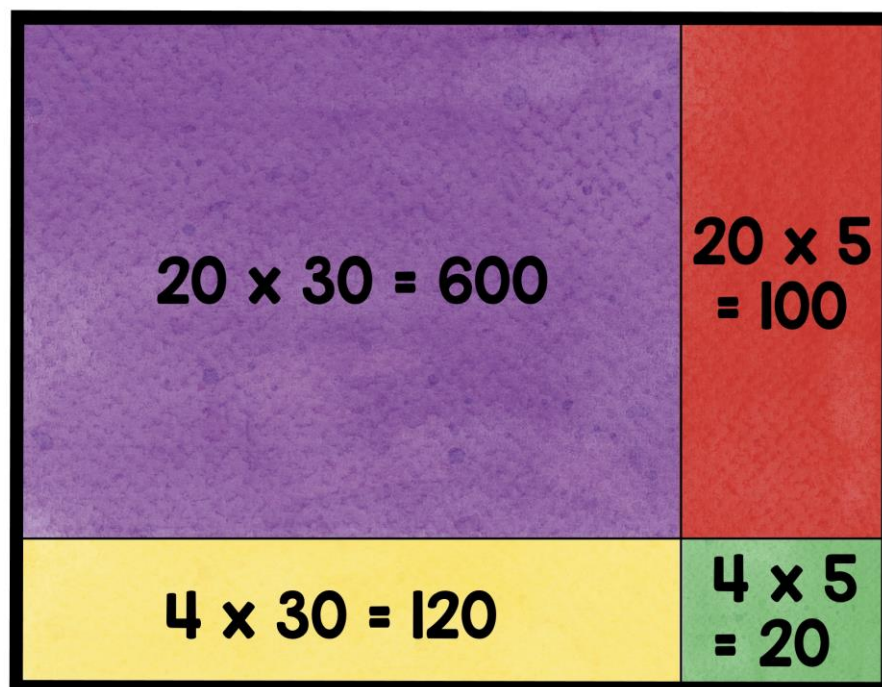
+

5

20

+

4



$$\begin{array}{r} 20 \\ 120 \\ 100 \\ + 600 \\ \hline 840 \end{array}$$

Ways to Use This Resource:

-  **Math Station** – Students can complete the activity independently
-  **Whole Class Teaching** – Use the interactive slides to teach this concept during your lesson
-  **Tutoring** – Use the slides for a focused lesson that doesn't need any prep

Teacher Keys

Included for Student Recording Sheets

2x2 Distributive PROPERTY

CCSS: 4.NBT.B.5 TEKS: 4.4C

Multiplication problems that have a factor with more than 1 digit can be broken apart into smaller multiplication problems. There is more than one way to use the distributive property.

$$15 \times 16$$

One way: Break apart the 2nd factor

$$15 \times (10 + 6) = (15 \times 10) + (15 \times 6) \\ 150 + 90 \\ = 240$$

Another way: Break apart the 1st factor (use the commutative property to switch the order)

$$16 \times (10 + 5) = (16 \times 10) + (16 \times 5) \\ 160 + 80 \\ = 240$$

The sophisticated way: Break apart both factors.

FIRST
OUTSIDE
INSIDE
LAST

$$(10 + 6) \times (10 + 5) = (10 \times 10) + (10 \times 5) + (6 \times 10) + (6 \times 5) \\ 100 + 50 + 60 + 30 \\ = 240$$

$$45 \times 23$$

One way: Break apart the 2nd factor

$$45 \times (20 + 3) = (45 \times 20) + (45 \times 3) \\ 900 + 135 \\ = 1,035$$

Another way: Break apart the 1st factor (use the commutative property to switch the order)

$$23 \times (40 + 5) = (23 \times 40) + (23 \times 5) \\ 920 + 115 \\ = 1,035$$

The sophisticated way: Break apart both factors.

FIRST



$$(20 + 3) \times (40 + 5) = (20 \times 40) + (20 \times 5) + (3 \times 40) + (3 \times 5)$$

2x2 Distributive PROPE

CCSS: 4.NBT.B.5 TE

Multiplication problems that have a factor with more than 1 digit can be broken apart into smaller multiplication problems. There is more than one way to use the distributive property.

$$15 \times 16$$

One way: Break apart the 2nd factor

$$15 \times (10 + 6) =$$

Another way: Break apart the 1st factor (use the commutative property to switch the order)

$$16 \times (10 + 5) =$$

The sophisticated way: Break apart both factors.

$$(10 + 6) \times (10 + 5) =$$

$$45 \times 23$$

One way: Break apart the 2nd factor

$$45 \times (20 + 3) =$$

Another way: Break apart the 1st factor (use the commutative property to switch the order)

$$23 \times (40 + 5) =$$

The sophisticated way: Break apart both factors.

No Prep

4 Easy to Use PowerPoints

First, we need to
write each

FACTOR in
EXPANDED FORM.



$$\begin{array}{r} 35 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 30+5 \\ \times 20+4 \\ \hline \end{array}$$

2-digit Partial Products

Students learn **partial products** through **step-by-step** instructions with 6 different problems.

30 x 4

Add all of the **PARTIAL PRODUCTS** to find the **PRODUCT**.

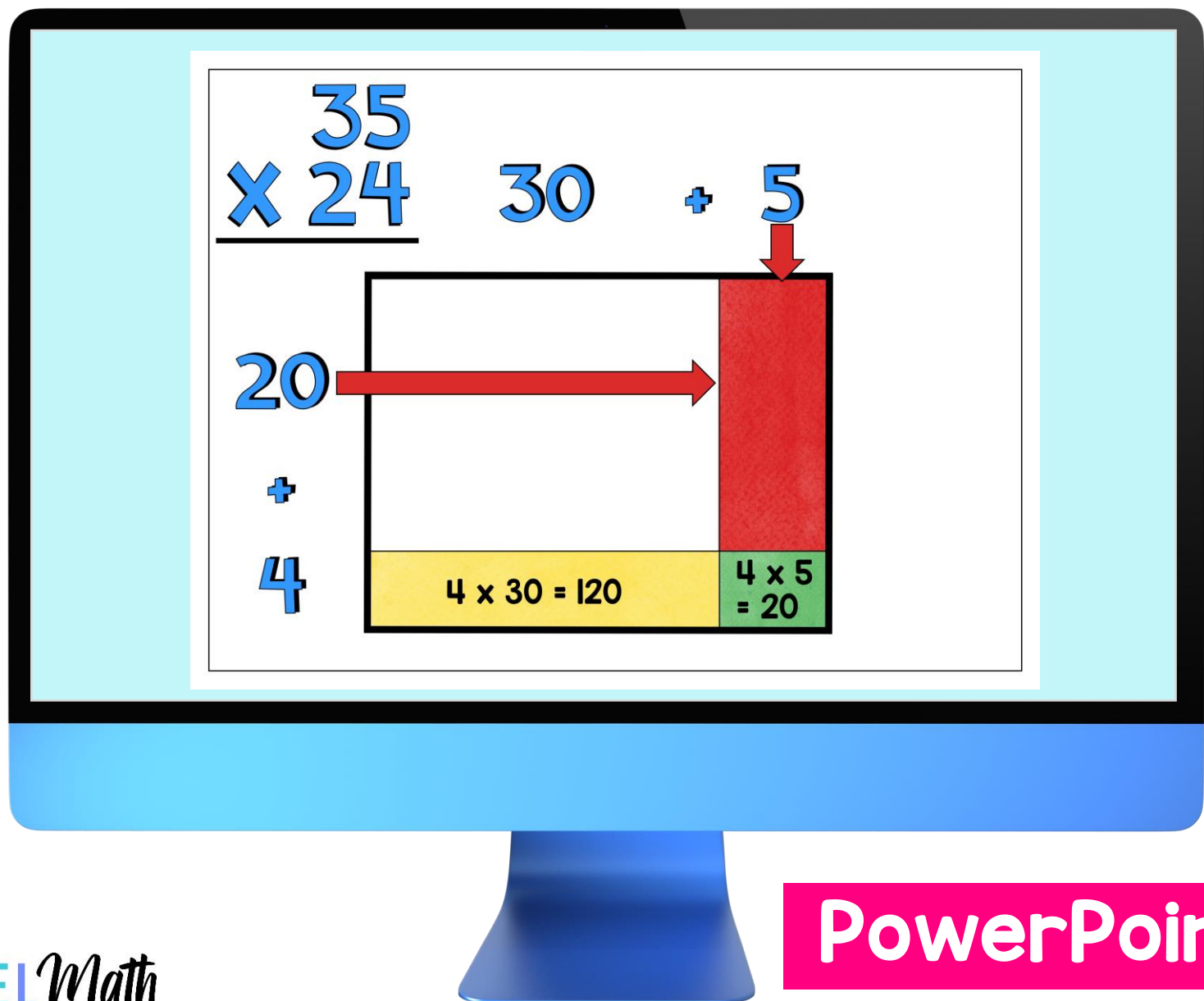
20	← 4 x 5
120	← 4 x 30
100	← 20 x 5
+ 600	← 20 x 30
840	

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PowerPoint 1

2-digit Area Model

Students learn how **area models** work through **animations** of 6 different problems.



PowerPoint 2

2-digit Distributive Property

Students learn **3 ways** to use the **distributive property** on each of the 4 problems.

One Way:
Break apart the
2nd factor

$$35 \times (20 + 4)$$
$$(35 \times 20) + (35 \times 4)$$

35

20
+
4

35 x 20 = 700

35 x 4 = 140

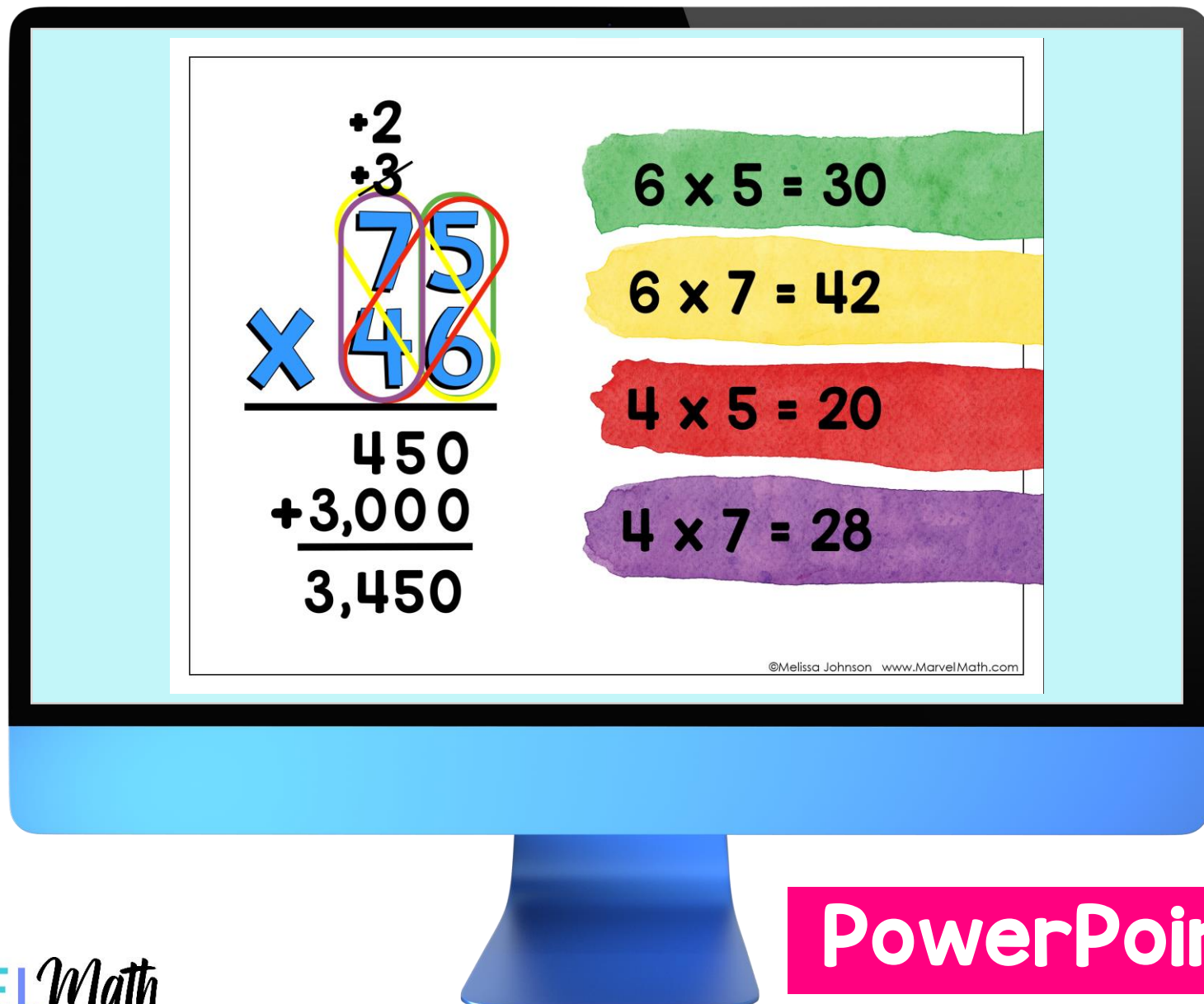
700
+ 140

840

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2-digit Traditional Multiplication

Students learn the **traditional multiplication** algorithm through **step-by-step** practice.



The monitor screen shows a traditional multiplication problem: 75×46 . The numbers are written in blue. Above the 5 is a +2, and above the 6 is a +3. The product is shown as 450 + 3,000 = 3,450. To the right of the problem, four multiplication steps are listed on colored backgrounds: $6 \times 5 = 30$ (green), $6 \times 7 = 42$ (yellow), $4 \times 5 = 20$ (red), and $4 \times 7 = 28$ (purple). The monitor has a blue base.

$$\begin{array}{r} +2 \\ +3 \\ 75 \\ \times 46 \\ \hline 450 \\ +3,000 \\ \hline 3,450 \end{array}$$

$6 \times 5 = 30$

$6 \times 7 = 42$

$4 \times 5 = 20$

$4 \times 7 = 28$

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PowerPoint 4

About the Author

This resource was created by Melissa Johnson, who has 16 years of k-10 teaching experience and a masters degree in Mathematics Education. Her resources build conceptual understanding, make connections between math topics and engage students in the mathematics they are learning.

