Multiplying, with Multiple Digits

Grade Four Mathematics

What we know about multiplication:

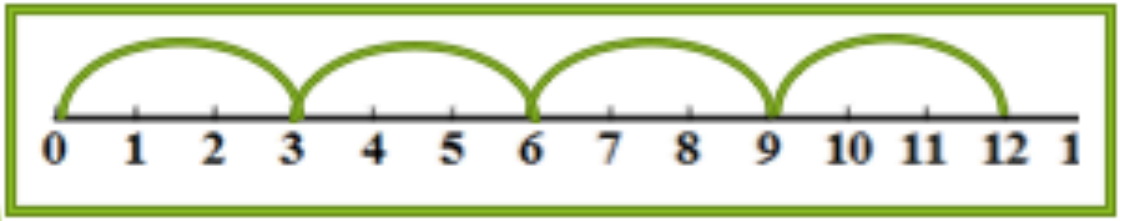
- Multiplication combines/adds/puts together equal-sized groups.
- There are lots of ways to represent multiplication.
- We have practiced multiplication before.

Multiply – Combine Equal Groups
There are many ways to think of multiplying!

$3 \times 4 = 12$

3	3	3	3
12			

$3 + 3 + 3 + 3 = 12$



What we know about digits/place value:

- The "place" a number is in, when we talk about a multi-digit number tells us how big it is.

100's	10's	1's
3	8	2

Left = Larger Place Value

Remember, each time we bump to the left, we're dealing with a number that is ten times bigger.

When we look at a number in **expanded form**, it gets even easier to see place value:

382 = 300 + 80 + 2

Now, let's put them together!

$42 \times 3 =$ _____

How could we solve this?

A simple checklist:

- Expand the bigger number
- Multiply
- Combine/Make sure your answer is in standard form

Let’s practice!

$12 \times 2 =$ _____

Remember:

1. Expand
2. Multiply
3. Standard Form

Let’s practice!

$11 \times 5 =$ _____

Remember:

1. Expand
2. Multiply
3. Standard Form

Next Step: REGROUPING

Regrouping is making groups of tens.

In multiplication or addition, it might be called carrying.

Remember this example?

42 x 3 = _____

How could we solve this?

42 x 3

40+2 = 42

= (40 x 3) + (2 x 3)
= 120 + 6
= 126

Did we have to do any regrouping?

What if it looked like this, instead?

$24 \times 3 =$ _____

How could we solve this?

Let's practice!

$27 \times 3 =$ _____

Remember:

1. Expand
2. Multiply
3. Add to get Standard Form

Let's practice!

$21 \times 8 =$ _____

Remember:

1. Expand
2. Multiply
3. Add to get Standard Form

Let's practice!

$19 \times 5 =$ _____

Remember:

1. Expand
2. Multiply
3. Standard Form

Word Problems

Something you already know, but is worth reviewing

Saying and Seeing Multiplication

When we talk about multiplication, you might hear:

"times"

"multiplied by"

In written word problems, you might have to look for other hints:

"groups of"

"bags of"

"rows of"

"five in each box"

Let's Practice

- Deborah works at a store that makes shoes for pets. One day, she has 12 customers that each want a set of boots for their dogs. How many shoes will she have to make?

Let's Practice

- The next day that Deborah works, a customer brings in eleven tarantulas to have shoes made for them. How many shoes will Deborah have to make?

Let's Practice

- Hassan helps his father set the table for a big dinner. His aunty, uncle, three cousins, and four of their neighbours will all be coming. His father says that each guest needs a cup, a plate, a knife, a fork, a spoon, and a napkin. How many items will Hassan have to bring to the table?

Teeny Challenge

- James knows that there are 40 quarters in a roll. How much money is in a roll of quarters?