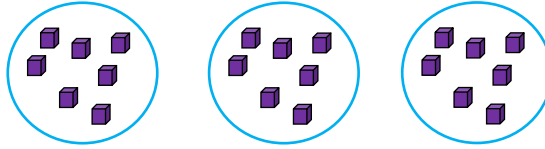


# Equal Groups

Multiplication  
& Division



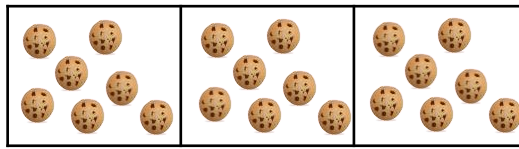
$$7 \times 3 = 21$$

There are 3 groups with the same amount in each group.  
They are equal groups.

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# Repeated Addition

Multiplication  
& Division



$$7 \times 3 = 21$$

$$7 + 7 + 7$$

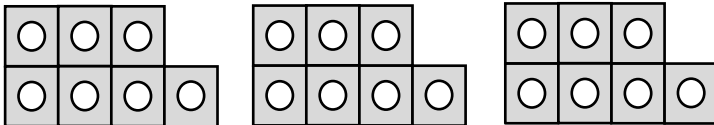
Adding the same number again and again.

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# Multiply

Multiplication  
& Division

To add equal groups of numbers.



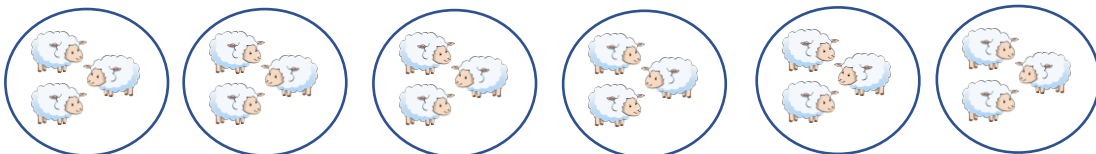
$$7 \times 3 = 21$$

There are 3 lots of 7s.

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# Lots of...

Multiplication  
& Division



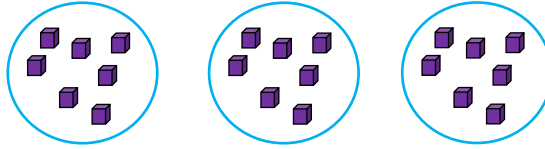
There are 7 lots of 3s.

This helps us write our multiplication sentence.

$$7 \text{ lots of } 3 \text{ show us } 3, 7 \text{ times. } 3 \times 7 = 21$$

# Equal Groups

Multiplication  
& Division



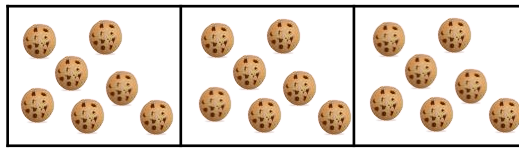
$$3 \times 7 = 21$$

There are 3 groups with the same amount in each group.  
They are equal groups.

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# Repeated Addition

Multiplication  
& Division



$$3 \times 7 = 21$$

$$7 + 7 + 7$$

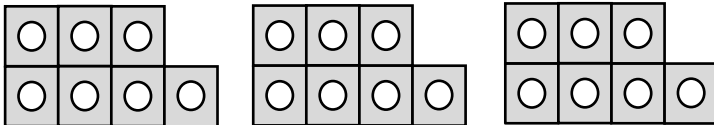
Adding the same number again and again.

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# Multiply

Multiplication  
& Division

To add equal groups of numbers.



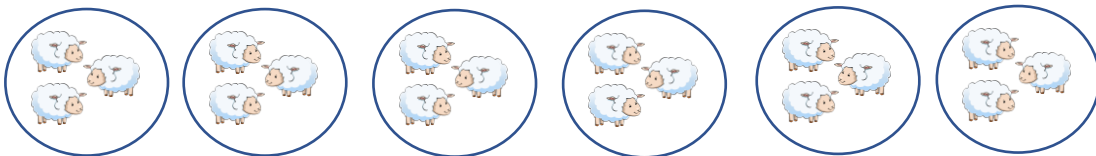
$$3 \times 7 = 21$$

There are 3 lots of 7s.

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# Lots of...

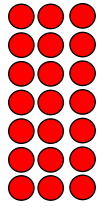
Multiplication  
& Division



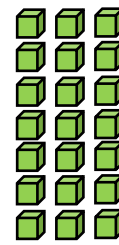
There are 7 lots of 3s.

This helps us write our multiplication sentence.

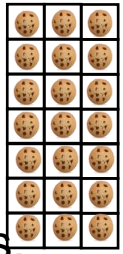
$$7 \text{ lots of } 3 \text{ is the same as } 7 \times 3 = 21$$



# Arrays



Multiplication  
& Division



These arrays  
show

$$7 \times 3 = 21$$

Arrays are objects or shapes in rows and columns.  
They help us to multiply.

# Multiplier

Multiplication  
& Division

The number you are multiplying by.  
We can also call this a factor!

$$7 \times 3 = 21$$

Multiplier or factor      Multiplicand or factor      Product

# Multiplicand

Multiplication  
& Division

The number that gets multiplied.  
We can also call this a factor!

$$7 \times 3 = 21$$

Multiplier or factor      Multiplicand or factor      Product

# Product

Multiplication  
& Division

The answer when two or more numbers are  
multiplied.

$$4 \times 3 = 12$$

Multiplier or factor      Multiplicand or factor      Product

# Commutative Law

Multiplication  
& Division

When you multiply numbers, you will get the same answer when you swap the numbers

around.

$$7 \times 8 = 56 \quad 8 \times 7 = 56$$

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# Six Times Tables

Multiplication  
& Division

Repeated addition in groups of 6s.

We should learn our 6 times tables up to  $12 \times 6$ .



$1 \times 6 = 6$



$2 \times 6 = 12$



$3 \times 6 = 18$



$4 \times 6 = 24$

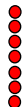
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# Seven Times Tables

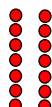
Multiplication  
& Division

Repeated addition in groups of 7s.

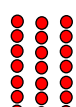
We should learn our 7 times tables up to  $12 \times 7$ .



$1 \times 7 = 7$



$2 \times 7 = 14$



$3 \times 7 = 21$



$4 \times 7 = 28$

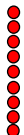
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# Nine Times Tables

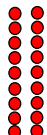
Multiplication  
& Division

Repeated addition in groups of 9s.

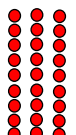
We should learn our 9 times tables up to  $12 \times 9$ .



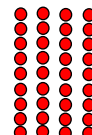
$1 \times 9 = 9$



$2 \times 9 = 18$



$3 \times 9 = 27$



$4 \times 9 = 36$

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# Divide

Multiplication  
& Division

To split (a number) into equal parts or groups.

$$21 \div 3 = 7$$

You can divide by sharing or grouping.

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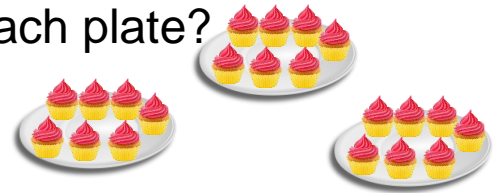
# Sharing

Multiplication  
& Division

I have twenty-one cakes and I share them equally into 3 plates.



How many cakes will be in each plate?



$$21 \div 3 = 7$$

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# Grouping

Multiplication  
& Division

I have 7 groups of 3.

A jar fits 3 marbles.

I have 21 marbles to put away.  
How many jars will I need?



$$21 \div 3 = 7$$

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# Division Facts

Multiplication  
& Division

The division number sentence related to times tables.

$$7 \div 7 = 1$$

$$14 \div 2 = 7$$

$$21 \div 3 = 7$$

$$28 \div 3 = 7$$

These are division facts for the 7 times tables.

# Divide

To split (a number) into equal parts or groups.

$$18 \div 6 = 3$$

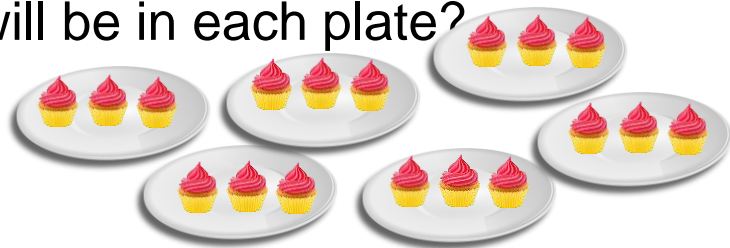
You can divide by sharing or grouping.

# Sharing

I have 18 cakes and I share them equally into 6 plates.  
How many cakes will be in each plate?



$$18 \div 6 = 3$$



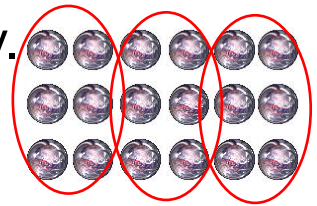
# Grouping

A jar fits 6 marbles.

I have 3 groups of 6.



I have 18 marbles to put away.  
How many jars will I need?



$$18 \div 6 = 3$$

# Division Facts

The division number sentence related to times tables.

$$7 \div 7 = 1$$

$$14 \div 2 = 7$$

$$21 \div 3 = 7$$

$$28 \div 4 = 7$$

These are division facts for the 7 times tables.

$3 \times 6 = 18$

# Inverse

$18 \div 6 = 3$

Multiplication  
& Division

This means the opposite or reverse in maths.  
We use the inverse to check our calculations.

The inverse of multiplication is division.

The inverse of division is multiplication.

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## Concrete Methods

Multiplication  
& Division

Equipment that you can touch to help you solve calculations.

You could divide cubes or marbles into jars... or even chocolate

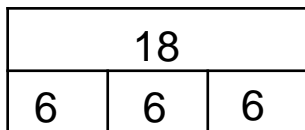


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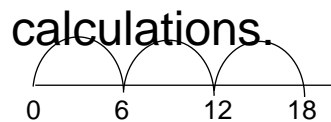
## Pictorial Methods

Multiplication  
& Division

Pictures that you can see or draw to help you solve calculations.



Bar methods



Number lines

X X X  
X X X  
X X X  
X X X  
X X X  
X X X

Arrays

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## Distributive Law

Multiplication  
& Division

If you didn't know  $7 \times 8$ , you could do  $5 \times 8$  and add the answer to  $2 \times 8$ .

You would get the correct answer!

$5 \times 8 = 40$

$2 \times 8 = 16$

$7 \times 8 = 56$

$7 \times 8 = 56$

I have 'distributed' (spread out) the 7 into a 5 and a 2 and multiplied them both by 8.

I then add the products.

# Multiple

Multiplication  
& Division

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We get multiples after multiplying the number by a whole number.

$$6 \times 1 = \underline{6} \quad 6 \times 2 = \underline{12} \quad 6 \times 3 = \underline{18}$$

These are multiples of 6. Can you think of any more?

# Fact Family

Multiplication  
& Division

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Related facts for a calculation.

$$6 \times 4 = 24$$

$$24 \div 6 = 4$$

$$4 \times 6 = 24$$

$$24 \div 4 = 6$$

Multiplication  
& Division

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Multiplication  
& Division