



Maths

Primary Progression – Multiplication & Division



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication & Division: Solve Problems	<ul style="list-style-type: none"> solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher 	<ul style="list-style-type: none"> solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts 	<ul style="list-style-type: none"> solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects 	<ul style="list-style-type: none"> solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects 	<ul style="list-style-type: none"> solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates 	<ul style="list-style-type: none"> solve problems involving addition, subtraction, multiplication and division
	Summer 1	Autumn 4 Spring 1	Spring 1	Spring 1	Autumn 4 Spring 1	Autumn 2

Curriculum Progression Strand: to be able to multiply



Foundation stage:

Children can begin to multiply using sharing and grouping.


Key Vocabulary
share, groups

y1:

Children can multiply by adding equal groups.

Add equal groups

1 Complete the sentences.



There are apples in each bag.

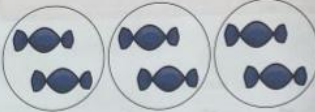
There are bags.

There are equal groups of .

There are apples altogether.


$$\boxed{5} + \boxed{5} + \boxed{5} + \boxed{5} = \boxed{20}$$

2 How many sweets are there?


$$\boxed{2} + \boxed{2} + \boxed{2} = \boxed{6}$$


There are sweets.

3 How many marbles are there?


$$\boxed{10} + \boxed{10} + \boxed{10} = \boxed{30}$$

There are marbles.

4 How many candles are there?


$$\boxed{2} + \boxed{2} + \boxed{2} + \boxed{2} = \boxed{8}$$

There are candles.

5 Use counters to show the equal groups.
Complete the number sentences.

a) $2 + 2 + 2 + 2 = \boxed{8}$

b) $5 + 5 + 5 + 5 + 5 = \boxed{25}$

6 There are 7 equal groups of 5 counters.
How many counters are there altogether?
There are counters altogether.

Key


Vocabulary
repeated addition, groups of

√2:

Children can multiply by using arrays.

Use arrays


1 How many pears are there?



$5 + 5 + 5 = 15$
 $3 \times 5 = 15$

There are 15 pears.


2 How many stars are there?



$6 + 6 = 12$
 $2 \times 6 = 12$

There are 12 stars.


3 Write two additions and two multiplications for the array.



$4 + 4 + 4 = 12$
 $3 \times 4 = 12$
 $3 + 3 + 3 + 3 = 12$
 $4 \times 3 = 12$

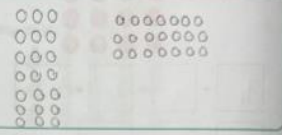
What do you notice?

4 Write two multiplications for this array.



$2 \times 9 = 18$
 $9 \times 2 = 18$

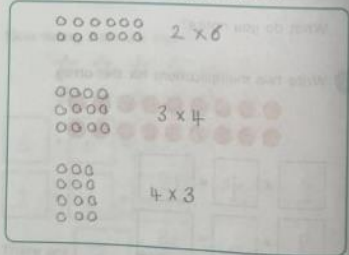
5 Draw an array to show 7×3 . Complete the number sentence.



$7 \times 3 = 21$









Is there more than one way to draw the array?

6 Draw three different arrays to show 12.




2×6
 3×4
 4×3

7 Draw dots to show each multiplication in two ways. The first one has been done for you.

Multiplication	Array 1	Array 2
3×8		
2×5		
4×9		
6×1		

8 Can you see the multiplications 5×4 and 4×5 in the array?



5×4

Talk about it with a partner.

4×5

Key Vocabulary
columns, rows, multiply

Y3:

Children can use short multiplication to multiply a two-digit number by a one-digit number.

Calculate 3×31 .

Answer →

Calculate 21×4 .

Answer →

A shop has four boxes of crisps and there are 24 packets of crisps in each box. How many packets of crisps does the shop have?

Answer →


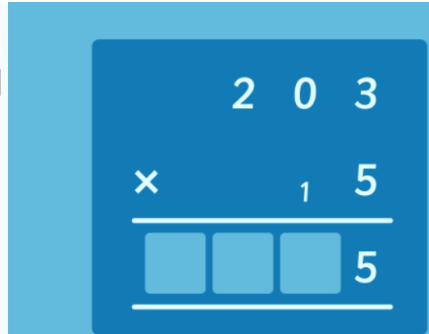
The image contains several educational components: 1. A base ten block diagram for 3×31 showing three tens rods and three ones units, with a multiplier of 3 and a result of 93. 2. A short multiplication grid for 21×4 showing the calculation of 84. 3. A word problem: 'A shop has four boxes of crisps and there are 24 packets of crisps in each box. How many packets of crisps does the shop have?' with an answer box. 4. A diagram of four boxes, each labeled '24 packets', with a bracket underneath labeled '? packets'.

Key Vocabulary
column, carry, tens

y4:


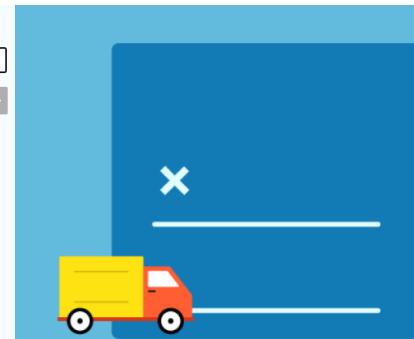
Children can use short multiplication to multiply a three-digit number by a one-digit number.

What is 203×5 ?

 Answer ▾

A short multiplication grid for 203×5 . The grid has three columns and two rows. The top row contains the digits 2, 0, and 3. The bottom row contains the digit 5. A multiplication sign (x) is in the top-left corner. A horizontal line is drawn below the top row. A vertical line is drawn between the first and second columns. A small '1' is written below the '0' in the second column, indicating a carry. Below the grid are three empty boxes for the answer.

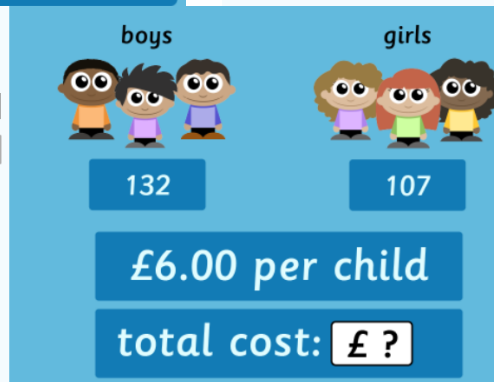
Each lorry can carry 350 boxes. How many boxes can six lorries carry?

 Answer ▾

A short multiplication grid for 350×6 . The grid has three columns and two rows. The top row contains the digits 3, 5, and 0. The bottom row contains the digit 6. A multiplication sign (x) is in the top-left corner. A horizontal line is drawn below the top row. A vertical line is drawn between the first and second columns. Below the grid are two empty boxes for the answer. A yellow lorry icon is positioned to the left of the grid.

132 boys and 107 girls go on a school trip. If the trip costs £6.00 for each child, what is the total cost of the trip?

Include the £ sign in your answer.

 Answer ▾

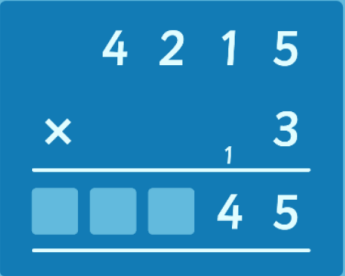
A word problem interface. It features two groups of cartoon children: three boys and three girls. Below the boys are three blue boxes containing the number 132. Below the girls are three blue boxes containing the number 107. Below these are two blue boxes: the first contains '£6.00 per child' and the second contains 'total cost: £ ?'.

Key Vocabulary
column, carry, tens, carried digit


y5:

Children can use short multiplication to multiply a four-digit number by a one-digit number.

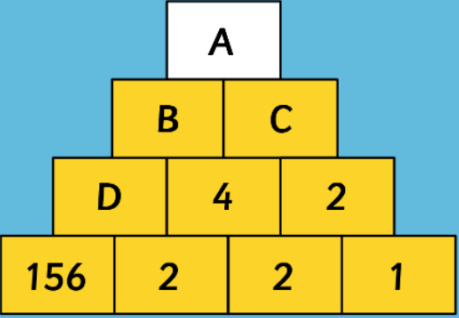
Calculate $4,215 \times 3$.



What is the product of 3,424 and 6?



In the multiplication pyramid, the number in each box is the product of the numbers in the two boxes below it. What number goes in **box A**?




Key Vocabulary
*column, carry, tens, carried
digit, product*

y6:


Children can use long multiplication to multiply a four-digit number by a two-digit number.

Find the answer to $1,432 \times 12$.

 Answer ▾


Katie is paid £1,764 every month. How much does she earn in one year?

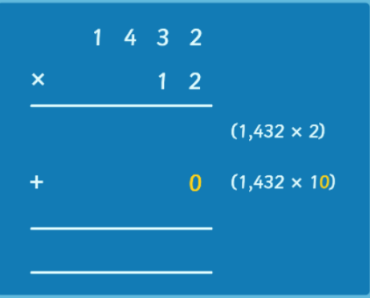
Include the £ sign in your answer.

 Answer ▾

A section of land at an airport covers 375,000 square metres (m^2). A new runway that is 72 m wide and 2,072 m long is built on the land. In square metres, how much of the section of land is **not** covered by the runway?


Don't include the units in your answer.

 Answer ▾




1 4 3 2
× 1 2

 (1,432 × 2)
+ 0 (1,432 × 10)



×



A diagram showing a grey rectangular runway on a green field. The runway is divided into sections by dashed lines, representing the 72m width and 2,072m length.

Key Vocabulary
*column, carry, tens, carried digit,
product, place holder*

Mastery:

Children will solve problems involving multiplication including using knowledge of factors and multiples, squares and cubes.

A cruise company owns three ships, and each ship carries the same number of passengers on each cruise. Using the table, how many more passengers does the Lady of the North Sea carry than the Sea Crest in one year?

Answer →

How many square centimetres (cm²) is the area of the shaded part of the shape?

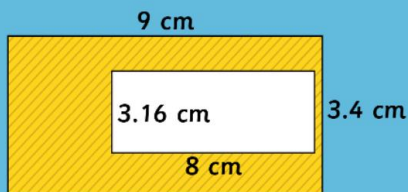
Answer →

The numbers 4, 5 and 16 are represented with different shapes. Find the value of each shape, then find the answer to the last calculation.

Answer →

Cruise ship passengers in one year

ship	number of passengers per cruise	number of cruises
Lady of the North Sea	1,950	23
Sea Crest	1,512	14
Atlantic Princess	2,318	18



$$\triangle \times \triangle = \square$$

$$(\circ - \triangle) + \square = 17$$

$$\circ \times (\circ - \triangle) + \square = ?$$

Key Vocabulary
column, carry, tens, carried digit,
product, place holder, inverse