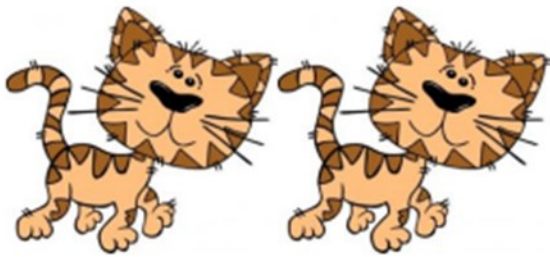


Focus: Subtracting numbers from up to 20.

In Year One, children will be exposed to many different multiplication based activities in a variety of contexts. Much of this will be repeated addition activities or be linked to counting in 2's, 5's or 10's.

How many legs will 2 cats have?



$$4 + 4 = 8$$

There are 5 roses in each garden. How many roses in 3 gardens?



$$5 + 5 + 5 = 15$$

Key Vocabulary

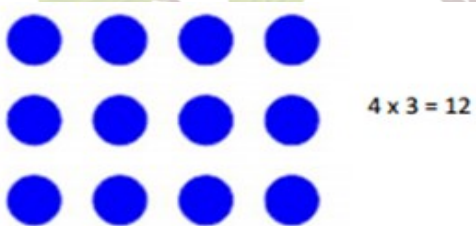
Groups of, lots of, times, array, altogether, multiply, count, product, multiplicand, multiplier

Key Skills

- Count in multiples of 2, 5 and 10.
- Solve 1 step problems involving multiplication using objects, arrays or pictures with support.
- Make connections between arrays and counting in 2s, 5s and 10s.
- Begin to understand doubling using objects and pictorial representations.
- Solve practical problem solving activities counting equal sets or groups.
- Have lots of practice counting and bundling groups of objects into 2s, 5s and 10s.

Focus: Multiplying using arrays and repeated addition

In Year two, children will be aware of simple arrays and pictorial representations and understand what they mean. The children will develop the knowledge of how to make their own arrays to solve a problem and also how repeated addition on a number line can get them to a solution.

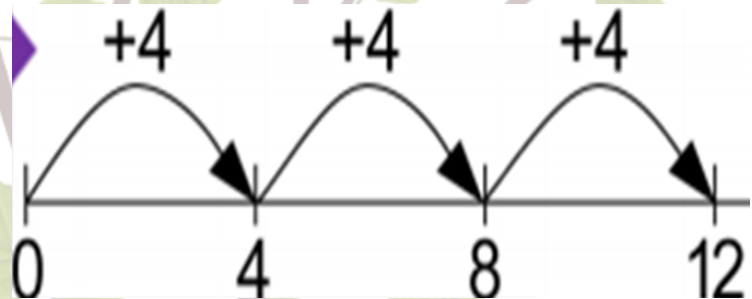


$$4 \times 3 = 12$$

$$3 \times 4 = 12$$

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

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



Key Vocabulary

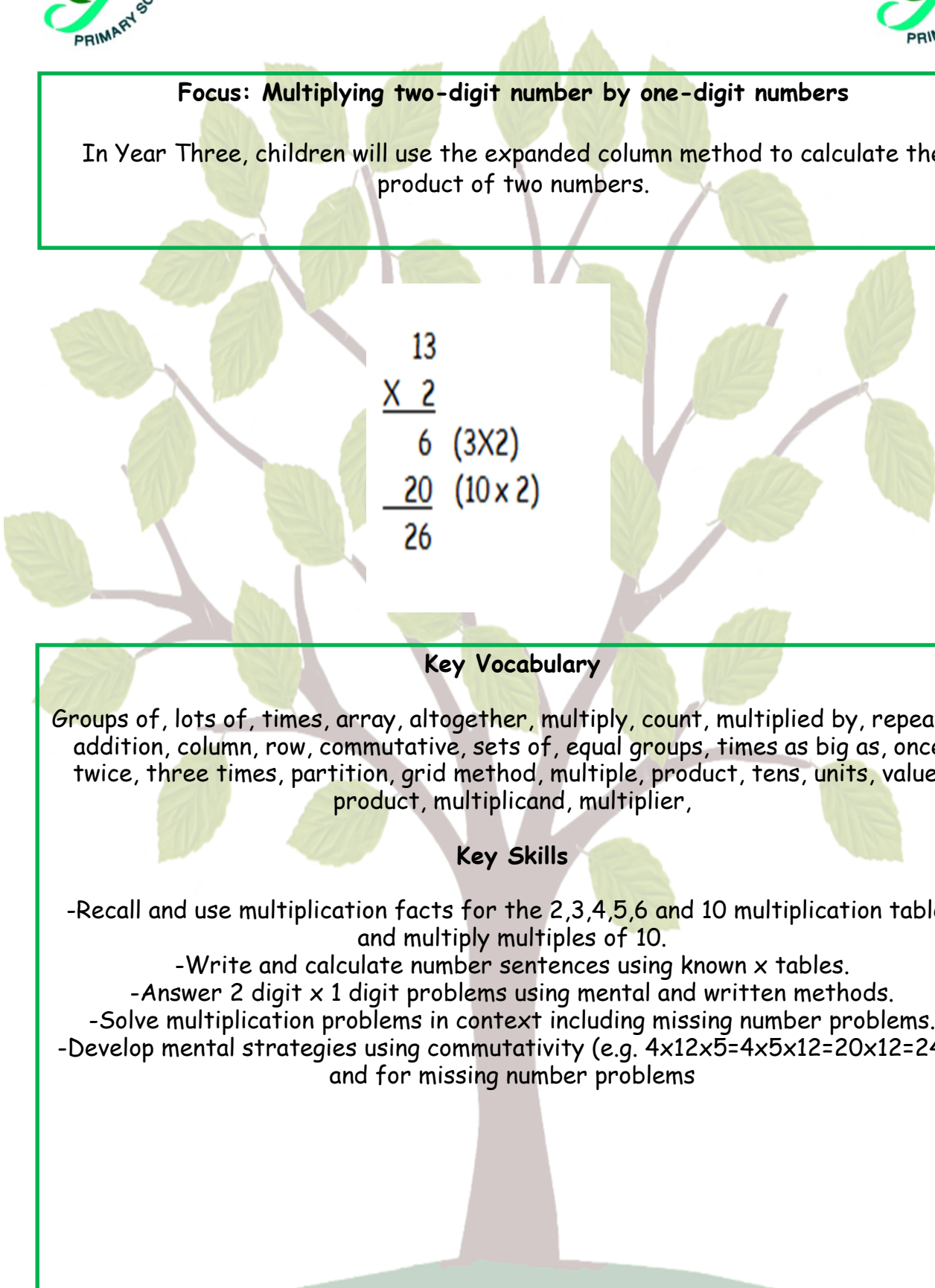
Groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, once, twice, three times, product, multiplicand, multiplier

Key Skills

- Count in steps of 2,3 and 5 from zero and in 10s from any number.
- Recall and use multiplication facts for the 2,5 AND 10 times tables.
- Recognise odd and even numbers.
- Write and calculate number statements using the x and = signs.
- Show that multiplication can be done in any order (the commutative law).
- Solve a range of multiplication problems using objects, arrays, repeated addition, mental methods and multiplication facts.
- Use and become familiar with all of the above multiplication language.

Focus: Multiplying two-digit number by one-digit numbers

In Year Three, children will use the expanded column method to calculate the product of two numbers.


$$\begin{array}{r} 13 \\ \times 2 \\ \hline 6 \text{ (3X2)} \\ 20 \text{ (10 x 2)} \\ \hline 26 \end{array}$$

Key Vocabulary

Groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, once, twice, three times, partition, grid method, multiple, product, tens, units, value, product, multiplicand, multiplier,

Key Skills

- Recall and use multiplication facts for the 2,3,4,5,6 and 10 multiplication tables and multiply multiples of 10.
- Write and calculate number sentences using known x tables.
- Answer 2 digit x 1 digit problems using mental and written methods.
- Solve multiplication problems in context including missing number problems.
- Develop mental strategies using commutativity (e.g. $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) and for missing number problems

Focus: Multiplying 2 and 3 digit numbers by 1 digit numbers

In Year Four, children need to use the column method confidently to solve problems where a two or three-digit number is multiplied by a one-digit number. Children to initially use the expanded method before moving onto the compact column method.

Formal written methods

Expanded multiplication using formal methods

$$\begin{array}{r} 13 \\ \times 2 \\ \hline 6 \quad (3 \times 2) \\ 20 \quad (10 \times 2) \\ \hline 26 \end{array}$$

Compact formal method

$$\begin{array}{r} 123 \\ \times 2 \\ \hline 246 \end{array}$$

Key Vocabulary

Groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, once, twice, three times, partition, grid method, multiple, product, tens, units, value, inverse, multiplicand, multiplier

Key Skills

- Count in multiples of 6,7,8,9,25 and 1000.
- Recall multiplication facts for all multiplication tables up to 12×12 .
- Recognise place value of digits in up to 4 digit numbers.
- Multiply large numbers and multiple values mentally using place value, known facts and derived facts.
- Use commutativity mentally to solve problems.
- Solve problems in a range of contexts that are increasingly complex.

Focus: Multiplying up to 4 digits by 1 or 2 digits

In Year Five, children will continue to use short multiplication to solve increasingly richer problems that involve multiplying by 1 digit. They will then move onto multiplication problems that involve multiplying by 2 digits.

4 digits X 1 digit

$$\begin{array}{r} 5689 \\ \times 2 \\ \hline 11738 \end{array}$$

4 digits x 2 digits

$$\begin{array}{r} 5689 \\ \times 24 \\ \hline 22756 \\ 113780 \\ \hline 136536 \end{array}$$

Key Vocabulary

Groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, once, twice, three times, partition, grid method, multiple, product, tens, units, value, inverse, square, factor, integer, decimal, short/long multiplication, carry, multiplicand, multiplier

Key Skills

- Identify multiples and factors, using secure x table facts to 12 x 12.
- Solve problems where larger numbers are decomposed into their factors.
 - Multiply and divide integers and decimals by 10,100 and 1000.
 - Recognise and use square and cube numbers and their notation.
- Solve problems that have different combinations of operations, picking the most useful methods.

Focus: Consolidating short and long multiplication, multiplying decimals by 1 digit

In Year Six, children will consolidate all they know about short multiplication. They will also learn the new skill of using short multiplication to multiply decimal numbers to 2 decimal places.

4 digits x 2 digits minimum.

$$\begin{array}{r} 5689 \\ \times 24 \\ \hline 22756 \\ 113780 \\ \hline 136536 \end{array}$$



Extend to multiplying decimals

$$56.89 \times 24$$

$$\begin{array}{r} 56.89 \\ \times 24 \\ \hline 22756 \\ 113780 \\ \hline 1365.36 \end{array}$$

Key Vocabulary

Groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, once, twice, three times, partition, grid method, multiple, product, tens, units, value, inverse, square, factor, integer, decimal, short/long multiplication, carry, tenths, hundredths, decimals, multiplicand, multiplier

Key Skills

- Multiply up to 4 digits by 2 digits using long multiplication.
- Solve mixed operation and large number problems using mental methods.
- Solve multi step problems involving a range of operations.
- Estimate and approximate answers of problems to improve accuracy.
- Round any integer to the determined level of accuracy.