Multiplication and Division

Maths | Year 3 | Area Overview

Introduction

In Y3 Multiplication and Division lessons build upon learning from KS1 by developing fluency in the 3x, 4x and 8x multiplication tables. Children then use these known multiplication facts to calculate using formal written methods including the grid method and expanded multiplication, moving towards short multiplication. They use known division facts to calculate using a number line, progressing towards short division. This learning is then applied through a range of problems and puzzles; solving word, missing number, scaling and correspondence problems, and looking for patterns in a variety of situations.

SolveIt Lesson Pack: Multiplication Webs

What can we find out about the patterns made by multiplication webs? This lesson pack explores the patterns made when looking at facts from multiplication tables. The children draw lines across circles to make patterns and are encouraged to spot links between tables, explain unusual patterns and begin to predict patterns before drawing them.

Starter Ideas

Challenge Cards

Assessment Statements

By the end of these lessons...

...all children should be able to:

- Recall multiplication and division facts for the 3x, 4x and 8x tables.
- Use multiplication facts from the 3x, 4x and 8x tables to solve word problems.
- Begin to identify patterns in the 3x, 4x and 8x tables when presented visually (e.g. coloured on a hundred square).
- Multiply multiples of 10 using known facts up to 12x.
- Use the grid method to multiply two and three-digit numbers.
- Use number lines to solve division problems beyond known facts.
- Solve missing number problems using known facts.
- Solve simple scaling and correspondence problems using facts from the 3x, 4x and 8x tables.

...most children will be able to:

- Recall multiplication and division facts for the 3x, 4x and 8x tables with increasing speed and accuracy.
- Use multiplication and division facts from the 3x, 4x and 8x tables to solve word problems with more than one step.
- Identify patterns in known multiplication tables.
- Multiply multiples of 10 (including three-digit numbers) mentally using known facts.
- Use the grid method to solve multiplication problems which go beyond known facts.
- Begin to use expanded multiplication when working with numbers beyond known facts.
- Use number lines to solve division problems beyond known facts with increasing accuracy and speed.
- Begin to use the bus stop method as a written method for division.
- Solve missing number problems which go beyond known facts.

Display Pack

- Solve scaling problems with increasing accuracy, beginning to work out the scale used from the measurements.
- Spotting patterns when solving correspondence problems and beginning to predict the number of possibilities.

...some children will be able to:

- Quickly and accurately recall multiplication and division facts for the 3x, 4x and 8x tables.
- Solve mathematical problems and puzzles using known multiplication and division facts; identifying and explaining patterns and making predictions.
- Multiply multiples of 10 mentally.
- Use a range of written methods for multiplication and division with increasing confidence.

Lesson Breakdown

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
Learning the Facts (1): The 3s I can multiply and divide by 3.
Learning the Facts (2): The 4s I can multiply and divide by 4.
Learning the Facts (3): The 8s I can multiply and divide by 8.
Applying the Facts (1): Word Problems I can solve word problems.
Applying the Facts (2): Finding Patterns I can explore patterns in the multiplication tables.
Home Learning Task: Times Table Search/Dog and Budgie Disco Differentiated tasks that involve applying multiplication facts from the 2x, 3x, 4x and 8x tables.

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Multiplication (1): Multiplication Magic
I can multiply multiples of 10 using Multiplication Magic.

Multiplication (2): The Grid Method
I can solve multiplication problems using the grid method.

Multiplication (3): Expanded Multiplication
I can solve problems with expanded multiplication.

Multiplication (4): Short Multiplication
I can solve multiplication problems using short multiplication.

Division (1): Division on a Number Line
I can use a number line to solve division problems.

Division (2): Sugar Rush
I can solve division problems using a formal written method.

Home Learning Task: Cool Calculating
Differentiated activities including identifying errors in mixed multiplication and division statements, multiplying multiples of 10 using Multiplication Magic, and tasks to check understanding of written methods for multiplication and division.

Missing Number Problems (1): See-Saw
I can find missing numbers in number sentences.

Missing Number Problems (2): Chocolate Bars
I can use multiplication and division facts to solve missing number problems.

Scaling Problems (1): Animal Facts
I can solve problems by scaling up.

Scaling Problems (2): Fruit Salad
I can solve problems by scaling up and down.

Scaling Problems (3): Playground
I can solve problems by scaling up and down.

Correspondence Problems (1): Holiday Outfits
I can use multiplication and division facts to solve problems.

Correspondence Problems (2): Ice Creams
I can solve correspondence problems.

Home Learning Task: Crack The Code
Differentiated missing number puzzle activities.