

# Year 8 Maths

## Autumn term

### Weeks 1-2 Ratio and Scale

#### **Videos**

[Understand and use ratio notation](#)

[Solve problems involving ratios of the form 1 : n \(or n : 1\)](#)

[Solve problems involving ratios of the form m : n](#)

[Divide in a given ratio](#)

#### **Exercises**

[Understand and use ratio notation](#)

[Solve problems involving ratios of the form 1 : n \(or n : 1\)](#)

[Solve problems involving ratios of the form m : n](#)

[Divide in a given ratio](#)

### Weeks 3-4 Multiplicative Reasoning

#### **Videos**

[Solve problems involving direct proportion](#)

[Explore conversion graphs](#)

[Convert between currencies](#)

[Explore relationships between similar shapes](#)

[Understand scale factors as multiplicative representations](#)

#### **Exercises**

[Solve problems involving direct proportion](#)

[Explore conversion graphs](#)

[Convert between currencies](#)

[Explore relationships between similar shapes](#)

[Understand scale factors as multiplicative representations](#)

### Weeks 5-6 Multiplying and Dividing Fractions

#### **Videos**

[Find the product of a pair of unit fractions](#)

[Find the product of a pair of any fractions](#)

[Divide any pair of fractions](#)

#### **Exercises**

[Find the product of a pair of unit fractions](#)

[Find the product of a pair of any fractions](#)

[Divide any pair of fractions](#)

### Weeks 7-9 Working in the Cartesian Plane

#### **Videos**

[Work with coordinates in all four quadrants](#)

[Identify and draw lines that are parallel to the axes](#)

[Recognise and use the line  \$y=x\$](#)

[Recognise and use lines of the form  \$y=kx\$](#)

#### **Exercises**

[Work with coordinates in all four quadrants](#)

[Identify and draw lines that are parallel to the axes](#)

[Recognise and use the line  \$y=x\$](#)

[Recognise and use lines of the form  \$y=kx\$](#)

### Weeks 10-11 Representing Data

#### **Videos**

[Draw and interpret scatter graphs](#)

[Draw and use line of best fit](#)

[Read and interpret grouped frequency tables](#)

[Construct and interpret two-way tables](#)

#### **Exercises**

[Draw and interpret scatter graphs](#)

[Draw and use line of best fit](#)

[Read and interpret grouped frequency tables](#)

[Construct and interpret two-way tables](#)

### Weeks 12

#### **Videos**

[Find probabilities from two-way tables](#)

#### **Exercises**

[Find probabilities from two-way tables](#)

## **Spring term**

### **Weeks 1-4 Brackets, Equations and Inequalities**

#### **Videos**

[Form algebraic expressions](#)

[Multiply out a single bracket](#)

[Factorise into a single bracket](#)

[Expand multiple single brackets and simplify](#)

[Solve equations, including with brackets](#)

[Form and solve equations with brackets](#)

[Understand and solve simple inequalities](#)

#### **Exercises**

[Form algebraic expressions](#)

[Multiply out a single bracket](#)

[Factorise into a single bracket](#)

[Expand multiple single brackets and simplify](#)

[Solve equations, including with brackets](#)

[Form and solve equations with brackets](#)

[Understand and solve simple inequalities](#)

### **Weeks 5 Sequences**

#### **Videos**

[Generate sequences given a rule in words](#)

[Generate sequences given a simple algebraic rule](#)

#### **Exercises**

[Generate sequences given a rule in words](#)

[Generate sequences given a simple algebraic rule](#)

### **Weeks 6 Indices**

#### **Videos**

[Adding and subtracting expressions with indices](#)

#### **Exercises**

[Adding and subtracting expressions with indices](#)

## **Weeks 7-9 Fractions and Percentages**

### **Videos**

- [Convert fluently between key fractions decimals and percentages](#)
- [Calculate key fractions, decimals and percentages of an amount without a calculator](#)
- [Calculate fractions, decimals and percentages of an amount using calculator methods](#)
- [Convert between decimals and percentages greater than 100%](#)
- [Calculate percentage increase and decrease using a multiplier](#)

### **Exercises**

- [Convert fluently between key fractions decimals and percentages](#)
- [Calculate key fractions, decimals and percentages of an amount without a calculator](#)
- [Calculate fractions, decimals and percentages of an amount using calculator methods](#)
- [Convert between decimals and percentages greater than 100%](#)
- [Calculate percentage increase and decrease using a multiplier](#)

## **Weeks 10-11 Standard Index Form**

### **Videos**

- [Investigate positive powers of 10](#)
- [Work with numbers greater than 1 in standard form](#)
- [Investigate negative powers of 10](#)
- [Work with numbers between 0 and 1 in standard form](#)
- [Compare and order numbers in standard form](#)

### **Exercise**

- [Investigate positive powers of 10](#)
- [Work with numbers greater than 1 in standard form](#)
- [Investigate negative powers of 10](#)
- [Work with numbers between 0 and 1 in standard form](#)
- [Compare and order numbers in standard form](#)

## **Weeks 12 Number Sense**

**Videos**

[Round numbers to a given number of decimal places](#)

[Estimate the answer to a calculation](#)

[Calculate with money](#)

**Exercise**

[Round numbers to a given number of decimal places](#)

[Estimate the answer to a calculation](#)

[Calculate with money](#)

## Summer term

**Weeks 1-3****Videos**

[Understand angles as a measure of turn](#)

[Measure angles up to 180°](#)

[Draw angles up to 180°](#)

[Draw and measure angles between 180° and 360°](#)

[Construct triangles using SSS](#)

**Exercises**

[Understand angles as a measure of turn](#)

[Measure angles up to 180°](#)

[Draw angles up to 180°](#)

[Draw and measure angles between 180° and 360°](#)

[Construct triangles using SSS](#)

**Weeks 4-5 Area of a Trapezium****Videos**

[Calculate the area of triangles, rectangles and parallelograms](#)

[Calculate the area of a trapezium](#)

[Calculate the perimeter and area of compound shapes](#)

**Exercises**

[Calculate the area of triangles, rectangles and parallelograms](#)

[Calculate the area of a trapezium](#)

[Calculate the perimeter and area of compound shapes](#)

**Weeks 6 Line Symmetry & Reflection**

**Videos**

[Recognise line symmetry](#)

[Reflect a shape in a horizontal or vertical line 1 \(shapes touching the line\)](#)

[Reflect a shape in a horizontal or vertical line 2 \(shapes not touching the line\)](#)

**Exercises**

[Recognise line symmetry](#)

[Reflect a shape in a horizontal or vertical line 1 \(shapes touching the line\)](#)

[Reflect a shape in a horizontal or vertical line 2 \(shapes not touching the line\)](#)

**Weeks 7-9 The Data Handling Cycle****Videos**

[Design and criticise questionnaires](#)

[Draw and interpret pictograms, bar charts and vertical line charts](#)

[Draw and interpret multiple bar charts](#)

[Draw and interpret pie charts](#)

[Draw and interpret line graphs](#)

[Represent and interpret grouped quantitative data](#)

**Exercises**

[Design and criticise questionnaires](#)

[Draw and interpret pictograms, bar charts and vertical line charts](#)

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[Represent and interpret grouped quantitative data](#)

**Weeks 11-12 Measures of Location****Videos**

[Understand and use the mean, median and mode](#)

[Choose the most appropriate average](#)

[Identify outliers](#)

[Compare distributions using averages and the range](#)

**Exercises**

[Understand and use the mean, median and mode](#)

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