



# Hexham Middle School KS3 Maths



## Skills taught across Maths

- Problem solving skills
- Communication skills
  - Mental Maths
  - Using a calculator
  - Reading skills
  - Teamwork
- Organisational skills
- Time management skills



Mixed percentage questions

### Geometry

Construct special quadrilaterals (and understand angles in parallel lines)

Area and circumference of circles

Enlargement, reflection, translation and rotation

### Algebra review

Expand, simplify and factorise single brackets

Averages and range from a table

Averages and range from a list

### Data handling

Bar charts, vertical line charts, line graphs, pie charts

### Transformations

### Percentages

Increase and decrease by a percentage (non calc and calc)

Percentage change

Reverse percentages

Exterior angles of polygons

Interior angles of polygons

### Area and volume

Volume of prisms

Volume of  $\pi$

### Sequences

Scatter graphs

Frequency tables and two way tables

Midpoint of a line

Understand reciprocals

### Number sense

Problem solving with money, time and distance

Form algebraic expressions

Using the nth term

### Representing data

$Y=mx+c$  and linear graphs and nonlinear graphs

### Graphs

Converting currencies

### Fractions

Multiply and divide fractions

Enlarging a shape

Direct proportion and direct proportion graphs



Venn diagrams

### Prime numbers and proof

HCF, LCM and prime factors



Divide into a given ratio

Best buy

### Ratio and scale

YEAR 8

### Proportion

Sample spaces



Basic probability

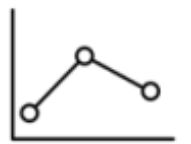
Work with prime, square and triangular numbers

Proof

Simplifying ratio including 1:n

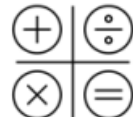
Convert between fractions and ratios

Understand pi as the ratio between diameter and circumference



### Sets and probability

Estimation for sense checking



Angles in parallel lines

### Geometric reasoning

Identify properties of 2d shapes

### Constructions and measures

Using a calculator

Multiplying and dividing decimals and integers

### Developing number sense

Angles sum of polygons

Angle facts

Construct triangles

Identify parallel and perpendicular lines

Equations with fractions

### Multiplication and division

Area of a rectangle and parallelogram

Fraction and percentage of an amount

Calculating with percentages including over 100%

Order and compare directed numbers and use all four operations

BIDMAS and algebra with directed numbers

### Fractional thinking

Frequency trees

Factors and multiples

### Fractions and percentages of an amount

Using a calculator with percentages

### Directed number

Higher powers and roots of directed numbers

Compare and order fractions

### Addition and subtraction

Convert fluently between FDP and place on number lines

Financial maths problems



### Equality and equivalence

Substitute and simplify expressions

Function machines

Recognise different types of sequences

### Exploring sequences

Rounding and powers of ten

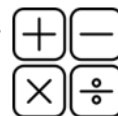
### Place value

BIDMAS and solving one and two step equations with single brackets

Expand and factorise single brackets

### Algebraic notation

Represent sequences as graphs



Describing and continuing sequences

YEAR 7

