TENBURY HIGH
ORMISTON ACADEMY

# Curriculum Overview for Mathematics
# Year 7

<table>
<tr>
<td rowspan="4">Half Term 5:<br>Calculating with Fractions, decimals and percentages<br><br>Declarative Knowledge:<br>7.1 concept of a fraction, multiple visual representations - shading shapes, bar models, placing on a number line<br>7.2 proper and improper fractions,<br><br>Procedural Knowledge:<br>7.3 equivalent fractions, simplifying fractions, comparing the size of fractions through common denominator or common numerator<br>7.4 complement of a fraction (able to find 1-p, given p)<br>7.7 adding and subtracting fractions, including proper, improper and mixed<br>7.8 fraction of an amount by a bar model, expressing one number as a fraction of another, find original amount if you know a fraction of it<br>7.9 multiplying and dividing fractions, fraction of an amount (incl. fractions of fractions) with link to multiplying; increasing and decreasing by a fraction by multiplying<br>7.10 multiplication of a number by its reciprocal gives 1<br><br>Conditional Knowledge:<br>7.11 order of operations with fractions<br>7.12 problems: worded fraction problems</td>
<td>  </td>
<td>Modelling reading of questions by the class teacher – teaching like a Mathematician<br>Key words on top sheet are shared with children, including syllabification when they appear in the learning<br>Expectation of Mathematical vocabulary used in lessons</td>
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<td>  </td>
<td>Fractions, convert, improper fraction, proper fraction, numerator, denominator, simplify, equivalent, quotient, reciprocal.</td>
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<td>End of unit exam completed in class with relearning tasks in feedback lesson.<br><br>Content may be included in Term 3 formal assessment.</td>
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<td rowspan="4"><u>Half Term 6: Investigating Angles Part One</u><br><br>Declarative Knowledge:<br>Recall key units of measure and what they represent<br>State the units used to measure turn<br>Describe a full turn, half a turn and quarter turn using correct units<br>Describe different size turns with correct terminology<br>State the properties of vertically opposite angles and use to find missing angles<br>State clearly the sum of the angles in a full turn<br>State clear the sum of the angles that make up half a turn<br><br>Procedural Knowledge:<br>1.1 Points, lines, rays and segments, using a ruler to measure lines, labelling segments correctly<br>1.2 Using a protractor to measure angles, labelling angles correctly, type of angles, estimating angles<br>1.3 Using a compass to draw circles and arcs; construct and equilateral triangle and a hexagon (60/120 degree angles)<br>1.4 Constructing triangles given SSS, SAS, ASA<br>1.5 Constructing a perpendicular bisector, perpendicular from a point on/to a line, angle bisector, know that the shortest distance from a point to a line is the perpendicular, constructing a parallel line<br>1.6 Constructing 30, 45, 90 angles<br><br>Conditional Knowledge:<br>1.7 Simple loci - fixed distance from a point, fixed distance from a line, equidistant from a two points, equidistant from two lines</td>
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## Half Term 6: Investigating Angles Part Two

### Declarative Knowledge:

- Recall the key angle properties of parts of a turn and vertically opposite angles. (360, 90, 180 and vertically opposite angles - recap obtuse, acute and reflex.)
- Understand parallel lines as lines that travel at the same angle as each other
- Identify sets of parallel lines and use correct notation
- Understand and identify a transversal

### Procedural Knowledge:

- Mark corresponding angles where a transversal cuts parallel lines
- Use the properties for a straight line to find other angles that are equal.
- Use the terms corresponding, alternate and co -interior (allied) to describe pairs of angles where you have parallel lines.
- Find missing angles where you have parallel lines.
- Find missing angles and using correct terminology to explain your steps with single transversal.
- Identify corresponding, alternate and co - interior angles with multiple transversals.
- Measure and construct bearings

### Conditional Knowledge:

- Find missing angles using simple problem-solving strategies and basic algebra models (at a single point and then combined across)
- Solve parallel line problems which involve adding additional lines
- Solve multi step problems reasoning from known facts to unknown facts
- Use parallel lines to find missing angles in bearings problems
- Combine all the angle facts met so far to solve complex problems.

Modelling reading of questions by the class teacher – teaching like a Mathematician
Key words on top sheet are shared with children, including syllabification when they appear in the learning
Expectation of Mathematical vocabulary used in lessons

Angle, measure, turn, point, circle, missing, unknown, acute, obtuse, reflex, straight line, right angle, arc, notation, parallel, gradient, transversal, intersects, corresponding, sector, alternate, vertically opposite, co-interior, allied, multi-step.

End of unit exam completed in class with relearning tasks in feedback lesson.

Content may be included in Term 3 formal assessment.

Dr Frost Maths – practising skills using DrFrost.org (a unique username and password will be provided by the school).

Revision for end of unit exams. This will include Dr Frost Maths practise, but may also include extra revision set by the teacher, including practising past exam questions, creating revision cards, creating mindmaps, etc.