

# Year 5 Maths Checklist

These Twinkl Maths checklists link to the expectations set out in the 2014 English National Curriculum for Mathematics and also include reference to the guidance set out in Maths Appendix 1. They are split into:

- Working Towards the Expected Standard
- Working at the Expected Standard
- Working at Greater Depth Within the Expected Standard

All of the statements are progressive within and across the year groups, and work on the expectation that the majority of pupils will be working on their own year group's aims. Consequently, Twinkl have tried to ensure that the criteria for Working Towards the Expected Standard in one year group is not the same as the criteria for Working at Greater Depth in the previous year group. The criteria for Working Towards and Working at Greater Depth in any year group is related to that year group's National Curriculum expectations.

**It is important to reiterate that there are no DfE-published exemplification assessment documents available for Years 1, 3, 4 and 5, and therefore the Twinkl Maths checklists should only be used as a guide for referencing the attainment of pupils within these year groups.**

Teachers may feel the need to revisit expectations from earlier years to consolidate knowledge and build on pupils' understanding, or go beyond the aims set out here if they feel it is appropriate for their highest-attaining students.

## How to Use the Checklists

The grids can be used to track the attainment of individual pupils or alternatively, could be used to highlight the progress of groups of students who are focusing on the same development areas or Maths targets.

They allow teachers to make 'best fit' judgements by ticking and dating relevant criteria as a child/group progresses throughout a term or school year.

Teachers may find the Differentiated Maths Mats useful in providing more detail and exemplification.

<b>Working Towards</b>	<b>Expected</b>	<b>Greater Depth</b>
In most cases, the objective will be simplified, by cutting aspects out, or by using smaller numbers etc. These can be seen as a step towards the expected standard. Where the objective is the same, it may be that greater adult support is required than for the expected standard.	These are the objectives from the National Curriculum. Teachers will need to make their own decisions about the level of competency required to be at the expected standard. Possible examples can be found on the Differentiated Maths Mats for each mathematical area.	In many cases, the objective is similar or the same as the expected standard. Greater depth means children explaining and reasoning, enabling them to deepen their mathematical understanding. Possible examples can be found on the Differentiated Maths Mats for each mathematical area.
<b>Number and Place Value</b>		
Read, write, order and compare numbers to at least 100 000 and determine the value of each digit.	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.
Count forwards or backwards in steps of 10, 100 and 1000 for any given number up to 10 000.	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.	Count forwards or backwards in multiples of steps of powers of 10 for any given number up to 1 000 000.
Count forwards and backwards with positive and negative whole numbers, including through zero.	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	Interpret negative numbers in context, count forwards and backwards in different steps with positive and negative whole numbers, including through zero.
Round any number up to 100 000 to the nearest 10, 100, 1000 and 10 000.	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.
Solve number problems and practical problems that involve all of the above.	Solve number problems and practical problems that involve all of the above.	Solve number problems and practical problems that involve all of the above.
Read Roman numerals to 1000 (M).	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
<b>Addition and Subtraction</b>		
Add and subtract whole numbers with more than 3 digits, including using formal written methods (columnar addition and subtraction).	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).

Add and subtract numbers <i>up to 3 digits</i> mentally.		Add and subtract numbers mentally with increasingly large numbers.		Add and subtract numbers mentally with increasingly large numbers.	
Use rounding to check answers to calculations.		Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.		Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.		Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.		Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	
<b>Multiplication and Division</b>					
Identify multiples and factors, including finding all factor pairs of numbers <i>less than 20</i> , and common factors of two numbers <i>less than 20</i> .		Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.		Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	
Know and use the vocabulary of prime numbers.		Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.		Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	
Recall prime numbers up to 19.		Establish whether a number up to 100 is prime and recall prime numbers up to 19.		Establish whether a number up to 100 is prime and recall prime numbers up to 19.	
Multiply numbers up to 3 digits by a one-digit number using a formal written method.		Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.		Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.	
Multiply and divide numbers mentally drawing upon known facts.		Multiply and divide numbers mentally drawing upon known facts.		Multiply and divide numbers mentally drawing upon known facts.	
Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.		Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.		Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.	
Multiply and divide whole numbers and those involving decimals by 10 and 100.		Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.		Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	

Recognise and use square numbers up to 100, and the notation for squared ( <sup>2</sup> ).		Recognise and use square numbers and cube numbers, and the notation for squared ( <sup>2</sup> ) and cubed ( <sup>3</sup> ).		Recognise and use square numbers and cube numbers, and the notation for squared ( <sup>2</sup> ) and cubed ( <sup>3</sup> ).	
Solve problems involving multiplication and division including using their knowledge of factors and multiples, and squares.		Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.		Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	
Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.		Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.		Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	
Solve problems involving multiplication and division.		Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.		Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	
<b>Fractions</b>					
Compare and order fractions whose denominators are all multiples of the same number.		Compare and order fractions whose denominators are all multiples of the same number.		Compare and order fractions whose denominators are all multiples of the same number.	
Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.		Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.		Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	
Recognise mixed numbers and improper fractions <2 and convert from one form to the other.		Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5} \text{ ].}$		Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{3}{5} \times 4 = 2\frac{2}{5} \text{ ].}$	
Add and subtract fractions with the same denominator and denominators that are multiples of the same number.		Add and subtract fractions with the same denominator and denominators that are multiples of the same number.		Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
Read and write decimal numbers as fractions [for example, $0.7 = \frac{7}{10}$ ].	Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$ ].	Read and write decimal numbers as fractions [for example, $1.375 = 1\frac{3}{8}$ ].
Recognise and use <i>hundredths</i> and relate them to tenths and decimal equivalents.	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
Round decimals with two decimal places to the nearest whole number.	Round decimals with two decimal places to the nearest whole number and to one decimal place.	Round decimals with two decimal places to the nearest whole number and to one decimal place.
Read, write, order and compare numbers with up to two decimal places.	Read, write, order and compare numbers with up to three decimal places.	Read, write, order and compare numbers with up to three decimal places.
Solve problems involving number up to <i>two</i> decimal places.	Solve problems involving number up to three decimal places.	Solve problems involving number up to three decimal places.
Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'.	Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.	Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.
Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{5}$ , $\frac{2}{5}$ , $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.	Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{5}$ , $\frac{2}{5}$ , $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.	Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{5}$ , $\frac{2}{5}$ , $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.

Measurement				
Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) <i>for simple units.</i>		Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).		Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) <i>using decimals to three places.</i>
		Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.		<i>Know</i> , understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.
Measure and calculate the perimeter of composite <i>rectangles</i> in centimetres and metres.		Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.		Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.
Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm <sup>2</sup> ) and square metres (m <sup>2</sup> ) and estimate the area of irregular shapes.		Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm <sup>2</sup> ) and square metres (m <sup>2</sup> ) and estimate the area of irregular shapes.		Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm <sup>2</sup> ) and square metres (m <sup>2</sup> ) and estimate the area of irregular shapes.
Estimate capacity [for example, using water].		Estimate volume [for example, using 1cm <sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water].		Estimate volume [for example, using 1cm <sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water].
Solve problems involving converting between units of time using simple units.		Solve problems involving converting between units of time.		Solve problems involving converting between units of time.
Use all four operations to solve problems involving measure [for example, length, mass, volume, money].		Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.		Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.
Geometry - Shape				
Identify the 3D shapes cubes and other cuboids from 2D representations.		Identify 3D shapes, including cubes and other cuboids, from 2D representations.		Identify 3D shapes, including cubes and other cuboids, from 2D representations <i>and nets.</i>

Know angles are measured in degrees: estimate and compare acute and obtuse angles.		Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.		Know angles are measured in degrees: estimate <i>accurately</i> and compare acute, obtuse and reflex angles.	
Draw given <i>angles up to 90°</i> , and measure them in degrees (°).		Draw given angles, and measure them in degrees (°).		Draw given angles, and measure them in degrees (°).	
Identify: <ul style="list-style-type: none"> <li>angles at a point on a straight line and 1/2 a turn (total 180°);</li> <li>other multiples of 90°.</li> </ul>		Identify: <ul style="list-style-type: none"> <li>angles at a point and one whole turn (total 360°);</li> <li>angles at a point on a straight line and a turn (total 180°);</li> <li>other multiples of 90°.</li> </ul>		Identify: <ul style="list-style-type: none"> <li>angles at a point and one whole turn (total 360°);</li> <li>angles at a point on a straight line and a turn (total 180°);</li> <li>other multiples of 90°.</li> </ul>	
Use the properties of rectangles to deduce related facts and find missing lengths.		Use the properties of rectangles to deduce related facts and find missing lengths and angles.		Use the properties of rectangles to deduce related facts and find missing lengths and angles.	
Distinguish between regular and irregular <i>pentagons and hexagons</i> based on reasoning about equal sides and angles.		Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.		Distinguish between regular and irregular polygons based on reasoning about equal sides and angles, <i>knowing some of the properties of regular polygons</i> .	
<b>Geometry – Position and Direction</b>					
Identify, describe and represent the position of a shape following a <i>simple</i> reflection or translation, using the appropriate language.		Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.		Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	
<b>Statistics</b>					
Solve <i>simple</i> comparison, sum and difference problems using information presented in a simple line graph.		Solve comparison, sum and difference problems using information presented in a line graph.		Solve comparison, sum and difference problems using information presented in a line graph.	
Read and interpret information in <i>simple</i> tables, including timetables.		Complete, read and interpret information in tables, including timetables.		Complete, read and interpret information in tables, including timetables.	