

Standards in Mathematics: YEAR ONE

**Taken from Chris Quigley's Depth of Learning and adapted for use by
Ashdene Primary School.**

Standard	Cognitive Challenge	Nature of Progress	Typically Pupils Will...	Predominant Teaching Style
Working Towards Expected Standard (WT)	Low level cognitive demand. Involves following instructions.	Acquiring	name, describe, follow instructions or methods, complete tasks, recall information, ask basic questions, use, match, report, measure, list, illustrate, label, recognise, tell, repeat, arrange, define, memorise.	Modelling Explaining
Working at Expected Standard (WA)	Higher level of cognitive demand. Involves mental processing beyond recall. Requires some degree of decision making.	Practising	apply skills to solve problems, explain methods, classify, infer, categorise, identify patterns, organise, modify, predict, interpret, summarise, make observations, estimate, compare.	Reminding Guiding
Exceeding/Working in Greater Depth	Cognitive demands are complex and abstract. Involves problems with multi-steps or more than one possible answer. Requires justification of answers.	Deepening Understanding	solve non-routine problems, appraise, explain concepts, hypothesise, investigate, cite evidence, design, create, prove.	Coaching Mentoring

Assessment criteria for mathematics: YEAR ONE

Note: Independently or ‘without support’ means – Choosing to by oneself not when asked.

Learning Objective		Key Indicator(s)	Working Towards The Expected Standard (WT)	Working At The Expected Standard (WA)	Exceeding The Expected Standard/Greater Depth (Exc)
			Some evidence of the WA indicators seen	Most of the following features will be seen	All of the following features will be
To know and	Counting	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.	Expected standard has not been met.	There is counting forwards to and across 100, beginning with 0 or 1.	There is counting to and across 100, forwards and backwards from any given number.
		Count, read and write numbers to 100 in numerals.		- Up to 10 objects can be counted - Numbers to 10 can be read and written.	Generally, numbers between 0 and 100 are counted, written and ordered correctly.
		Given a number, identify one more and one less.		The number that comes next or before, with numbers 0–10, is identified, with reminders where necessary.	One more and one less than a given number are identified.
		Count in steps of 2, 3, 5 and 10 from 0 or 1 and in tens from any number, forwards and backwards. [W2]		The pupil counts forwards from 0, in steps of 2, 5 and 10 and uses counting strategies to solve problems. [W2]	There is counting in steps of 2, 3, 5 and 10 from 0 or 1 and in tens from any number, forwards or backwards.
	Representing	Identify, represent and estimate numbers using different representations, including the number line.		Work is represented with objects or pictures with the support of a teacher and the use of the number line.	Generally, numbers are identified, represented and estimated using different representations.
		Read and write numbers initially from 1 to 20 and then to at least 100 in numerals and in words. [W3]		Numerals from 1 to 100 are counted correctly. [W3]	Numbers from 1 to 100 are generally read and written correctly in numerals and words.
	Comparing	Use the language of equal to, more than, less than (fewer), most and least.		The language how many altogether, how many hidden, how many left, more than and less than is understood.	The language of equal to, more than, less than, most and least is generally used correctly.



use numbers

Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs.

Numbers 1–10 can be placed in ascending order.

The first, second, etc. in a line can be pointed at.

Generally, numbers between 0 and 100 are ordered correctly.

The signs $<$, $>$ and $=$ are used to compare numbers from 0 up to 100.

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			Some evidence of the WA indicators	Most of the following features will be seen	
	Place value	Recognise the place value of each digit in a two-digit number (tens, ones). [W1], [1]	Expected standard has not been met	The place value of each digit in a two-digit number is recognised. Apparatus may be required. [W1]	The place value of each digit in a two-digit number is recognised. Two-digit numbers are partitioned. [1]
		Use place value and number facts to solve problems.		Mathematical activities involving sorting, counting and measuring are accessed with support. Place value and number facts are used to solve problems.	Place value and number facts are used to solve problems. Generally, the starting point in a problem is found.
To add and subtract	Checking	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. [5], [15]	Expected standard has not been met	The terminology 'addition' and 'subtraction' is used when provided by the teacher. Addition is understood as finding the total of two or more sets of objects. Subtraction is understood as 'taking away' objects and seeing how many are left. Simple estimation problems can be solved.	The inverse relationship between addition and subtraction is used in calculations to check for correct answers. [5] The subtraction facts linked to addition facts are beginning to be recognised. Estimation is used to check that a calculation is reasonable. [3]
	Using number facts	Represent and use number bonds and related subtraction facts to 20. [W4]		Number bonds and subtraction facts to 20 are represented and used. [W4]	With some reminders addition and subtraction facts to 20 are fluently used and number bonds within 20 are represented and used.
		Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.		Number bonds and addition and subtraction facts to 20 are used and recalled, with reminders or prompts when needed.	Addition and subtraction facts to 20 are recalled fluently and used to derive related facts to 100.

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	Complexity	<p>Solve one-step problems with addition and subtraction, using:</p> <ul style="list-style-type: none"> Concrete objects and pictorial representations including those involving numbers, quantities and measures The addition (+), subtraction (-) and equals (=) signs. [17] 	Expected standard has not been met	<p>Most of the following features will be seen</p> <p>The symbols + and = are used to record additions.</p> <p>The symbols – and = are used to record subtractions.</p> <p>Addition and subtraction problems, involving up to 10 objects, are solved with prompts.</p> <p>Using concrete objects and pictorial representations (including those involving numbers, quantities and measures) one-step addition and subtraction problems are solved.</p> <p>More complicated one-step problems with addition and subtraction can be answered.</p>	<p>Generally, one-step problems with addition and subtraction (including those involving numbers, quantities and measures) are solved.</p> <p>The addition (+), subtraction (-) and equals (=) signs are understood and generally used correctly.</p>
	Methods	<p>Add and subtract numbers using concrete objects and pictorial representations and mentally, including: [W5], [2], [12], [14]</p> <ul style="list-style-type: none"> One-digit and two-digit numbers to 20, including zero A two-digit number and ones [W5] A two-digit number and tens [W5] Two two-digit numbers [2] Adding three one-digit numbers. 		<p>Work is recorded with objects, pictures or diagrams.</p> <p>Where no re-grouping is required, a two-digit number and ones is added or subtracted. [W5]</p> <p>Where no re-grouping is required, a two-digit number and tens is added or subtracted. [W5]</p>	<p>Generally, two-digit and one-digit numbers can be added and subtracted independently.</p> <p>A two-digit number and tens, two two-digit numbers and three one-digit numbers are added and subtracted (using concrete objects, pictorial representations and mentally) when reminders are provided. [2]</p> <p>Where no re-grouping is required, two two-digit numbers are mentally subtracted. [4]</p>
		Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.		There is an awareness that the addition of numbers can be done in any order and that the subtraction of one number from another cannot.	Generally, there is an understanding that two numbers can be added in any order but subtraction of one number from another cannot.

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			Some evidence of the WA indicators	Most of the following features will be seen	
To understand the properties of shapes		Recognise and name common 2-D and 3-D shapes. [W7]	Expected standard has not been met	Common 2-D and 3-D shapes are recognised and grouped. [W7]	Common 2-D and 3-D shapes are recognised from pictures of them.
		Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. [11], [22]		Simple properties of 2-D shapes are described, such as side or corner. Through supported activity such as folding, there is an awareness of symmetry.	Generally, 2-D shapes are described accurately, including their lines of symmetry. [11]
		Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. [11], [22]		Simple properties of 3-D shapes are described, such as the number of faces.	Generally, 3-D shapes are described accurately, including the number of edges, vertices and faces. [11]
		Identify 2-D shapes on the surface of 3-D shapes.		2-D faces on the surface of 3-D shapes are recognised.	Generally, 2-D faces on the surface of 3-D shapes are recognised and used to describe 3-D shapes.
		Compare and sort common 2-D and 3-D shapes and everyday objects.		Simple 2-D shapes on the surface of 3-D shapes are identified.	2-D and 3-D shapes and everyday objects are sorted using one criterion.

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			Some evidence of the WA indicators	Most of the following features will be seen	
To describe position, direction and movement		Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	Expected standard has not been met	Position and direction can be described. There is an awareness of the terms whole, half, quarter and three-quarter turns.	Generally, position, direction and movement can be described using the terms whole, half, quarter and three-quarter turns.
		Order and arrange combinations of mathematical objects in patterns and sequences.		A simple pattern of objects, shapes or numbers is copied and continued with reminders or prompts.	Generally, combinations of mathematical objects in patterns and sequences are ordered correctly. Sequences in regular steps are continued. The positions of objects in a row (first, second, third, etc.) can be described.
		Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).		Generally, language such as behind, under, on top of, next to etc. is used and responded to. Generally, directional language such as forwards, backwards, turn, etc., is used and responded to.	Generally, the language half turns, quarter turns and whole turns is used to describe position, direction and movement. Left and right are used correctly when directions are given.
To use measures		Compare, describe and solve practical problems for: lengths and heights, mass/weight, capacity and volume and time.	Expected standard has not been met	Practical problems for a range of measures are described and solved.	Generally, practical problems for a range of measures, including lengths and heights, mass/weight, capacity, volume and time, are compared, described and solved.

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		Measure and begin to record: lengths and heights, mass/weight, capacity and volume, time (hours, minutes, seconds).	Expected standard has not been met	A range of measures are measured in a variety of ways: <ul style="list-style-type: none"> • Lengths are compared and put into an order. • Objects that are shorter/longer than 1m, heavier/lighter than 500g, hold more/less than 1 litre can be found. 	Generally, a range of measures are measured and recorded. Tools needed for measuring are chosen when prompted.
		Sequence events in chronological order using language.		With prompts or support, events can be sequenced in chronological order, using language such as first, second, last, etc.	Events can be sequenced in chronological order, using language such as: first, second, last.
		Recognise and use language relating to dates, including days of the week, weeks, months and years.		Language for the days of the week is used and language for months and years is emerging.	Language relating to dates, including days of the week, weeks, months and years, is generally used correctly.
		Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. [10], [20]		The time is read to the hour and there is an emerging understanding of the half hour. The hands on a clock face are drawn to represent the time to the hour.	The number of minutes in an hour and the number of hours in a day is known and generally used to solve problems. Generally, time to the hour, half past the hour and quarter past/to the hour is told and the hands on a clock face to show these times are drawn. [10] Intervals of time can be compared and sequenced independently. Time to five minutes is beginning to be recognised.

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			Some evidence of the WA indicators	Most of the following features will be seen	
		Use standard units to estimate and measure length/height (m/cm), mass (kg/g), temperature (°C) and capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. [9], [21]	Expected standard has not been met	With the support of practical measuring apparatus, such as rulers, scales, thermometers and measuring vessels, the following can be measured as accurately as possible: <ul style="list-style-type: none"> length/height in cm/m mass in kg/g temperature in °C capacity in ml/l. 	Generally, by using measuring apparatus, such as rulers, scales, thermometers and measuring vessels, the following can be measured to the nearest appropriate unit: [9] <ul style="list-style-type: none"> length/height in cm/m mass in kg/g temperature in °C capacity in ml/l. (When all numbers on the scale are given.)
		Compare and order lengths, mass, volume/capacity and record the results using >, < and =.		The signs <, > and = are understood and used to order lengths, mass and volume/ capacity.	Generally, the signs <, > and = are used to compare and order lengths, mass and volume/capacity.
		Recognise and know the value of different denominations of coins and notes.		With concrete objects and pictorial representations, the value of different denominations of coins and notes is generally recognised.	The value of different denominations of coins and notes is recognised.
		Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.		The symbols £ (pounds) and p (pence) are recognised and, with the support of a teacher, used.	Generally, the symbols £ (pounds) and p (pence) are recognised and used and combined to make particular values. It is understood that there are 100p in £1.
		Find different combinations of coins that equal the same amount of money. [8]		Different combinations of coins that equal the same amount of money are found.	Generally, combinations of coins that equal the same amounts of money are found. [8]
		Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.		With the support concrete objects, simple addition and subtraction problems involving money of the same unit are solved. With the support of a teacher and concrete objects, change can also be given.	Simple addition and subtraction problems involving money of the same unit and giving change are solved independently – concrete objects may be needed for this.



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To use algebra		Solve addition and subtraction problems involving missing numbers. [15]	Expected standard has not been met	Some evidence of the WA indicators Most of the following features will be seen Addition and subtraction problems involving missing numbers are solved.	All of the following features will be seen Addition and subtraction problems, involving missing numbers are solved.



