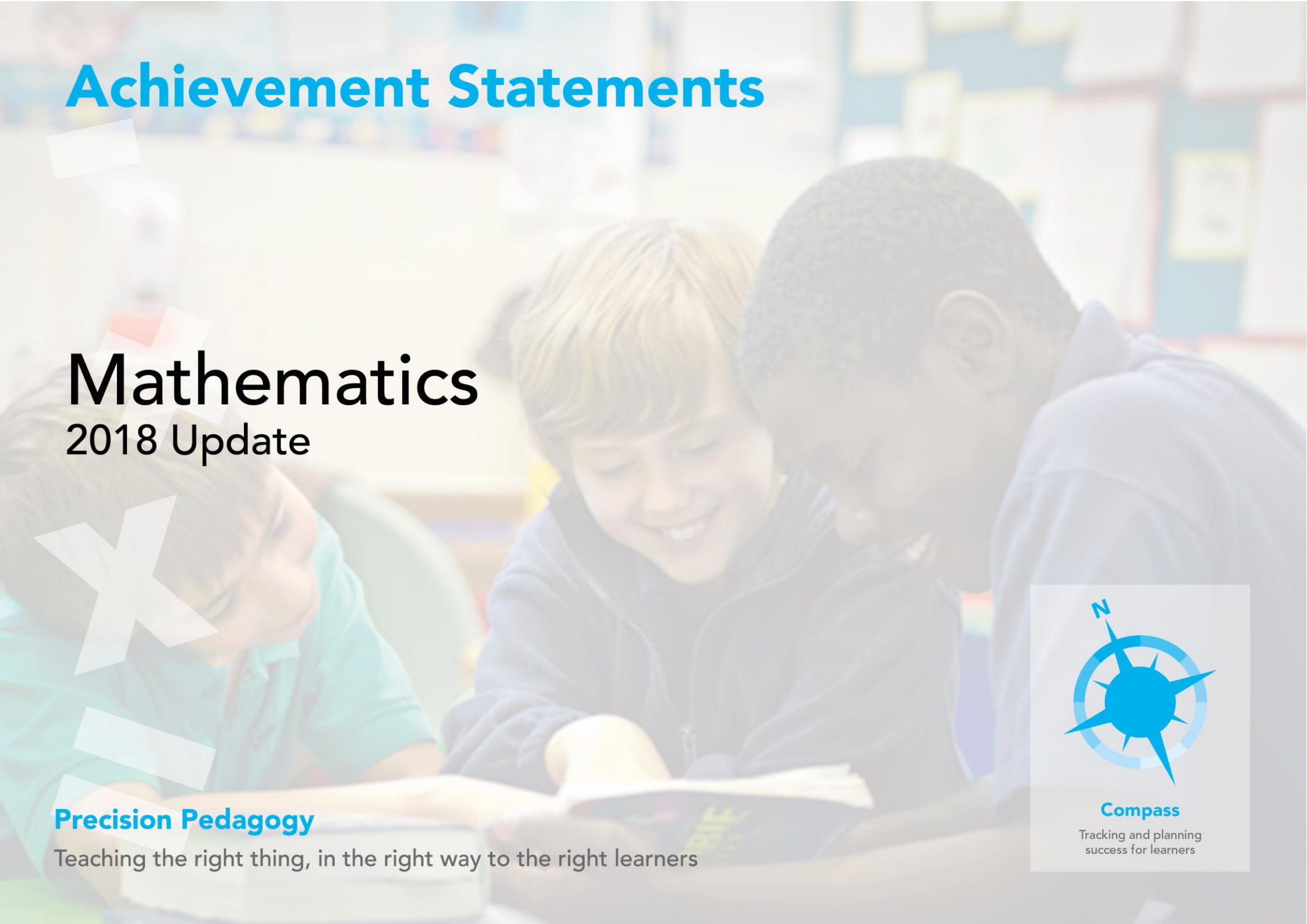
Achievement Statements

Mathematics

2018 Update



Precision Pedagogy

Teaching the right thing, in the right way to the right learners

Compass

Tracking and planning success for learners

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Achievement Statements and the philosophy that underpins them in overview

EdisonLearning's Achievement Statements are designed make it easier for teachers to plan and assess for success whilst enabling judgements on whether learners are working at a beginning, expected or deeper depth of understanding against age related expectations. Achievement Statements are one part of EdisonLearning's *Precision Pedagogy* an integrated approach to *'Teaching the right thing, in the right way to the right learners'*.

The Achievement Statements or 'I can' statements have been systematically mapped to the National Curriculum for Reading, Writing and Maths for Key Stages 1 and 2. They have also been cross referenced against the Teacher Assessment Frameworks and the Pre Key Stage Standards.

The Achievement Statements have been broken down into expectations within each year group including key outcomes for learners approaching the end of Early Years Foundation Stage (EYFS).

Achievement Statements have been grouped in three important ways:

- As *Foundational* or *Conceptual* learning outcomes – the former relating to those things learners need to know accurately and fluently, the latter being concerned with comprehension and application. This distinction gives strong pointers for lesson planning, more information on this is given later.
- Curriculum subareas- Achievement Statements have been grouped in each year group within curriculum subareas (defined in the National Curriculum) to help teachers to plan, assess and track progress.
- Power Statements- within each age related list of Achievement Statements some have been designated as Power Statements. These have been selected on the basis of either being vital building blocks for the development of many later skills or that they are more likely to be represented in formal tests.

The difference in assessment between *Foundational* and *Conceptual* Achievement Statements is stamped on the three levels of competence attached to the statements. For *Foundational* statements- "Accurate recall" first (beginning), then "Quick recall" (expected) before "Applied recall" (deeper) whilst for *Conceptual* statements the parallel criteria for demonstrating success are "With support" (beginning), then "By myself" (expected) and aspiring to "Supporting someone else" (deeper).

Foundational Learning

Foundational Learning is geared to ensuring essential knowledge and skills are learned to automaticity (accuracy of recall) and fluency (speed of recall) – obvious examples being phonics and multiplication tables. It is essential that learners develop accurate recall first Following this, the learner must then rehearse that accurate recall often enough to ensure that the speed of recall is fast enough to enable the application of the knowledge to be integrated into tasks involving multiple steps or more complex concepts.

Many people might regard this as a lower level of learning but there is abundant evidence that lack of automaticity with fluency in

Foundational knowledge and skills has wide ranging consequences. Children who fail to achieve these in primary school face a widening gap in performance thereafter. Automaticity with fluency gives access to *Conceptual* and *Collaborative Learning*. Research is crystal clear on the ways this type of knowledge and skills are best learned, in summary:

- It is focused on essential content
- Learners move stepwise/ hierarchically through learning objectives with progression related to competence
- Learning involves numerous learning rehearsals which are as near to errorless as possible
- Learning is best organised in short and frequent sessions (the 'Spacing Effect')
- Accuracy and not just fluency is always necessary
- Prior learning and new learning are interleaved.

Conceptual Learning

It is widely accepted that the way we develop our understanding of the world is by building networks of connections between units of information, usually referred to as schema. The task of teachers in *Conceptual Learning* is to enable learners to develop schema in relation to the curriculum and enable these to become steadily more sophisticated. Active learning is central to enable filtering and linking what they are encountering against prior knowledge, establishing gaps and generating new connections.

Research on this mode of learning stresses the importance of:

- Scaffolding & Metacognition:
  - Overtly showing and articulating thought processes when modelling skills and introducing subject content
  - Connections made to past learning concepts
  - Higher order questioning- explain, justify, what if...
- A mixture of individual, pair and group work that build mental schema
- 'Active' learning:
  - Examining similarities and differences in concepts e.g. Venn Diagrams
  - Activities that map and extrapolate ideas and concepts e.g. graphic organisers, concept maps
  - Novel applications of knowledge e.g. simulations, mysteries
- Cognitive replay:
  - Paraphrasing & summarising
  - Think-pair-share
  - Plan-do-review cycles
  - Self & peer assessment
- Challenge assignments:
  - Writing/ designing/ creation assignments involving deductive and inductive reasoning

The Benefits of Differentiating between *Foundational* and *Conceptual Learning* outcomes

First of all the distinction helps everyone to be clearer about what success looks like and how it will be assessed in relation to both age related expectations and depth of learning.

Planning for lessons is clarified in terms of learners' starting points and the steps from where they are towards the desired goals, while the choice of objectives also gives pointers to teaching methods e.g. little and often for a *Foundational* one.

Planning for assessment is clarified in terms of the type of task that a learner must complete to be able to demonstrate both modes of learning. The differential in the methodology for assessing the depth of understanding will also act as a guide to support the development of an assessment task within each mode of learning.

Learners, teaching assistants and parents all have a clearer view on the direction of travel, progress and their contributions.

EdisonLearning's Compass- tracking and planning success for learners

Compass is EdisonLearning's online tracking tool. It is the only online application that incorporates these Achievement Statements (as well as the *Learning and Life Skills* 'I can' Statements). It is designed primarily to support teachers to finely focus their planning, choices of teaching method and assessment criteria, although it will also generate summative data on individuals, cohorts and groups typically found in other trackers.

Subscribers can expect to benefit from a stream of further additions and refinements including pupil grouping tools, ladders (series of small steps toward a skill), short assessment tasks and depth tasks that teachers can speedily incorporate into their planning.

Finding your way around the Achievement Statements

The Achievement Statements have been organised by National Curriculum year from 1 to 7+.

Within each year group there are separate lists of *Foundational* and *Conceptual* Achievement Statements; within these two lists, Statements have been grouped in curriculum subareas in a typical order of difficulty or teaching.

Year 1						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
1C1	npv	√	Use objects and draw pictures to show numbers including a number line *(ELG 11)*			
1C2	npv	√	Say what these words mean and use them in my work: equal to, more than, less than, most, least			
1C3	+/-		Use objects, pictures and my knowledge of number facts to help me to solve addition and subtraction problems to 20			
1C4	+/-	√	Add and subtract 1- and 2-digit numbers to 20			

The Index shows the Year Group/ *Conceptual* or *Foundational* and where it comes in the sequence

The Curriculum Code– which is explained in the table below, indicates the National Curriculum subarea to which it relates

√ indicates that this is a Power Statement – a vital building block for the development of many later skills or something more frequently represented in formal tests

Any links identified show the relationship between the statement and either:
Early Learning Goals (ELGs)
Pre-Key Stage Standards (PKFs)
Teacher Assessment Framework (either KS1 WTS/EXS/GDS)

Recording of competence in three columns
For *Foundational* "accurate recall" first, then "quick recall" (expected understanding) before "applied recall" (deeper understanding)
For *Conceptual* "With support", then "independently" (expected) and aspiring to "Supporting someone else" (deeper)

Curriculum Codes (sub areas)

Code	Sub Area	Code	Sub Area	Code	Sub Area
npv	Number and Place Value	d	Decimals	m	Measurement
+/-	Addition and Subtraction	pos	Properties of Shape	a	Algebra
x/÷	Multiplication and Division	s	Statistics	rp	Ratio and Proportion
f	Fractions	pdm	Position, direction and motion		

Transition from Early Years Foundation Stage to Year 1

Links have been made between Early Learning Goals (ELG) and Year 1 statements to aid transition from EYFS to KS1 and to inform planning for pupils who are not yet secure in aspects of the ELG. If a child is not yet ready to access the Y1 curriculum, he or she should continue to be taught and assessed against the EYFS curriculum until it is deemed appropriate to make the transition. Where a learner is not able to achieve within the standards expected at the end of Key Stage 1, the learner should be assessed using the relevant subject's Pre Key Stage Standards.

In EYFS "Mathematics development involves providing children with opportunities to practise and improve their skills in counting numbers, calculating simple addition and subtraction problems, and to describe shapes, spaces, and measures."

ELG 11 Numbers: Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

ELG 12 Shape, space and measures: Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns.

Cross Referencing Teacher Assessment Frameworks and Pre-Key Stage Standards

Achievement Statements have been cross-referenced against the Pre-Key Stage Standards and the Teacher Assessment Frameworks. Please note that the Pre-Key Stage Standards and Teacher Assessment Frameworks are documents to support teachers in making statutory Teacher Assessments at the end of both key stages. They are not intended as a formative assessment tool.

At the end of Key Stage 1, teachers should use the Pre-Key Stage Standards 1 – 4 (referenced in this document as PKF S1 – PKF S4) for children working below the expectations of the national curriculum, and the Key Stage 1 Teacher Assessment Frameworks (referenced in this document as KS1 WTS, KS1 EXS, KS1 GDS) for those working within the National Curriculum.

At the end of Key Stage 2, teachers should use the Pre-Key Stage Standards 1 – 6 (referenced in this document as PKF S1 – PKF S6) for learners working below the expectations of the key stage. The Key Stage 2 Teacher Assessment Framework only applies to Writing and Science. There is therefore no reference to the KS2 TAF in this document.

For the purposes of referencing only, each PKF and KS1 TAF bullet point in the statutory documentation has been given a numerical value. For example, the first bullet point in the Pre-Key Stage 'Standard 1' is referenced as PKF S1.1, and the first bullet point in the Teacher Assessment Framework 'working towards the KS1 expected standard' is referenced as KS1 WTS 1.

It should be noted that Standards 5 and 6 can only be used to report Teacher Assessments at the end of Key Stage 2. However, they are exactly the same standards as the Key Stage 1 Teacher Assessment Framework judgements of 'working towards the KS1 expected standard' (reported to the DfE as WTS) and 'working at the KS1 expected standard' (reported to the DfE as EXS) respectively.

Teachers are advised to use the supporting document "Using Achievement Statements to support statutory reporting of Teacher Assessments at the end of key stages 1 and 2"

Year 1						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
1F1	npv	√	Say what is one more and one less of a given number *(ELG 11)*			
1F2	npv	√	Recognise odd and even numbers			
1F3	npv	√	Read and write numbers from 1 to 20 in numerals and words *(ELG 11) (KS1 WTS 1) (PKF S5.1)*			
1F4	npv		Count aloud up to 100, starting from any number			
1F5	npv		Count aloud backwards from 100, starting from any number			
1F6	npv		Read and write numbers up to 100			
1F7	x/÷	√	Count in twos, fives and tens up to 100 *(KS1 WTS 6) (PKF S5.6)*			
1F8	m	√	Name the value of different coins and notes			
1F9	m		Say today's date			
1F10	m	√	Say the days of the week and the months of the year in order			
1F11	m	√	Tell the time when it is o'clock and half past the hour *(KS1 EXS 8 with 1F11 and 2F13) (PKF S6.7 with 1F11 and 2F13)*			
1F12	pos		Recognise and say the names of common 3-D shapes like cuboids, cubes, pyramids and spheres *(PKF S5.7 with 1F12 and 1F13)(KS1 WTS 7 with 1F12 and 1F13)*			
1F13	pos	√	Recognise and say the names of common 2-D shapes like rectangles, squares, circles and triangles *(PKF S5.7 with 1F12 and 1F13)(KS1 WTS 7 with 1F12 and 1F13)*			

Year 1						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
1C1	npv	√	Use objects and draw pictures to show numbers including a number line *(ELG 11)*			
1C2	npv	√	Say what these words mean and use them in my work: equal to, more than, less than, most, least			
1C3	+/-		Use objects, pictures and my knowledge of number facts to help me to solve addition and subtraction problems to 20			
1C4	+/-	√	Add and subtract 1- and 2-digit numbers to 20			
1C5	+/-	√	Read, write and work out questions involving addition (+), subtraction (-) using concrete objects and pictorial representations			
1C6	x/÷		Work out doubles of numbers up to 10 by using and counting objects *(ELG 11)*			
1C7	x/÷		Work out half of even numbers up to 20 by sharing or grouping objects and counting them *(ELG 11)*			
1C8	fr		Name and find ½ of a shape, an object or a quantity of objects			
1C9	fr		Name and find ¼ of a shape, an object or a quantity of objects			
1C10	m	√	Say if objects are longer or shorter, taller or shorter or long or short when I measure them *(ELG 12)*			
1C11	m	√	Say if an object is heavier or lighter than another object *(ELG 12)*			
1C12	m		Say if a container with water in it is full or empty, a quarter full or a quarter empty			
1C13	m		Say if an action was slower or quicker than another action *(ELG 12)*			
1C14	m		Put words about time events in order e.g. before, after, first, today, yesterday, tomorrow, morning, afternoon, evening			

Year 1						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
1C15	m		Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); volume and capacity (litres/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels			
1C16	pdm		Describe the position and direction of two objects using words like left, right, inside and outside, forwards and backwards			
1C17	pdm	√	Describe the movement of an object using the words whole, half, quarter and three-quarter turns.			
1C18	pdm		Order and arrange objects and shapes in patterns *(ELG 12)*			

Year 2						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
2F1	npv	√	Say the value of each digit in a 2-digit number (tens, ones) *If structured resources are usually needed, then (KS1 WTS 2) (PKF 5.2)*			
2F2	npv	√	Read, write and order numbers from 0 up to 100			
2F3	npv		Place <, > and = correctly to describe the relationship between numbers			
2F4	+/-	√	Add and subtract three 1-digit numbers mentally			
2F5	+/-	√	Add and subtract two 2-digit numbers in my head *(KS1 EXS 3) (PKF S6.3)*			
2F6	+/-	√	Count on in 2s, 3s, 5s and 10s from any 2-digit number			
2F7	x/÷	√	Recall multiplication and division facts for the 2, 5 and 10 multiplication tables *(KS1 EXS 5 with 2F7 and 2F8) (PKF S6.5 with 2F7 and 2F8)*			
2F8	x/÷		Calculate the answer to multiplication and division calculations within the multiplication tables that I know and write them using the multiplication (x), division (÷) and equals (=) signs *(KS1 EXS 5 with 2F7 and 2F8) (PKF S6.5 with 2F7 and 2F8)* *(If the learner can deduce answers outside known multiplication facts, then KS1 GDS 2)*			
2F9	x/÷	√	Double any number up to and including 50 and work out half of any even number up to 100			
2F10	fr	√	Find and name 1/2, 1/3, 1/4 , 2/4, and 3/4 of a length, shape, set of objects or quantity *(KS1EXS 6) (PKF S6.6)*			
2F11	m	√	Read scales on measuring equipment like rulers, weighing scales, thermometers and measuring cylinders to the nearest numbered unit where the divisions are in ones, twos, fives and tens using standard units *(KS1 EXS 1) (PKF S6.1)* *(If the learner can demonstrate this understanding when there are numbers missing from the scale, then (KS1 GDS 1)*			
2F12	m		Compare and order measurements and record the results using >, < and =			
2F13	m		Tell and write the time at quarter past/to the hour and draw hands on a clock face to show these times *(KS1 EXS 8 with 1F11 and 2F13) (PKF S6.7 with 1F11 and 2F13)*			

Year 2						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
2F14	m		Tell and write the time to 5 minute intervals past/to the hour and draw hands on a clock face to show these times *(KS1 GDS 5)*			
2F15	m	√	Say the number of minutes in an hour and the number of hours in the day			
2F16	m		Compare and sequence intervals of time			
2F17	m		Name and use the symbols £ and p correctly			
2F18	m	√	Combine amounts of money to make a given value *(KS1 EXS 7) (PKF S6.7)*			
2F19	m	√	Add and subtract money of the same unit to work out what change to give e.g. 18p item paid for with a 20p coin			
2F20	pos	√	Say how many sides 2-D shapes have *(KS1 EXS 9 with 2F20, 2F23 and 2F24) (PKF S6.9 with 2F20, 2F23 and 2F24)*			
2F21	pos		Say which 2-D shapes make up the faces of common 3-D shapes			
2F22	pos		Say how many edges, vertices and faces common 3-D shapes have *(KS1 EXS 9 with 2F20, 2F23 and 2F24) (PKF S6.9 with 2F20, 2F23 and 2F24)*			
2F23	pos		Work out how many lines of symmetry some common 2-D shapes have *(KS1 EXS 9 with 2F20, 2F23 and 2F24) (PKF S6.9 with 2F20, 2F23 and 2F24)*			
2F24	pdm		Describe how an object is turning using words like: right angle, clock-wise, anti-clockwise, quarter turn, half turn and three quarter turn			

Year 2						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
2C1	npv	√	Partition any two-digit number into different combinations of tens and ones, explaining thinking verbally, in pictures or using apparatus *(KS1 EXS 2) (PKF S6.2)*			
2C2	npv		Solve word problems using place value and number facts with two digit numbers with some accuracy *(if problems involve more than one step, then KS1 GDS 3 and KS1 GDS 4with 2C2 and 2C3)*			
2C3	npv		Choose if it is best to work out an answer using a mental method or a written method *(if problems involve more than one step, then KS1 GDS 3 and KS1 GDS 4 with 2C2 and 2C3)*			
2C4	npv		Estimate an answer to an addition, subtraction, multiplication or division up to 100			
2C5	+/-	√	Solve simple one step addition and subtraction problems where a number is missing within 20			
2C6	+/-	√	Show that two numbers can be added in any order and the result is the same answer			
2C7	+/-	√	Check the answer to a subtraction by adding the answer to the amount that is being subtracted			
2C8	+/-	√	Use number bonds within 10 to reason with and calculate bonds to and within 20, recognising other associated additive relationships *(KS1 EXS 4) (PKF S6.4)*			
2C9	x/÷	√	Use objects to calculate half of an odd number of objects, giving the answer as a remainder and fraction			
2C10	x/÷	√	Check the answer for a division by multiplying the answer by the divider i.e. because multiplication and division calculations are the inverse of each other			
2C11	x/÷	√	Check the answer for a multiplication by dividing the answer by one of the multipliers i.e. because multiplication and division calculations are the inverse of each other			
2C12	x/÷	√	Prove that two numbers can be multiplied in any order and give the same answer			
2C13	x/÷	√	Prove that changing the order of numbers in a division calculation makes the answer change			
2C14	x/÷		Solve one-step word problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts			

Year 2						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
2C15	fr		Write simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of two quarters to one half			
2C16	m	√	Compare intervals of time and sequence them in the right order (seconds, minutes, hours, days, weeks, months, years)			
2C17	pos	√	Compare and sort common 2-D and 3-D shapes and everyday objects, using their properties to describe similarities and differences *(KS1 GDS 6)*			
2C17	st		Find information from pictograms, tally charts, block diagrams and simple tables			
2C18	st		Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity			
2C19	st		Show information in pictograms, tally charts, block diagrams and simple tables			
2C20	a		Rewrite addition statements as simplified multiplication statements e.g. 10+10+10+5+5+5+5 as 3 x10 + 4 x 5 as 5 x 10			

Year 3						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
3F1	npv	√	Say the value of each digit in a 3-digit number (hundreds, tens, ones)			
3F2	npv	√	Read, write, compare and order numbers up to 1,000			
3F3	+/-		Use column addition and column subtraction to add and subtract 3-digit numbers			
3F4	+/-		Find 10 or 100 more or less of a given number			
3F5	+/-	√	Add and subtract ones, tens and hundreds to and from any 3-digit number			
3F6	x/÷		Count in multiples of 4, 8, 50 and 100			
3F7	x/÷	√	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables			
3F8	x/÷	√	Calculate the double of any number up to 1,000			
3F9	x/÷	√	Calculate half of any number up to 1,000			
3F10	x/÷		Write and calculate mathematical statements for multiplication and division within known multiplication tables, including 2-digit numbers x 1-digit numbers using mental and written methods			
3F11	f		Count up and down in tenths			
3F12	f		Recognise, find and write fractions of a discrete set of objects or numbers using fractions with a small denominator or a denominator of 1 and put these in order			
3F13	f		Add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7)			
3F14	m	√	Use vocabulary such as am, pm, morning, afternoon, noon and midnight			

Year 3						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
3F15	m		Compare time in terms of seconds, minutes, hours and o'clock/ time of day			
3F16	m		Read time to the nearest minute on an analogue clock			
3F17	m		Recall the number of seconds in a minute and the number of days in each month, year and leap year			
3F18	m		Add and subtract amounts of money to give change, using both £ and p. in practical contexts			
3F19	m	√	Read and give the full names for abbreviations for metric units of measure			
3F20	pos		Label horizontal, vertical, perpendicular and parallel lines in relation to other lines			
3F21	pos	√	Measure the perimeter of simple 2-D shapes using the best standard unit			
3F22	pdm	√	Say how many right angles make up quarter, half, three-quarter and full turns			
3F23	pdm	√	Sy whether an angle is less than or greater than a right angle			
3F24	pdm	√	Describe compass positions in terms of right-angled turns and half turns			

Year 3						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
3C1	npv		Solve number problems (including missing number problems) and practical problems by using knowledge of number facts and place value. Use diagrams, measuring equipment and written methods to support (Number facts include addition and *subtraction facts, multiplication and division facts and inverse operations)*			
3C2	x/÷		Solve multiplication and division problems (which include missing number problems), including scaling problems and correspondence problems in which *n* objects are connected to *m* objects			
3C3	npv	√	Estimate the answer to a calculation and use inverse operations to check answers			
3C4	f		Show that tenths that arise from dividing a single digit number or a quantity by 10 are represented by a decimal number			
3C5	f	√	Explain and use the language of fractions including denominator and numerator			
3C6	f	√	Compare and order fractions with the same denominator			
3C7	f	√	Recognise and show equivalent fractions with small denominators using diagrams			
3C8	f	√	Solve problems that involve fractions, including equivalent fractions and addition of fractions			
3C9	f	√	Show that tenths that arise from dividing an object into 10 equal parts are represented by a fraction			
3C10	m		Measure, compare, add and subtract: lengths (m/cm/mm), mass (kg/g); volume/capacity (l/ml)			
3C11	m		Compare durations of events, for example to calculate the time taken up by particular events or tasks			
3C12	pos		Draw 2-D and make 3-D shapes using modelling materials and name these shapes in different orientations			
3C13	pos		Recognise 2-D and 3-D shapes in different orientations, and describe them accurately in terms of faces, edges, vertices and lines of symmetry			
3C14	pdm		Describe angles in terms of measurements of turning e.g. four right angles make full turn, a right angle is a quarter turn, a given angle is more or less than a quarter turn			

Year 3						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
3C15	s		Present data using simple bar charts, pictograms and tables			
3C16	s	√	Solve one-step and two-step questions such as "Which has the most?" and "How many more?" using information presented in scaled bar charts and pictograms and tables			

Year 4						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
4F1	npv	√	Name, order and compare numbers above 1000			
4F2	npv		Read and write Roman numerals from 1 to 100 (I to C)			
4F3	npv	√	Add and subtract multiples of 10, 100 or 1 000 to any given 4-digit number			
4F4	npv	√	Count backwards through zero to include negative numbers			
4F5	npv	√	Round any number to 10, 100 or 1 000			
4F6	npv		Count in multiples of 6, 7, 9, 25 and 1 000			
4F7	npv	√	Recognise the place value of each digit in any 4-digit number			
4F8	+/-	√	Use column addition and column subtraction to add and subtract numbers with up to 4-digits			
4F9	x/÷	√	Multiply or divide 2-digit and 3-digit numbers by a 1-digit number using efficient written methods			
4F10	x/÷	√	Recall and use multiplication and division facts for multiplication tables up to 12 x 12			
4F11	x/÷		Use place value, known and derived facts to multiply and divide mentally, including: multiplying together three numbers			
4F12	x/÷		Use place value, known and derived facts to multiply and divide mentally, including: doubling and halving any number			
4F13	x/÷		Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1			
4F14	x/÷		Use place value, known and derived facts to multiply and divide mentally, including: dividing by 1			

Year 4						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
4F15	f		Recognise show and name, using diagrams, families of common equivalent fractions including tenths and hundredths			
4F16	f	√	Count up and down in hundredths			
4F17	f	√	Recognise and write decimal equivalents of n/10 and n/100			
4F18	f	√	Recognise and write decimal equivalents of ¼, ½ and ¾			
4F19	d	√	Read, write, compare and order numbers with the same number of decimal places up to two decimal places			
4F20	m	√	Read, write, convert time between analogue and digital 12 hour clocks			
4F21	m		Read, write, convert time between analogue and digital 12 and 24 hour clocks			
4F22	m		Convert between different units of measure for length, mass, capacity and time			
4F23	m	√	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres			
4F24	pos		Compare and classify geometric shapes, including quadrilaterals and triangles based on their properties and sizes			
4F25	pos		Identify acute and obtuse angles and compare and order angles by size up to two right angles			
4F26	pdm	√	Calculate the angle of turn associated with movement between any of the eight compass points			

Year 4						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
4C1	npv		Explain, using place value knowledge, the effect of dividing any number by 10 and 100 on the number and the digits in the number			
4C2	npv	√	Estimate the answer to, and solve, number and practical problems that involve making decisions about applying number facts, place value, rounding and estimation with numbers greater than 1,000			
4C3	npv		Check my answers using estimates and by applying inverse operations			
4C4	npv		Explain how the number system has changed over time to include the concept of zero and place value			
4C5	+/-	√	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and explaining why			
4C6	x/÷		Estimate the answer to, and solve problems, involving multiplying and adding, including the distributive law and harder multiplication problems such as 'which *n* objects are connected to which *m* objects' (Harder multiplications include 2-digit x 2-digit and 2-digit x 3-digit problems)			
4C7	f		Estimate the answer to, and solve simple measure and money problems involving fractions and decimals to 2 decimal places			
4C8	f	√	Recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten			
4C9	f		Solve problems involving increasingly harder fractions to include non-unit fractions where the answer is not a whole number			
4C10	d		Round decimals with one decimal place to the nearest whole number			
4C11	m		Identify, represent and estimate numbers using different representations – for example numbers used within different measurement scales such as time, temperature and weight			
4C12	m		Estimate and find the area of squares, rectangles and related composite shapes by counting standard units, including centimetre squared (cm^2) and metre squared (m^2)			
4C13	m		Estimate, compare and calculate with measures of length, mass and capacity			
4C14	m		Estimate, compare and calculate with measures of time (including the 12 and 24 hour clock)			

Year 4						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
4C15	m	√	Solve problems including converting from hours to minutes; minutes to second; years to months; weeks to days			
4C16	pdm		Describe positions, and movements between positions, on a 2-D grid, and as coordinates in the first quadrant			
4C17	pdm		Describe movements between positions as translations of a given unit to the left/right and up/down			
4C18	pos		Identify lines of symmetry in 2-D shapes presented in different orientations, and complete symmetry diagrams for specific lines of symmetry			
4C19	pos	√	Plot specified points and draw sides to complete a given polygon			
4C20	s		Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and simple line graphs			
4C21	s	√	Interpret and present discrete data using bar charts			
4C22	s		Interpret and present continuous data using appropriate graphical methods e.g. time graphs			

Year 5						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
5F1	npv	√	Read, write, order, compare and round numbers to at least 1,000,000 and determine the value of each digit			
5F2	npv	√	Round numbers to at least 1,000,000 and determine the value of each digit			
5F3	npv	√	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000			
5F4	npv	√	Interpret negative numbers in context, and count forwards and backwards with positive and negative whole numbers through zero			
5F5	npv		Read Roman numerals to 1000 (M) and years written in Roman numerals			
5F6	+/-	√	Add and subtract whole numbers with more than 4 digits using efficient written methods (columnar addition and subtraction)			
5F7	+/-		Add and subtract numbers mentally with increasingly large numbers			
5F8	x/÷	√	Multiply numbers up to 4-digits by a 1 or 2-digit number using an efficient written method, including long multiplication for 2-digit numbers			
5F9	x/÷	√	Divide numbers up to 4 digits by a 1-digit number using the efficient written method of short division and interpret remainders appropriately for the context			
5F10	x/÷	√	Multiply and divide numbers mentally drawing upon known facts including multiplying and dividing by 10, 100 and 1,000			
5F11	x/÷	√	Identify different factor pairs for a given number			
5F12	f		Compare and order fractions whose denominators are all multiples of the same number			
5F13	f		Convert mixed numbers and improper fractions from one form to the other			

Year 5						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
5F14	f	√	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents			
5F15	f		Read and write decimal numbers as fractions e.g. 0.71 = 71/100			
5F16	f	√	Read, write, order, compare and round numbers with up to three decimal places			
5F17	p	√	Write simple fractions and decimals as percentages (e.g. ½ = 0.5 =50% = 50/100)			
5F18	m	√	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres			
5F19	m		Calculate and compare the area of squares, rectangles and related composite shapes using standard units, including centimetre squared (cm^2) and metre squared (m^2) and estimate the area of irregular shapes			
5F20	m	√	Convert between different units of metric measures e.g. kilometre to meter, metre to centimetre, litre and millilitre			
5F21	pos		Identify 3-D shapes, including cubes and cuboids, from 2-D representations			
5F22	pdm		Identify, describe and represent the position of a shape following a reflection or translation using the appropriate vocabulary, and know that the shape has not changed			
5F23	pdm	√	Calculate angles where there are two or more angles on a straight line or ½ turn (180°) and where there are two or more angles in a whole turn (360°)			
5F24	pdm		Estimate a given angle in degrees (°) and say if the angle is an acute, reflex, obtuse, right angle or multiples of 90°			

Year 5						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
5C1	npv		Estimate the answer to, and solve, number and practical problems that involve numbers up to 1 000 000			
5C2	npv	√	Solve single- and multi-step practical problems involving a combination of addition, subtraction, multiplication and division calculations, including understanding the meaning of the equals sign			
5C3	npv	√	Explain my choice of calculation when solving single- and multi-step problems			
5C4	npv		Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy			
5C5	npv		Explain what the vocabulary of prime numbers means including prime number, prime factor and composite (non-prime) number			
5C6	npv		Establish whether a number up to 100 is prime and recall the prime numbers up to 19			
5C7	x/÷	√	Recognise and use square numbers and square roots, and the notation for squared (2) and cubed (3)			
5C8	f		Solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates			
5C9	f		Name and write equivalent fractions of a given fraction, including tenths and hundredths			
5C10	f	√	Add and subtract fractions with the same denominator and related fractions including writing mathematical statements that exceed 1 as a mixed number: (e.g. 2/5 + 4/5 = 6/5 = 11/5)			
5C11	f		Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams			
5C12	f	√	Round decimals with two decimal places to the nearest whole number or to the first decimal place			
5C13	d	√	Solve problems involving numbers up to three decimal places			
5C14	p	√	Explain what the percent symbol means and relate my understanding to parts of a whole number or a whole quantity			

Year 5						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
5C15	f	√	Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5 and 4/5 and those fractions with a denominator of a multiple of 10 or 25			
5C16	m		Say what the equivalences are between common metric and imperial units and estimate equivalences of a given measure e.g. inches, pints and pounds			
5C17	m		Measure force in Newtons (N)			
5C18	m		Estimate and calculate the volume of cuboids (including cubes) and the capacity of liquids			
5C19	m		Solve problems converting between the units of time			
5C20	pos		Draw shapes from given dimensions and angles			
5C21	pos		Use the properties of rectangles to deduce related facts and find missing lengths and angles			
5C22	pos		Distinguish between regular and irregular polygons based on reasoning about equal sides and angles			
5C23	pos		Prove that shapes with the same areas can have different perimeters and vice versa			
5C24	s	√	Complete, read and interpret information in tables, including timetables			
5C25	s		Solve comparison, sum and difference problems using information presented in line graphs			
5C26	a		Use symbols and letters to represent variables and missing numbers in mathematical situations involving - missing numbers, lengths, coordinates and angles			
5C27	a		Use symbols and letters to represent variables and missing numbers in mathematical situations involving - arithmetical rules (e.g. a+b = b+a)			
5C28	a		Use symbols and letters to represent variables and missing numbers in mathematical situations involving - number puzzles (e.g. What two numbers can add up to n?)			

Year 6						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
6F1	npv	√	Read, write, order and compare numbers up to 10 million and determine the value of each digit			
6F2	npv	√	Add, subtract and use negative numbers in context, and calculate intervals across zero			
6F3	npv		Perform mental calculations, including with mixed operations and large numbers			
6F4	npv	√	Use my knowledge of the order of operations to carry out calculations involving the four operations			
6F5	npv		Follow the order of operations in calculations, and where there are brackets do these first e.g. 2 + (3 x 4) – 9 = 5			
6F6	npv	√	Identify common factors, common multiples and prime numbers			
6F7	x/÷	√	I can multiply numbers with at least 4-digits by a 2-digit whole number using long multiplication			
6F8	x/÷	√	I can divide numbers up to 4-digits by a 2-digit whole number using long division, and interpret remainders as whole number remainders, fractions, decimals or by rounding as appropriate for the context			
6F9	f		Use common factors to simplify fractions and use common multiples to express fractions in the same denomination			
6F10	f	√	Compare and order any fraction, including fractions >1			
6F11	rp		Recognise equivalent ratios and reduce a given ratio to its lowest terms			
6F12	f	√	Recall and use equivalences between simple fractions, decimals and percentages including in different contexts			
6F13	d	√	Multiply and divide numbers up to three decimal places by 10, 100 and 1 000 where the answers are up to three decimal places			
6F14	d		Multiply 1-digit numbers with up to two decimal places by whole numbers			

Year 6						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
6F15	m		Calculate the area of parallelograms and triangles			
6F16	m	√	Recognise when it is necessary to use the formulae for area and volume of shapes			
6F17	pos		Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius			
6F18	pos		Recognise, describe and build simple 3-D shapes, including making nets			
6F19	pdm	√	Recognise angles and find unknown angles involving angles at a point, on a straight line, in a triangle (180°), in a quadrilateral (360°) and vertically opposite angles			
6F20	pdm		Describe positions on the full coordinate grid (all four quadrants)			
6F21	s		Calculate an average (mean)			
6F22	s		Calculate the mode and median			

Year 6						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
6C1	npv	√	Use estimation to check answers to calculations and determine an appropriate level of accuracy			
6C2	npv	√	Round any number to any given degree of accuracy			
6C3	npv	√	Solve problems which require answers to be rounded to specified degrees of accuracy			
6C4	npv	√	Use formal written methods to solve multistep problems, using all four operations e.g. A two litre bottle of drink is used to fill cups of 150ml, how much will be left?			
6C5	npv	√	Solve problems that involve calculating intervals across zero			
6C6	d	√	Use written division methods in cases where the answer has up to 2 decimal places			
6C7	f	√	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions			
6C8	f		Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. ¼ x ½ = 1/8)			
6C9	f		Divide proper fractions by whole numbers (e.g. $^1/_3 \div 2 = 6$)			
6C10	p		Use percentages for comparison and calculate percentages of whole numbers or measures such as 15% of 360			
6C11	d	√	Calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3/_8$) and explain how I've done it			
6C12	rp		Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts			
6C13	rp		Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples			
6C14	rp	√	Solve problems involving similar shapes where the scale factor is known or can be found			

Year 6						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
6C15	m		Solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate			
6C16	m		Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, including between miles and kilometres using decimal notation to three decimal places			
6C17	m		Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3) and extending to other units, such as mm^3 and km^3			
6C18	m		Convert measurements of distance between miles and kilometres			
6C19	pos		Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons			
6C20	pdm	√	Construct, translate and reflect simple shapes on the coordinate plane and reflect them in the axes			
6C21	s		Interpret and construct pie charts and line graphs and use these to solve problems			
6C22	s	√	Solve different types of problems using averages			
6C23	a	√	Generate and extend linear number sequences			
6C24	a		Express missing number problems algebraically			
6C25	a	√	Find pairs of numbers that satisfy number sentences involving two unknowns			
6C26	a	√	Use a simple formula to find an answer to a problem e.g. distance travelled over a time at given speeds, area of a rectangle or triangle			
6C27	a		Make a table showing a range of outcomes from applying a rule to two variables (e.g. multiply and add 2)			

Year 7+						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements Learners Can:	**Beginning** *Accurate recall*	**Expected** *Quick recall*	**Deeper** *Applied recall*
7+F1	npv	√	I understand and I can use place value for decimals, measures and integers of any size			
7+F2	npv		I can use the symbols =, ≠, <, >, ≤, ≥ to describe a numerical or algebraic equation			
7+F3	p		I can find the outcome of a given percentage increase or decrease, including numbers and quantities			
7+F4	pos		I can use appropriate formulae for finding circumferences and areas of circles, areas of plane rectilinear figures and volumes of cuboids when solving problems			
7+F5	pdm		I can apply the properties of angles at a point, angles at a point on a straight line, and vertically opposite angles			
7+F6	pdm	√	I can identify alternate and correspondent angles and understand a proof that the sum of the angles of a triangle is 180 degrees and of a quadrilateral is 360 degrees			
7+F7	a	√	I can use and interpret algebraic notation: ab in place of a x b			
7+F8	a	√	I can use and interpret algebraic notation: 3y in place of y + y + y and 3 x y			
7+F9	a	√	I can use and interpret algebraic notation: a^2 in place of a x a, a^3 in place of a x a x a; a^2b in place of a x a x b			
7+F10	a	√	I can use and interpret algebraic notation: $^a/_b$ in place of a ÷ b			
7+F11	a	√	I can use and interpret algebraic notation: coefficients written as a fraction rather than as a decimal			
7+F12	a	√	I can use and interpret brackets in algebraic notation			

Year 7+						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements. Learners Can:	**Beginning** *With support*	**Expected** *Independently*	**Deeper** *Supporting someone else*
7+C1	npv	√	I can use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions and mixed numbers, all both positive and negative			
7+C2	npv		I can use conventional notation for the priority of operations, including brackets, powers, roots and reciprocals			
7+C3	p	√	I can express one quantity as a percentage of another, compare two quantities using a percentage, and work with percentages greater than 100%			
7+C4	rp	√	I can recognise and use division in the context of fractions, percentages and ratio			
7+C5	pos		I can derive and apply formulae to calculate and solve problems involving: perimeter and areas of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders)			
7+C6	pdm		I can derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons			
7+C7	pdm		I can identify properties of, and describe the results of, translations, rotations and reflections applied to given figures			
7+C8	s	√	I can describe the probability of an event on a scale of 0 to 1			
7+C9	a	√	I can substitute numerical values into formulae and expressions, including scientific formulae			
7+C10	a		I can model situations or procedures by translating them into algebraic expressions or formulae and by using graphs			