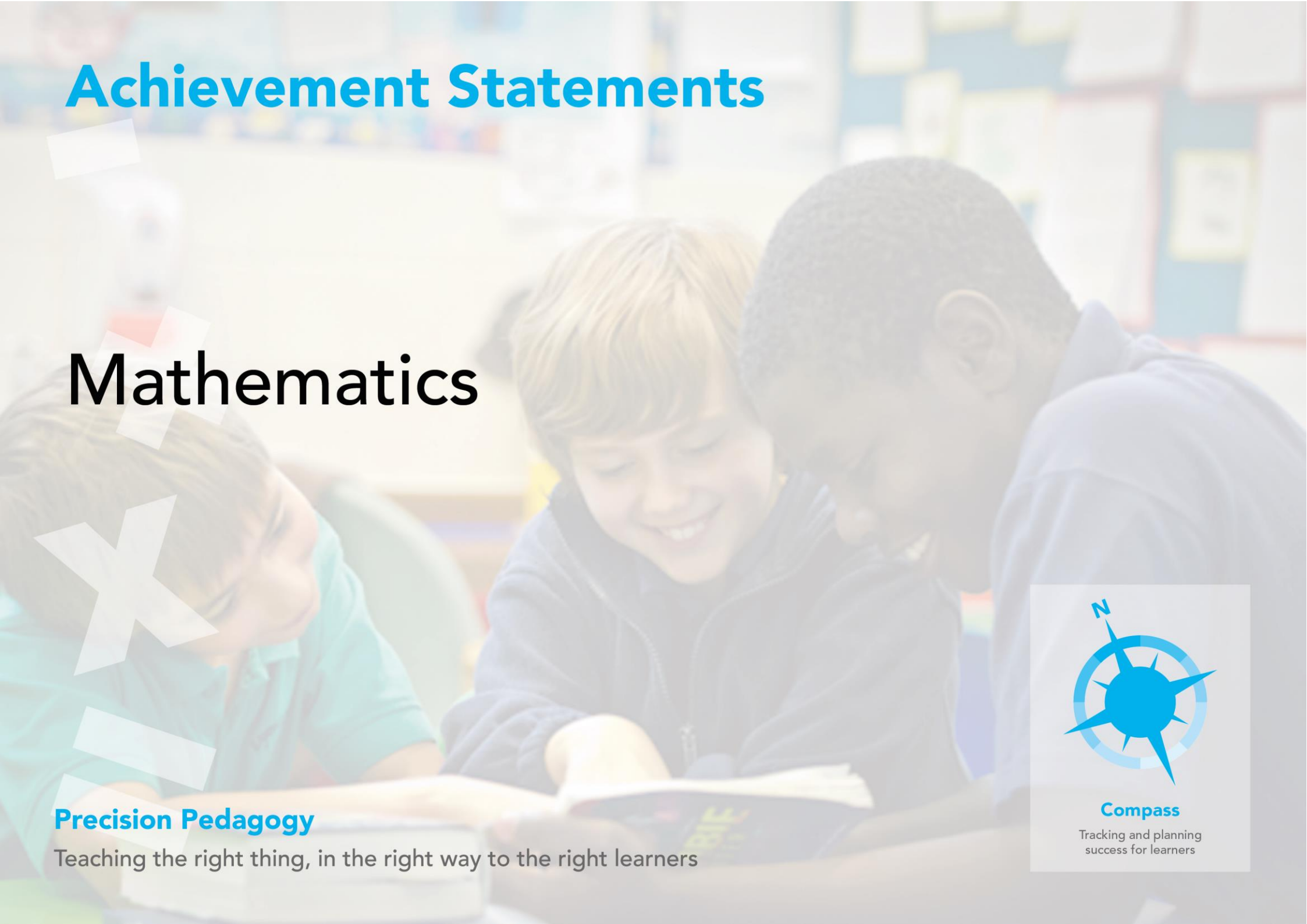
Achievement Statements

Mathematics



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 to bridge the gap between research and practitioners, making it easier for teachers to plan and assess for success; they can also guide judgements on whether learners are working below, at or at greater depth 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 2014 National Curriculum for Reading, Writing and Maths for Key Stages 1 and 2, and cross checked against interim assessment guidance at Years 2 and 6.

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 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- "I am accurate" first, then "I am quick" (mastery) before "I can apply" (greater depth) whilst for *Conceptual* statements the parallel criteria for demonstrating success are "With support", then "By myself" (mastery) and aspiring to "Supporting someone else" (greater depth).

What is unique about EdisonLearning's Achievement Statements?

Achievement Statements are derived from a philosophy and a set of principles about human learning embodied in *Precision Pedagogy.* EdisonLearning has drawn together over 100 years of research under the *Four Modes of Learning: Personal Learning, Collaborative Learning, Foundational Learning* and *Conceptual Learning.* The methodologies that underpin all four are explored, developed and planned for with our partner schools, however in respect of the formal curriculum *Foundational* and *Conceptual Learning* are the most significant.

Foundational and *Conceptual Learning* are both essential and complementary, however research tells us that the methodologies for delivering each successfully are almost diametrically opposed.

Foundational Learning

Foundational Learning is geared to ensuring essential knowledge and skills are learned to fluency and automaticity– obvious examples being phonics and tables.

Why is this important? When people apply themselves to any complex problem or skill they shuffle live information accessed from their Short Term Memory and Long Term Memory within what is called Working Memory. Short Term Memory has a capacity of around seven units that can be supplied to the Working Memory at any given time, but Working Memory is relatively unconstrained when it has speedy access to data in Long Term Memory. If a child has to consciously replay sounds or draw out multiplication facts whilst reading or problem solving then Working Memory becomes overloaded by its reliance on Short Term Memory and higher order cognitive processing becomes inhibited. Conversely when knowledge or skills are learned to high levels of fluency then the brain's attention and thinking are freed up to address the more important challenge of assembling and using information.

Many people might regard this as a lower level of learning but there is abundant evidence that lack of automaticity 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 gives access to *Conceptual* and *Collaborative Learning*. Further, research with children and adults consistently shows that fluency in these very basic skills is associated with confidence and self-esteem that provide a motivational boost to other areas of 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 trials which are as near to errorless as possible
- Learning is best organised in short and frequent sessions (the 'Spacing Effect')
- Fluency and not just accuracy is 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. Schema begin as simple relationships. Think of learning about colour, an initial schemata may be based around a single colour- the world is either red or not red. As learning about colours progresses it will elaborate and encompass other colours and onward to discriminations of names and shades. Concepts are networks of connections between knowledge, and the more and the stronger the connections then the more knowledge can be drawn upon and more shades of meaning can be discerned and the more memory is encoded.

Piaget was one of the earliest researchers to report these ideas, and while his notions of relatively fixed developmental stages has been questioned his descriptions of the growth of concepts in terms of

assimilation, accommodation and equilibration still have wide currency. The latest neuroscience using new imaging techniques is revealing more about how this encoding and connectivity is physically embedded within the brain.

The task of teachers in *Conceptual Learning* is to enable pupils to develop schema in relation to the curriculum and make these steadily more sophisticated. Active learning is central because pupils are not absorbing a standardised concept delivered by a teacher, instead they are 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.

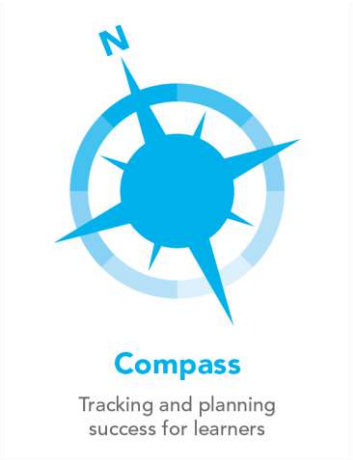
Learners, teaching assistants and parents all have a clearer view on the direction of travel, progress and their contributions.

What is different from the previous version of Achievement Statements produced in 2014?

A number of factors have informed the improvements to the first version of the Achievement Statements published in 2014, most importantly the feedback from and experiences with our partner schools. This has confirmed the value of the approach we have taken but pointed to ways we can improve from a classroom perspective. Alongside this, national expectations have been somewhat clarified, particularly through the Interim Teacher Assessment Frameworks and the guidance to the developers of SATs. EdisonLearning has drawn all these together in this latest iteration of Achievement Statements, however schools using the previous version will still be well placed to plan and track progress.

In summary, some Achievement Statements have been moved between the *Foundational* and *Conceptual* lists, there have been some revisions to Power Statements and to the indexing of the P Scales. Another major improvement is the grouping of Achievement Statements in their curriculum subareas (Curriculum Code) within each year group. This will make it easier to plan and plot progression within a particular strand and link this to the delivery of sequences of lessons.

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+, with a preceding list derived from P scales to map some of the essential pre-skills that learners will be acquiring in the course of the Early Years Foundation Stage (EYFS)

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	With support	By myself	Supporting someone else
1C1	**npv**	√	**I can use objects and draw pictures to show numbers including a number line (Links to ELG 11)**			
1C2	**npv**	√	**I can say what these words mean and use them in my work: equal to, more than, less than, most, least**			
1C3	+/-		I can use objects, pictures and my knowledge of number facts to help me to solve addition and subtraction problems to 20			
1C4	**+/-**	√	**I can 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

Recording of competence in three columns
For *Foundational* "I am accurate" first, then "I am quick" (mastery) before "I can apply" (greater depth)
For *Conceptual* "With support", then "By myself" (mastery) and aspiring to "Supporting someone else" (greater depth)

Curriculum Codes (sub areas)

Code	What it means
npv	**Number and Place Value** This is all about knowing numbers, counting, and what each digit in a number represents. When you can read and write in numbers you will be much more confident in working out answers to problems
+/-	**Addition and Subtraction** In developing this area you are learn number bonds that allow you to add and subtract mentally with fluency. You develop strategies to add and subtract bigger and smaller numbers which are difficult to add and subtract mentally.
x/÷	**Multiplication and Division** This is all about calculating combinations of numbers. You learn your multiplication tables so that you are fluent, and understand how to use your multiplication tables to quickly find answers to related division facts. You also develop strategies to multiply and divide bigger and smaller numbers which are difficult to multiply and divide numbers mentally.
f	**Fractions** When you learn about fractions you learn about working with numbers smaller than 1 – where a number or quantity has been divided into a number of smaller parts. You develop strategies to show fractions in the simplest form using your understanding of multiplication and division, and you will make links between fractions, decimal numbers and percentages (see below).
d	**Decimals** Decimals numbers allow us to show numbers which are a smaller part of a whole number. In developing your understanding of decimals you will make links with your Place Value knowledge. You also make links with fractions and percentages. When completing division calculations you will learn how to show remainders as a decimal
pos	**Properties of Shape** In this area you learn all about 2-D and 3-D shapes, including the names of shapes and the vocabulary that defines shapes. As your knowledge and skills develop, you learn how to work out the area of 2-D shapes and the volume of 3-D shapes, and the link between shapes and angles.
s	**Statistics** Statistics is all about the way that numbers and diagrams are used to show patterns in number. You learn how to draw and read different types of graphs, and as your understanding develops you will learn how to use numbers to make predictions about what will happen in the future.
pdm	**Position, direction and motion** It is really important to be able to accurately describe the position of objects, starting with words like above and below. As your understanding develops you will be able to give increasingly precise and accurate descriptions of an object's position, and then describe accurately the direction of any movement. Movement includes angles of turn measured in degrees
m	**Measurement** You will learn how to measure distance, mass and weight, force, time, capacity and volume using standard and non-standard units of measurement. You will develop methods of working out changes in measurement – including time, and as your understanding develops you will become more and more precise in your measurements.
a	**Algebra** In learning algebra you learn about substituting numbers for symbols, and how you can calculate multiples of any amount using a formula. Algebra becomes more and more useful as you develop your mathematical understanding – and allows you to prove some quite complicated ideas.
rp	**Ratio and Proportion** You learn how to make links between numbers and quantities, and how to increase and decrease numbers and quantities that have a relationship with each other. Ratios compare multiple quantities or numbers in relation to each other, whilst proportion compares quantities or numbers as a part of a whole set. In learning about both, you will make links with your understanding of fractions and decimals.

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 the end of Year 1, at which time their progress will be measured using the P scales.

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.

P Scales						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements	I am accurate	I am quick	I can apply it
PF1(P4)	pdm		I can follow and join in familiar activities (e.g. the chorus of a song or number rhyme actions)			
PF2(P6)	n		I can say numbers to 5 in the right order			
PF3(P6)	n		I can count up to 3 objects			
PF4(P7)	n		I can say numbers to 10 in the right order			
PF5(P7)	n		I can count up to 5 objects			
PF6(P7)	n		I can name numerals from one to five			
PF7(P8)	n		I can say numbers to 20			
PF8(P8)	n		I can count onwards from a number less than 10			
PF9(P4)	n		I can name numerals from 1-9			
PF10(P8)	n		I can describe position using the words "first, second, third etc." up to 10			
PF11(P8)	m		I can name the days in the week			

P Scales						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements	With support	By myself	Supporting someone else
PC1(P4)	n		I can copy some actions during number rhymes, games and songs			
PC2(P4)	n		I can follow a sequence of pictures or numbers during number rhymes, games and songs			
PC3(P4)	pdm		I understand that an object is still there, even when I can't see it			
PC4(P4)	pos		I can stack or join objects using construction materials			
PC5(P4)	pos		I can group objects with similar features			
PC6(P4)	pdm		I can create very simple sequences			
PC7(P5)	n		I can join in with number rhymes, stories, songs and games that I know			
PC8(P5)	n		I can signal quantities of one or two by speaking, signing or gesturing			
PC9(P5)	n		I can recognise the difference between "one" and "lots of" by speaking, signing or gesturing			
PC10(P5)	m		I know the difference between big and small and can find big and small objects, when asked			
PC11(P5)	m		I can compare two objects and say which is bigger and which is smaller			
PC12(P5)	pdm		I can explore the position of objects, for example, by placing them in, out, under or over set places			
PC13(P5)	pos		I can find matching pairs from a collection of pictures or objects			
PC14(P5)	n		I can make groups that have the same small number of objects in each			

PC15(P5)	m		I can place objects of different sizes into containers that fit			
PC16(P6)	n		I can show that I understand one-to-one correspondence by matching objects (e.g. knives and forks)			
PC17(P6)	n		I can make sets of up to three objects			
PC18(P6)	n		I can use numbers to 3 in familiar situations			
PC19(P6)	n		I can show that I understand "more" by providing more objects when asked			
PC20(P6)	n		I can join in with new number rhymes, songs and stories			
PC21(P6)	m		I can compare two objects and say which is bigger and which is smaller, where there is not much difference in size			
PC22(P6)	pos		I can sort shapes into a shape sorter			
PC23(P6)	pdm		I can follow instructions using words to describe position (in, on, under, or inside)			
PC24(P6)	pos		I can sort objects and materials when they have one thing in common			
PC25(P6)	pdm		I can copy simple sequences and patterns			
PC26(P7)	pdm		I can follow instructions to move something "forwards" or "backwards"			
PC27(P7)	pos		I can pick out described shapes from a collection (e.g. circles, shapes with straight edges)			
PC28(P7)	m		I can use words I know to compare sizes and quantities (e.g. heavy/light, more/less) when working practically			
PC29(P7)	n		I can show that a numeral represents a constant quantity of different objects/ pictures			
PC30(P7)	n		I can show that I understand "less than"			
PC31(P7)	n		I can 'add one' to a number of objects, working practically			

PC32(P7)	pos		I can point to an object doesn't belong to group because it is different			
PC33(P7)	n		I can respond correctly to the question, "How many?"			
PC34(P8)	n		I can compare two groups of objects and say which has more and which has less			
PC35(P8)	n		I can compare two groups of objects and say which is the bigger group and which is the smaller group			
PC36(P8)	n		I can label sets of objects with the correct numbers up to and including 9			
PC37(P8)	n		I can "add one" to a number of objects up to 10			
PC38(P8)	n		I can "take one away" from a number of objects up to 10			
PC39(P8)	n		I can estimate a number of objects up to 10 and check my answer by counting			
PC40(P8)	n		I can respond to mathematical language such as 'straight', 'circle', 'smaller' to select the shape and size of solids and flat shapes			
PC41(P8)	pos		I can describe shapes in simple models and drawings			
PC42(P8)	m		I can compare two objects and say which is the long one, short one etc.			
PC43(P8)	m		I can order events in my day on a visual timetable			
PC44(P8)	pdm		I can talk about, recognise and copy simple patterns and sequences			
PC45(P8)	n		I can solve simple problems that involve counting up to 10 when working practically			

Year 1						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements	I am accurate	I am quick	I can apply it
1F1	npv	√	I can say what is one more and one less of a given number (Links to ELG 11)			
1F2	npv	√	I can recognise odd and even numbers			
1F3	npv	√	I can read and write numbers from 1 to 20 in numerals and words (Links to ELG 11)			
1F4	npv		I can count aloud up to 100, starting from any number			
1F5	npv		I can count aloud backwards from 100, starting from any number			
1F6	npv		I can read and write numbers up to 100			
1F7	x/÷	√	I can count in twos, fives and tens up to 100			
1F8	m	√	I can name the value of different coins and notes			
1F9	m		I can say today's date			
1F10	m	√	I can say the days of the week and the months of the year in order			
1F11	m	√	I can tell the time when it is o'clock and half past the hour			
1F12	pos		I can recognise and say the names of common 3-D shapes like cuboids, cubes, pyramids and spheres			
1F13	pos	√	I can recognise and say the names of common 2-D shapes like rectangles, squares, circles and triangles			

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

1C15	m		I can 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		I can describe the position and direction of two objects using words like left, right, inside and outside, forwards and backwards			
1C17	pdm	√	I can describe the movement of an object using the words whole, half, quarter and three-quarter turns.			
1C18	pdm		I can order and arrange objects and shapes in patterns (Links to ELG 12)			

Year 2						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements	I am accurate	I am quick	I can apply it
2F1	npv	√	I can say the value of each digit in a 2-digit number (tens, ones)			
2F2	npv	√	I can read, write and order numbers from 0 up to 100			
2F3	npv		I can place <, > and = correctly to describe the relationship between numbers			
2F4	+/-	√	I can add and subtract three 1-digit numbers mentally			
2F5	+/-	√	I can add and subtract two 2-digit numbers in my head			
2F6	+/-	√	I can count on in 2s, 3s, 5s and 10s from any 2-digit number			
2F7	x/÷	√	I can recall multiplication and division facts for the 2, 5 and 10 multiplication tables			
2F8	x/÷		I can 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			
2F9	x/÷	√	I can double any number up to and including 50 and work out half of any even number up to 100			
2F10	fr	√	I can find and name 1/3, 1/4 , 2/4, and 3/4 of a length, shape, set of objects or quantity			
2F11	m	√	I can read scales on measuring equipment like rulers, weighing scales, thermometers and measuring cylinders to the nearest numbered unit using standard units			
2F12	m		I can compare and order measurements and record the results using >, < and =			
2F13	m		I can tell and write the time at quarter past/to the hour and draw hands on a clock face to show these times			
2F14	m		I can tell and write the time to 5 minute intervals past/to the hour and draw hands on a clock face to show these times			

2F15	m	√	I can say the number of minutes in an hour and the number of hours in the day			
2F16	m		I can compare and sequence intervals of time			
2F17	m		I can name and use the symbols £ and p correctly			
2F18	m	√	I can combine amounts of money to make a given value			
2F19	m	√	I can 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	√	I can say how many sides 2-D shapes have			
2F21	pos	√	I can compare and sort common 2-D and 3-D shapes and everyday objects			
2F22	pos		I can say which 2-D shapes make up the faces of common 3-D shapes			
2F23	pos		I can say how many edges, vertices and faces common 3-D shapes have			
2F24	pos		I can work out how many lines of symmetry some common 2-D shapes have			
2F25	pdm		I can 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	With support	By myself	Supporting someone else
2C1	npv		I can solve word problems using place value and number facts with two digit numbers with some accuracy			
2C2	npv		I can choose if it is best to work out an answer using a mental method or a written method			
2C3	npv		I can estimate an answer to an addition, subtraction, multiplication or division up to 100			
2C4	+/-	√	I can solve simple one step addition and subtraction problems where a number is missing within 20			
2C5	+/-	√	I can show that I can add two numbers in any order and get the same answer			
2C6	+/-	√	I can check the answer to a subtraction by adding the answer to the amount that is being subtracted			
2C7	x/÷	√	I can use objects to calculate half of an odd number of objects, giving the answer as a remainder and fraction			
2C8	x/÷	√	I can check my answer for a division by multiplying the answer by the divider i.e. because multiplication and division calculations are the inverse of each other			
2C9	x/÷	√	I can check my 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			
2C10	x/÷	√	I can prove that I can multiply two numbers in any order and get the same answer			
2C11	x/÷	√	I can prove that changing the order of numbers in a division calculation makes the answer change			
2C12	x/÷		I can solve one-step word problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts			
2C13	fr		I can write simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of two quarters to one half			
2C14	m	√	I can compare intervals of time and sequence them in the right order (seconds, minutes, hours, days, weeks, months, years)			

2C15	st		I can find information from pictograms, tally charts, block diagrams and simple tables			
2C16	st		I can ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity			
2C17	st		I can show information in pictograms, tally charts, block diagrams and simple tables			
2C18	a		I can 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	I am accurate	I am quick	I can apply it
3F1	npv	√	I can say the value of each digit in a 3-digit number (hundreds, tens, ones)			
3F2	npv	√	I can read, write, compare and order numbers up to 1,000			
3F3	+/-		I can use column addition and column subtraction to add and subtract 3-digit numbers			
3F4	+/-		I can say 1,000 more or less than a given number			
3F5	+/-	√	I can add and subtract ones, tens and hundreds to and from any 3-digit number			
3F6	x/÷		I can count in multiples of 6, 7, 9, 25 and 1,000			
3F7	x/÷	√	I can recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables			
3F8	x/÷	√	I can calculate the double of any number up to 1,000			
3F9	x/÷	√	I can calculate half of any number up to 1,000			
3F10	x/÷		I can write and calculate mathematical statements for multiplication and division within the multiplication tables I know, including 2-digit numbers x 1-digit numbers using mental and written methods			
3F11	f		I can count up and down in tenths			
3F12	f		I can 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		I can add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7)			
3F14	m	√	I can use vocabulary such as am, pm, morning, afternoon, noon and midnight			

3F15	m		I can compare time in terms of seconds, minutes, hours and o'clock/ time of day			
3F16	m		I can read time to the nearest minute on an analogue clock			
3F17	m		I can recall the number of seconds in a minute and the number of days in each month, year and leap year			
3F18	m		I can add and subtract amounts of money to give change, using both £ and p. in practical contexts			
3F19	m	√	I can read and give the full names for abbreviations for metric units of measure			
3F20	pos		I can label horizontal, vertical, perpendicular and parallel lines in relation to other lines			
3F21	pos	√	I can measure the perimeter of simple 2-D shapes using the best standard unit			
3F22	pdm	√	I can say how many right angles make up quarter, half, three-quarter and full turns			
3F23	pdm	√	I can say whether an angle is less than or greater than a right angle			
3F24	pdm	√	I can describe compass positions in terms of right-angled turns and half turns			

Year 3						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements	With support	By myself	Supporting someone else
3C1	npv		I can solve number problems (including missing number problems) and practical problems by using my knowledge of number facts and place value. I use diagrams, measuring equipment and written methods to help me (Number facts include addition and *subtraction facts, multiplication and division facts and inverse operations)*			
3C2	x/÷		I can 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	√	**I can estimate the answer to a calculation and use inverse operations to check answers**			
3C4	f		I can show that tenths that arise from dividing a single digit number or a quantity by 10 are represented by a decimal number			
3C5	f	√	**I can explain and use the language of fractions including denominator and numerator**			
3C6	f	√	**I can compare and order fractions with the same denominator**			
3C7	f	√	**I can recognise and show equivalent fractions with small denominators using diagrams**			
3C8	f	√	**I can solve problems that involve fractions, including equivalent fractions and addition of fractions**			
3C9	f	√	**I can show that tenths that arise from dividing an object into 10 equal parts are represented by a fraction**			
3C10	m		I can measure, compare, add and subtract: lengths (m/cm/mm), mass (kg/g); volume/capacity (l/ml)			
3C11	m		I can compare durations of events, for example to calculate the time taken up by particular events or tasks			
3C12	pos		I can draw 2-D and make 3-D shapes using modelling materials and name these shapes in different orientations			
3C13	pos		I can 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		I can 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			

3C15	s		I can present data using simple bar charts, pictograms and tables			
3C16	s	√	I can 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	I am accurate	I am quick	I can apply it
4F1	npv	√	I can name, order and compare numbers above 1000			
4F2	npv		I can read and write Roman numerals from 1 to 100 (I to C)			
4F3	npv	√	I can add multiples of 10, 100 or 1,000 to any number up to 9,999 mentally			
4F4	npv	√	I can count backwards through zero to include negative numbers			
4F5	npv	√	I can round any number to 10, 100 or 1,000 and add multiples of 10, 100 or 1,000 mentally			
4F6	+/-	√	I can use column addition and column subtraction to add and subtract numbers with up to 4-digits			
4F7	x/÷	√	I can multiply or divide 2-digit and 3-digit numbers by a 1-digit number using efficient written methods			
4F8	x/÷	√	I can recall and use multiplication and division facts for multiplication tables up to 12 x 12			
4F9	x/÷		I can use place value, known and derived facts to multiply and divide mentally, including: multiplying together three numbers			
4F10	x/÷		I can use place value, known and derived facts to multiply and divide mentally, including: doubling and halving any number			
4F11	x/÷		I can use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1			
4F12	x/÷		I can use place value, known and derived facts to multiply and divide mentally, including: dividing by 1			
4F13	f		I can recognise show and name, using diagrams, families of common equivalent fractions including tenths and hundredths			
4F14	f	√	I can count up and down in hundredths			

4F15	f	√	I can recognise and write decimal equivalents of n/10 and n/100			
4F16	f	√	I can recognise and write decimal equivalents of ¼, ½ and ¾			
4F17	d	√	I can read, write, compare and order numbers with the same number of decimal places up to two decimal places			
4F18	m	√	I can read, write, convert time between analogue and digital 12 hour clocks			
4F19	m		I can read, write, convert time between analogue and digital 12 and 24 hour clocks			
4F20	m		I can convert between different units of measure for length, mass, capacity and time			
4F21	m	√	I can measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres			
4F22	pos		I can compare and classify geometric shapes, including quadrilaterals and triangles based on their properties and sizes			
4F23	pos		I can identify acute and obtuse angles and compare and order angles by size up to two right angles			
4F24	pdm	√	I can 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	With support	By myself	Supporting someone else
4C1	npv		I can 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	√	**I can 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		I can check my answers using estimates and by applying inverse operations			
4C4	npv		I can explain how the number system has changed over time to include the concept of zero and place value			
4C5	+/-	√	**I can solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and explaining why**			
4C6	x/÷		I can 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		I can estimate the answer to, and solve simple measure and money problems involving fractions and decimals to 2 decimal places			
4C8	f	√	**I can recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten**			
4C9	f		I can solve problems involving increasingly harder fractions to include non-unit fractions where the answer is not a whole number			
4C10	d		I can round decimals with one decimal place to the nearest whole number			
4C11	m		I can identify, represent and estimate numbers using different representations – for example numbers used within different measurement scales such as time, temperature and weight			
4C12	m		I can 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		I can estimate, compare and calculate with measures of length, mass and capacity			
4C14	m		I can estimate, compare and calculate with measures of time (including the 12 and 24 hour clock)			

4C15	m	√	I can solve problems including converting from hours to minutes; minutes to second; years to months; weeks to days			
4C16	pdm		I can describe positions, and movements between positions, on a 2-D grid, and as coordinates in the first quadrant			
4C17	pdm		I can describe movements between positions as translations of a given unit to the left/right and up/down			
4C18	pos		I can identify lines of symmetry in 2-D shapes presented in different orientations, and complete symmetry diagrams for specific lines of symmetry			
4C19	pos	√	I can plot specified points and draw sides to complete a given polygon			
4C20	s		I can solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and simple line graphs			
4C21	s	√	I can interpret and present discrete data using bar charts			
4C22	s		I can interpret and present continuous data using appropriate graphical methods e.g. time graphs			

Year 5						
Index	Curriculum Code	Power Statement	**Foundational** Achievement Statements	I am accurate	I am quick	I can apply it
5F1	npv	√	I can read, write, order, compare and round numbers to at least 1,000,000 and determine the value of each digit			
5F2	npv	√	I can round numbers to at least 1,000,000 and determine the value of each digit			
5F3	npv	√	I can count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000			
5F4	npv	√	I can interpret negative numbers in context, and count forwards and backwards with positive and negative whole numbers through zero			
5F5	npv		I can read Roman numerals to 1000 (M) and years written in Roman numerals			
5F6	+/-	√	I can add and subtract whole numbers with more than 4 digits using efficient written methods (columnar addition and subtraction)			
5F7	+/-		I can add and subtract numbers mentally with increasingly large numbers			
5F8	x/÷	√	I can 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/÷	√	I can 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/÷	√	I can multiply and divide numbers mentally drawing upon known facts including multiplying and dividing by 10, 100 and 1,000			
5F11	x/÷	√	I can identify different factor pairs for a given number			
5F12	f		I can compare and order fractions whose denominators are all multiples of the same number			
5F13	f		I can convert mixed numbers and improper fractions from one form to the other			

5F14	f	√	I can recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents			
5F15	f		I can read and write decimal numbers as fractions e.g. 0.71 = 71/100			
5F16	f	√	I can read, write, order, compare and round numbers with up to three decimal places			
5F17	p	√	I can write simple fractions and decimals as percentages (e.g. ½ = 0.5 =50% = 50/100)			
5F18	m	√	I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres			
5F19	m		I can 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	√	I can convert between different units of metric measures e.g. kilometre to meter, metre to centimetre, litre and millilitre			
5F21	pos		I can identify 3-D shapes, including cubes and cuboids, from 2-D representations			
5F22	pdm		I can identify, describe and represent the position of a shape following a reflection or translation using the appropriate vocabulary, and I know that the shape has not changed			
5F23	pdm	√	I can 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		I can 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	I am accurate	I am quick	I can apply it
5C1	npv		I can estimate the answer to, and solve, number and practical problems that involve numbers up to 1 000 000			
5C2	npv	√	I can 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	√	I can explain my choice of calculation when solving single- and multi-step problems			
5C4	npv		I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy			
5C5	npv		I can explain what the vocabulary of prime numbers means including prime number, prime factor and composite (non-prime) number			
5C6	npv		I can establish whether a number up to 100 is prime and recall the prime numbers up to 19			
5C7	x/÷	√	I can recognise and use square numbers and square roots, and the notation for squared (2) and cubed (3)			
5C8	f		I can solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates			
5C9	f		I can name and write equivalent fractions of a given fraction, including tenths and hundredths			
5C10	f	√	I can 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		I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams			
5C12	f	√	I can round decimals with two decimal places to the nearest whole number or to the first decimal place			
5C13	d	√	I can solve problems involving numbers up to three decimal places			

5C14	p	√	I can explain what the percent symbol means and relate my understanding to parts of a whole number or a whole quantity			
5C15	f	√	I can 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		I can 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		I can measure force in Newtons (N)			
5C18	m		I can estimate and calculate the volume of cuboids (including cubes) and the capacity of liquids			
5C19	m		I can solve problems converting between the units of time			
5C20	pos		I can draw shapes from given dimensions and angles			
5C21	pos		I can use the properties of rectangles to deduce related facts and find missing lengths and angles			
5C22	pos		I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles			
5C23	pos		I can prove that shapes with the same areas can have different perimeters and vice versa			
5C24	s	√	I can complete, read and interpret information in tables, including timetables			
5C25	s		I can solve comparison, sum and difference problems using information presented in line graphs			
5C26	a		I can use symbols and letters to represent variables and missing numbers in mathematical situations involving - missing numbers, lengths, coordinates and angles			
5C27	a		I can use symbols and letters to represent variables and missing numbers in mathematical situations involving - arithmetical rules (e.g. a+b = b+a)			
5C28	a		I can 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	I am accurate	I am quick	I can apply it
6F1	npv	√	I can read, write, order and compare numbers up to 10 million and determine the value of each digit			
6F2	npv	√	I can add, subtract and use negative numbers in context, and calculate intervals across zero			
6F3	npv		I can perform mental calculations, including with mixed operations and large numbers			
6F4	npv	√	I can use my knowledge of the order of operations to carry out calculations involving the four operations			
6F5	npv		I can 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	√	I can 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		I can use common factors to simplify fractions and use common multiples to express fractions in the same denomination			
6F10	f	√	I can compare and order any fraction, including fractions >1			
6F11	rp		I can recognise equivalent ratios and reduce a given ratio to its lowest terms			
6F12	f	√	I can recall and use equivalences between simple fractions, decimals and percentages including in different contexts			
6F13	d	√	I can 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		I can multiply 1-digit numbers with up to two decimal places by whole numbers			

6F15	m		I can calculate the area of parallelograms and triangles			
6F16	m	√	I can recognise when it is necessary to use the formulae for area and volume of shapes			
6F17	pos		I can illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius			
6F18	pos		I can recognise, describe and build simple 3-D shapes, including making nets			
6F19	pdm	√	I can 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		I can describe positions on the full coordinate grid (all four quadrants)			
6F21	s		I can calculate an average			
6F22	s		I can calculate the mode and median			

Year 6						
Index	Curriculum Code	Power Statement	**Conceptual** Achievement Statements	With support	By myself	Supporting someone else
6C1	npv	√	I can use estimation to check answers to calculations and determine an appropriate level of accuracy			
6C2	npv	√	I can round any number to any given degree of accuracy			
6C3	npv	√	I can solve problems which require answers to be rounded to specified degrees of accuracy			
6C4	npv	√	I can 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	√	I can solve problems that involve calculating intervals across zero			
6C6	d	√	I can use written division methods in cases where the answer has up to 2 decimal places			
6C7	f	√	I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions			
6C8	f		I can multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. ¼ x ½ = 1/8)			
6C9	f		I can divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = 6$)			
6C10	p		I can use percentages for comparison and calculate percentages of whole numbers or measures such as 15% of 360			
6C11	d	√	I can calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) and explain how I've done it			
6C12	rp		I can solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts			
6C13	rp		I can solve problems involving unequal sharing and grouping using knowledge of fractions and multiples			
6C14	rp	√	I can solve problems involving similar shapes where the scale factor is known or can be found			

6C15	m		I can solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate			
6C16	m		I can 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		I can 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		I can convert measurements of distance between miles and kilometres			
6C19	pos		I can compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons			
6C20	pdm	√	I can construct, translate and reflect simple shapes on the coordinate plane and reflect them in the axes			
6C21	s		I can interpret and construct pie charts and line graphs and use these to solve problems			
6C22	s	√	I can solve different types of problems using averages			
6C23	a	√	I can generate and extend linear number sequences			
6C24	a		I can express missing number problems algebraically			
6C25	a	√	I can find pairs of numbers that satisfy number sentences involving two unknowns			
6C26	a	√	I can 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		I can 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	I am accurate	I am quick	I can apply it
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	With support	By myself	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			