FELSTED PRIMARY SCHOOL

MATHS CURRICULUM AND ASSESSMENT September 2022

Nurturing today's minds for tomorrow's challenges

- Be Respectful
- Be positive
- Be the best you can be
- Save our world!

FPS Maths Curriculum and Assessment

Our Intent

At FPS we apply a mastery approach to the teaching of Mathematics. Mastery in the teaching of mathematics is the belief that all children have the potential to succeed. They should have access to the same curriculum content and, rather than being extended with new learning, they should deepen their conceptual understanding by tackling challenging and varied problems. Similarly, with calculation strategies, children must not simply rote learn procedures but demonstrate their understanding of these procedures through the use of concrete materials and pictorial representations.

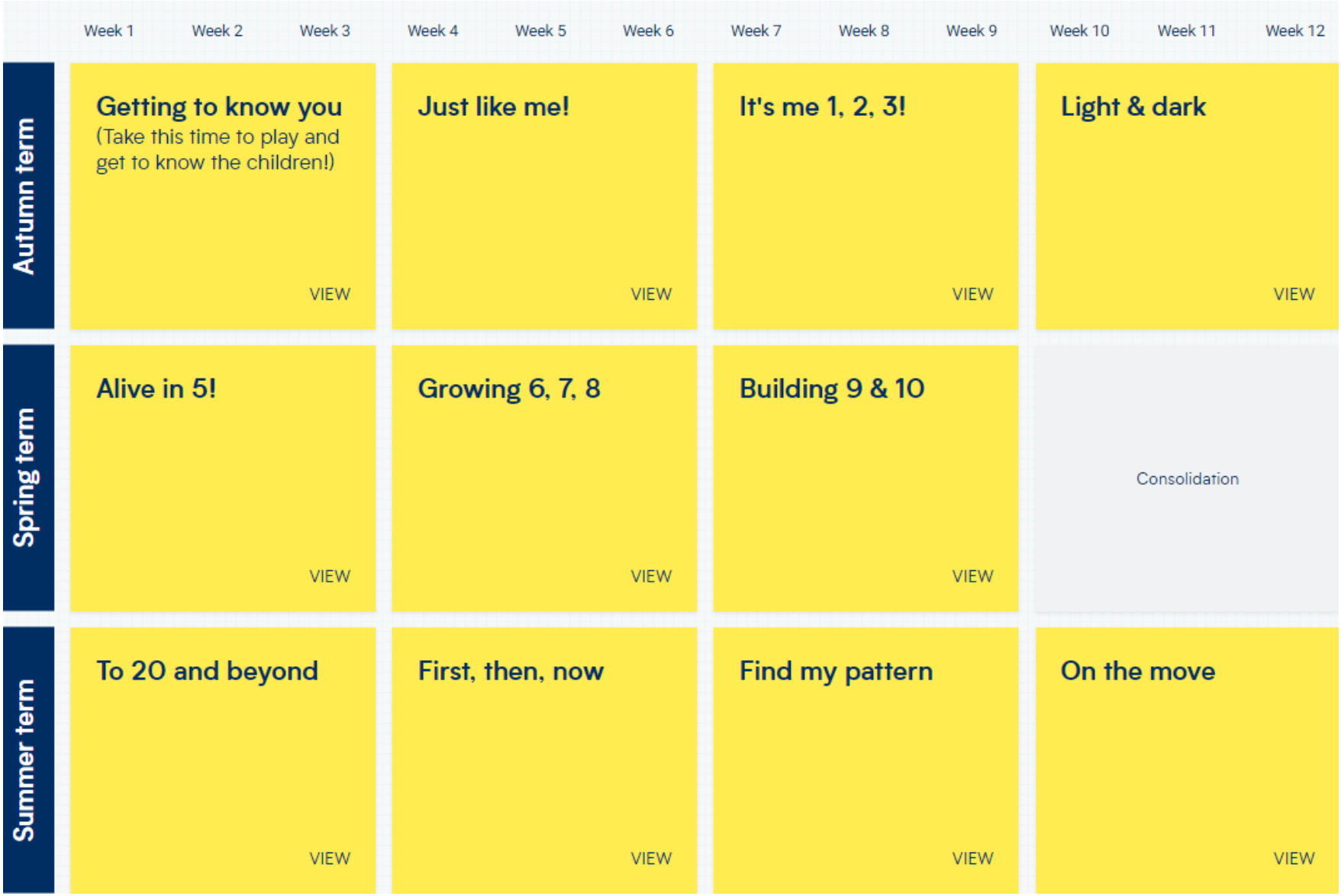
Through the provisions in our curriculum we intend to:

- Promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion
- Promote confidence and competence with numbers and the number system
- Develop procedural fluency and conceptual understanding in all areas of maths
- Develop the ability to solve problems through decision-making and reasoning in a range of context
- Develop the skills of reasoning, enquiring and justifying
- Develop a practical understanding of the ways in which information is gathered and presented
- Explore features of shape and space, and develop measuring skills in a range of contexts
- Understand the importance of mathematics in everyday life
- For all pupils to 'master' maths

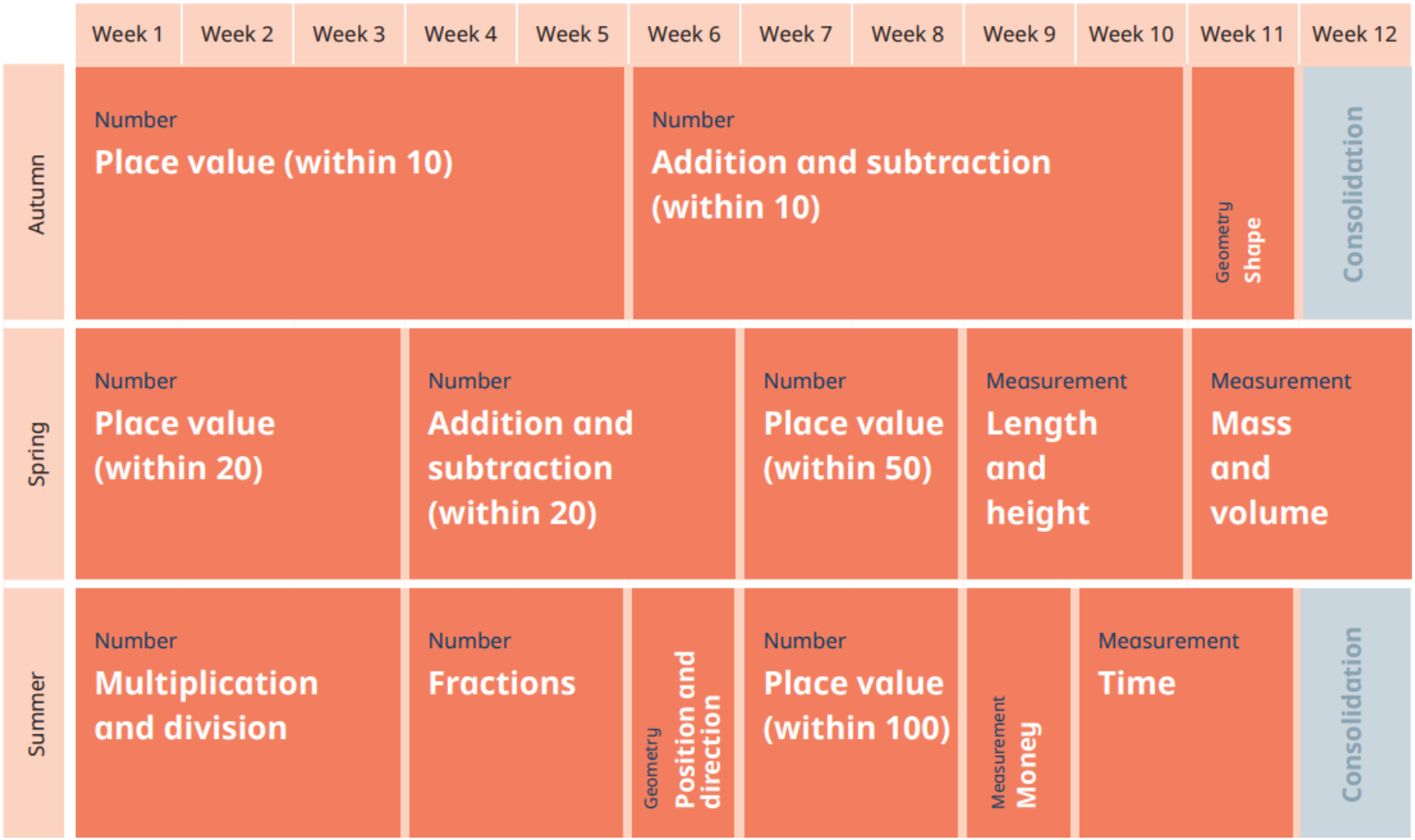
The curriculum is based on the White Rose Maths Scheme: https://whiterosemaths.com/

White Rose Yearly Overviews

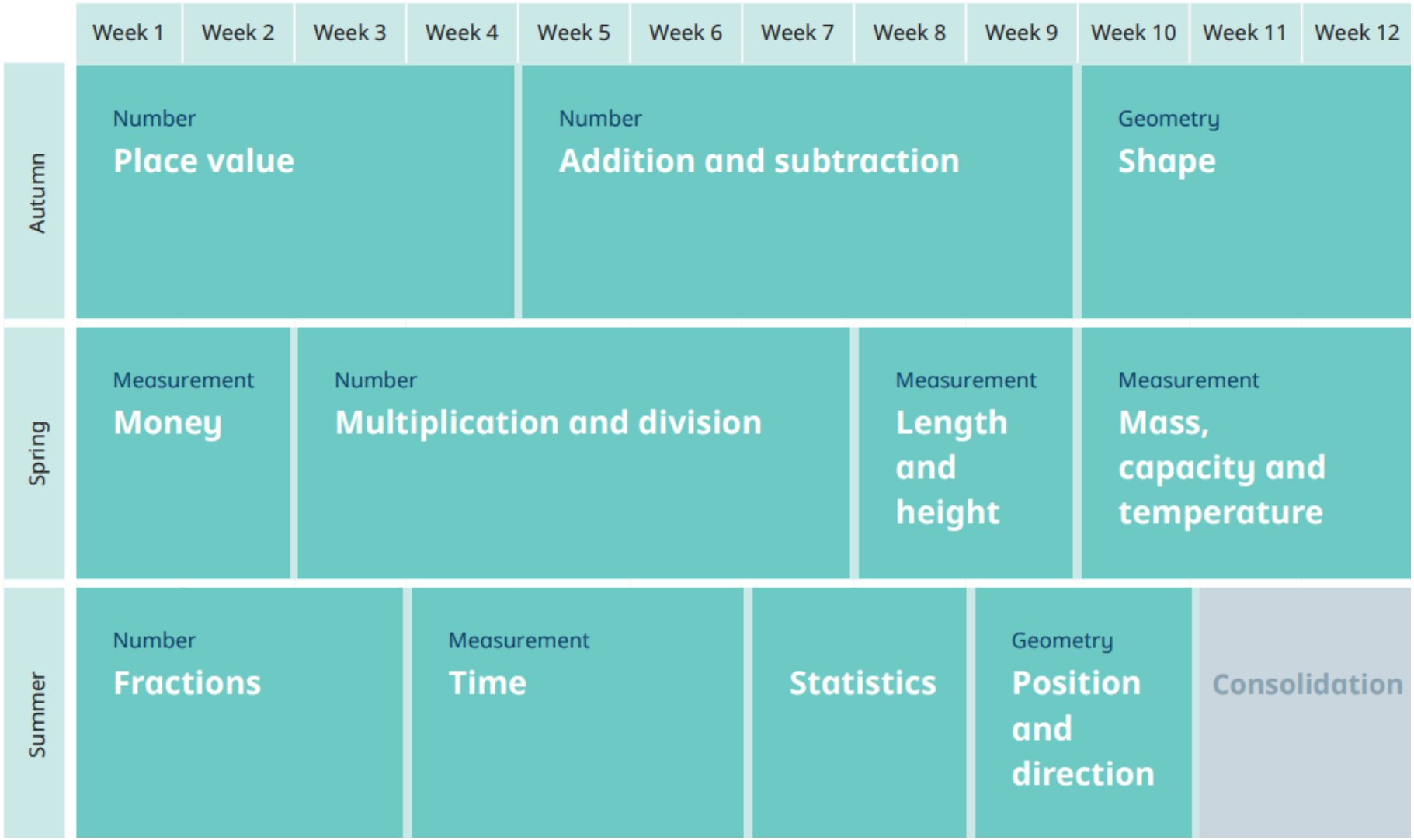
Year R



Year 1


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn
Number
Place value (within 10)
Number
Addition and subtraction (within 10)
Geometry
Shape
Consolidation
Spring
Number
Place value (within 20)
Number
Addition and subtraction (within 20)
Number
Place value (within 50)
Measurement
Length and height
Measurement
Mass and volume
Summer
Number
Multiplication and division
Number
Fractions
Geometry
Position and direction
Number
Place value (within 100)
Measurement
Money
Measurement
Time
Consolidation

Year 2


Week 1
Week 2
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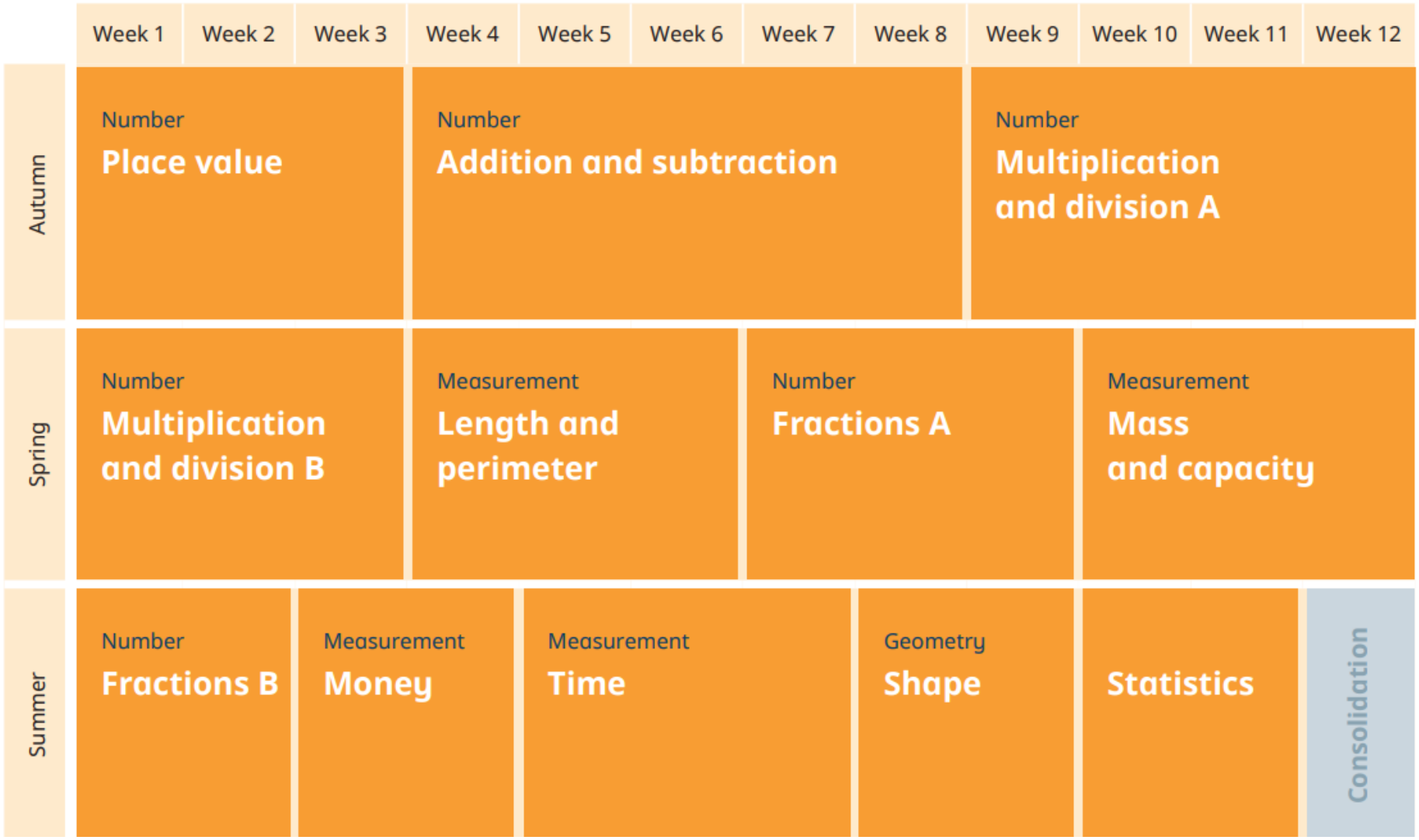
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn
Number
Place value
Number
Addition and subtraction
Geometry
Shape
Spring
Measurement
Money
Number
Multiplication and division
Measurement
Length and height
Measurement
Mass, capacity and temperature
Summer
Number
Fractions
Measurement
Time
Statistics
Geometry
Position and direction
Consolidation

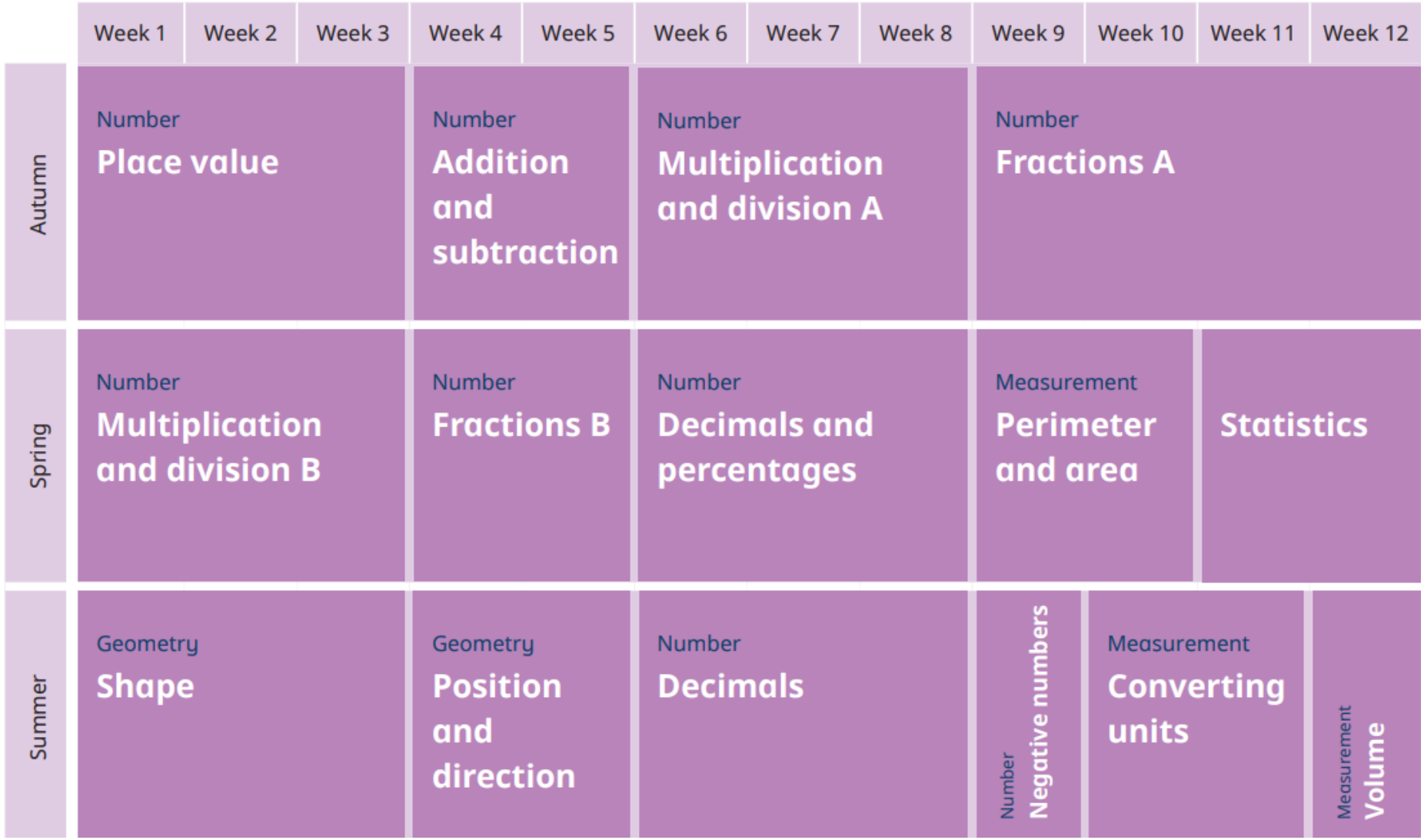
Year 3


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn
Number
Place value
Number
Addition and subtraction
Number
Multiplication and division A
Spring
Number
Multiplication and division B
Measurement
Length and perimeter
Number
Fractions A
Measurement
Mass and capacity
Summer
Number
Fractions B
Measurement
Money
Measurement
Time
Geometry
Shape
Statistics
Consolidation

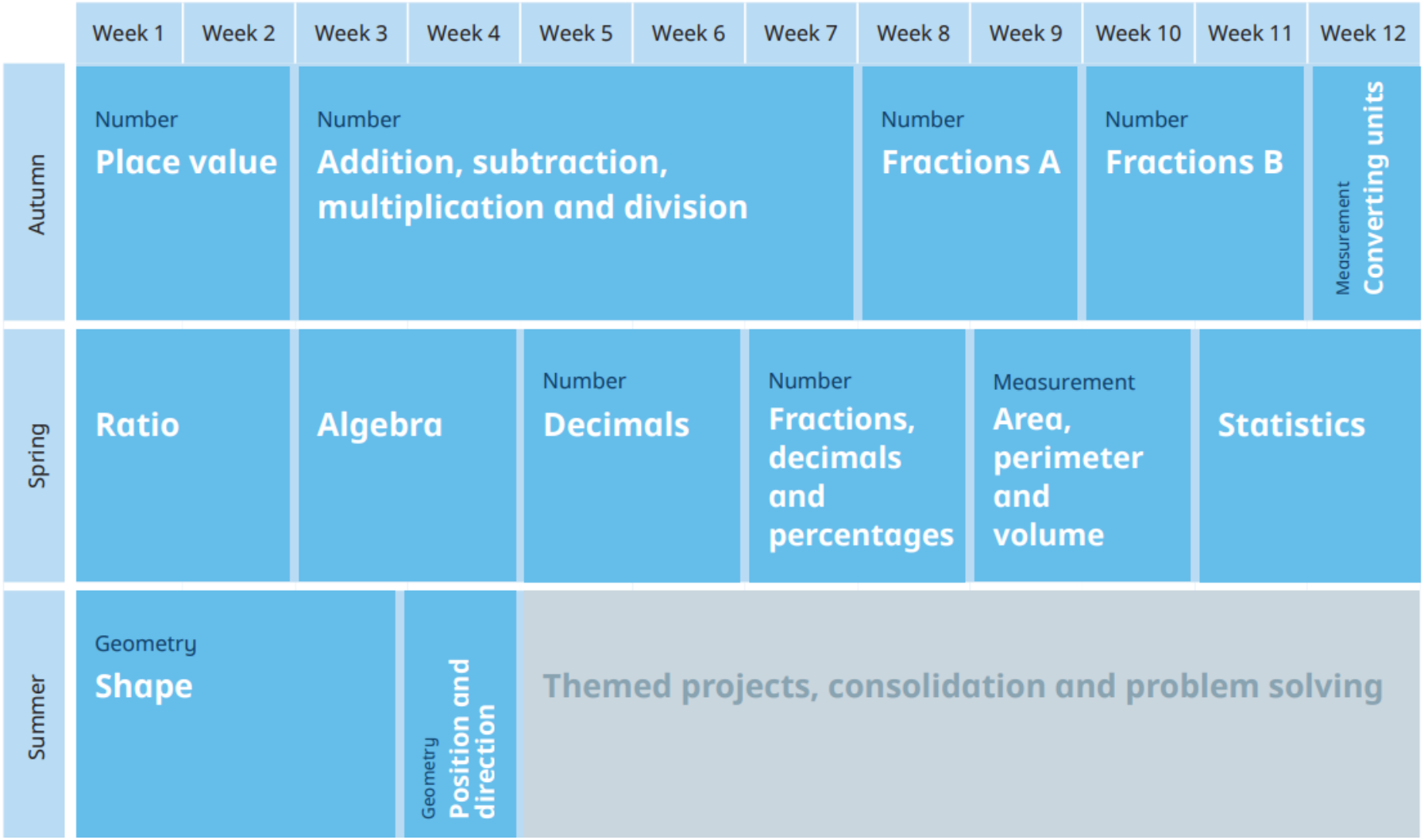
Year 4


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn
Number
Place value
Number
Addition and subtraction
Measurement
Area
Number
Multiplication and division A
Consolidation
Spring
Number
Multiplication and division B
Measurement
Length and perimeter
Number
Fractions
Number
Decimals A
Summer
Number
Decimals B
Measurement
Money
Measurement
Time
Consolidation
Geometry
Shape
Statistics
Geometry
Position and direction

Year 5


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn
Number
Place value
Number
Addition and subtraction
Number
Multiplication and division A
Number
Fractions A
Spring
Number
Multiplication and division B
Number
Fractions B
Number
Decimals and percentages
Measurement
Perimeter and area
Statistics
Summer
Geometry
Shape
Geometry
Position and direction
Number
Decimals
Number
Negative numbers
Measurement
Converting units
Measurement
Volume

Year 6


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn
Number
Place value
Number
Addition, subtraction, multiplication and division
Number
Fractions A
Number
Fractions B
Measurement
Converting units
Spring
Ratio
Algebra
Number
Decimals
Number
Fractions, decimals and percentages
Measurement
Area, perimeter and volume
Statistics
Summer
Geometry
Shape
Geometry
Position and direction
Themed projects, consolidation and problem solving

The yearly overview provides the sequence of units ensuring progression in each year group and between year groups. The order of the Small steps is followed to ensure suitable progression through a unit of teaching.

Use your professional judgement to plan and sequence lessons, making adjustments and adaptations where necessary. There is flexibility in how lessons are structured and delivered to respond to the individual needs of the class.

NCETM teaching for Mastery materials (https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/) as well as Power Maths text books and practice books are also used as an additional resource to support the implementation of the Maths curriculum.

Measuring Impact

We aim for pupils to leave Felsted Primary School with a secure understanding of the academic content; with the understanding of how to be socially, morally, spiritually and culturally responsible and aware; how to make positive contributions to the local community and how to endeavour to be the best that they can be. We aim for all of our children to leave Felsted respectful, skilful, ambitious and with a thirst for life and all it has to offer.

By the end of their Primary career we intend for all our pupils to have:

- Enjoyment and enthusiasm for learning, demonstrating confidence to explore and discuss their maths
- Confidence and competence with numbers and the number system
- Procedural fluency and conceptual understanding in all areas of the taught maths curriculum
- The ability to solve problems through decision-making and reasoning in a range of context
- The skills of reasoning, enquiring and justifying
- A practical understanding of the ways in which information is gathered and presented
- Explored features of shape and space, and developed measuring skills in a range of contexts
- An understanding of the importance of mathematics in everyday life
- Demonstrated a mastery of the maths primary curriculum

To ensure pupils are on track to achieve this we:

Use **short-term assessments** to help adjust daily plans and / or provide immediate interventions so that the pupils do not develop gaps or fall behind the age expected standards. These short-term assessments are closely matched to the teaching objectives.

Short-term assessments are recorded on Tapestry against the given assessment criteria.

Use **medium-term assessments** to measure progress against the key objectives, and to help us plan the next unit of work. These are made on Tapestry and finalised at the end of every term. Put these assessments on the Assessment Overview on Teams for each class.

The assessment criteria on Tapestry and our key assessment criteria are used to inform these judgement.

Key assessment criteria by year group:

Year 1

Autumn ON-TRACK STATEMENTS 10/ OBJECTIVES 7	Spring ON-TRACK STATEMENTS 21/ OBJECTIVES 14	Summer ON-TRACK STATEMENTS 33/ OBJECTIVES 22
Number: Place Value 1. Count to **ten**, forwards and backwards, beginning with 0 or 1, or from any given number. 2. Count, read and write numbers to **10** in numerals and words. **3. Given a number, identify one more or one less.** 4. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.	Number: Addition and Subtraction 1. Represent and use number bonds and related subtraction facts within 20. 2. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. 3. Add and subtract one digit and two digit numbers to 20, including zero. 4. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems e.g. 7=[]-9	Number – Multiplication and division **1. Count in multiples of twos, fives and tens.** 2. Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.
Number: Addition and Subtraction 5. Represent and use number bonds and related subtraction facts (**within 10**) 6. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. 7. Add and subtract one digit numbers to 10, including zero. 8. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems	Number: Place Value 5. Count to **fifty**, forwards and backwards, beginning with 0 or 1, or from any given number. 6. Count, read and write numbers to **50** in numerals and words. **7. Given a number, identify one more or one less.** 8. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. 9. Count in multiples of **two's, five's** and tens	Number – Fractions **3. Recognise, find and name a half as one of two equal parts of an object, shape or quantity.** 4. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. 5. Compare, describe and solve practical problems for: a) **lengths and heights** [… double/half]; b) **mass/weight** [for example, heavy/light, heavier than, lighter than]; c) capacity and volume [for example, full/empty, more than, less than, **half, half full, quarter];**
Geometry: Shape **9. Recognise and name common 2D shapes, including for example rectangles (including squares), circles and triangles.** **10. Recognise and name common 3D shapes, including for example, cuboids (including cubes), pyramids and spheres**	Measurement: Length and height 10. Measure and begin to record lengths and heights 11. Compare, describe and solve practical problems for: lengths and heights (for example long/short, longer/shorter, tall/short, double/half)	Geometry – Position and direction 6. Describe position, direction and movement, including whole, half, quarter and three quarter turns.
Number: Place Value 11. Count to **twenty**, forwards and backwards, beginning with 0 or 1, from any given number. 12. Count, read and write numbers to **20** in numerals and words. 13. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.	Measurement: Weight and volume 12. Measure and begin to record mass/ weight, capacity and volume. 13. Compare, describe and solve practical problems for mass/weight (for example: heavy/light, heavier than/lighter than), capacity and volume(for example full/empty, more than/less than, half, half full, quarter	Number – Place Value **7. Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.** **8. Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens.** **9. Given a number, identify one more and one less.** Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
		Measurement – Money 10. Recognise and know the value of different denominations of coins and notes.
		Measurement - Time 11. Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]. 12. Recognise and use language relating to dates, including days of the week, weeks, months and years. **13. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.** 14. Compare, describe and solve practical problems for: **time** [for example, quicker, slower, earlier, later] 15. Measure and begin to record the following: time (hours, minutes, seconds)
Total **Statements** = 13 80% rule OF 13 WA = 10 | GD = 11-13	Aut + Spr 13 + 13 = 26 statements 80% rule of 26 WA= 21 | GD = 22-26	**Aut + Spr + Sum** **13 + 13 + 15 = 41 statements** 80% rule of 41 WA = 33 | GD = 34-41

Year 2

Autumn ON-TRACK TARGET 13

Number – place value
1. Read and write numbers to at least 100 in numerals and words
2.Recognise the place value of each digit in a two digit number (tens, ones)
3. Identify, represent and estimate numbers to 100 using different representations including the number line.
4. Compare and order numbers from 0 up to 100; use <, > and = signs.
5. Use place value and number facts to solve problems
6. Count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward.

Number – addition and subtraction
7. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.
8. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two digit number and ones; a two digit number and tens; two 2- digit numbers; adding three one digit numbers.
9. Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.
10. Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods.
11. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Measurement: Money
12. Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.
13. Find different combinations of coins that equal the same amounts of money.
14. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.

Multiplication and Division
15. Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers.
16. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) sign.
17. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.
18. Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.

Total **Statements** = 18	
80% rule	
WA = 14	GD = 15-18

Spring ON-TRACK TARGET 24

Multiplication and Division
1. **Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers.**
2. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.
3. **Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in context**.
4. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another is not.

Statistics
5. Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.
6. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.
7. **Ask and answer questions about totalling and comparing categorical data**.

Geometry: Properties of Shape
8. Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line.
9. Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces.
10. Identify 2D shapes on the surface of 3D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].
11. Compare and sort common 2D and 3D shapes and everyday objects.

Number: Fractions
12. Recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity.
13. Write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½.

Measurement: Length and height
14. Choose and use appropriate standard units to estimate and measure length, height in any direction (m,cm) …using rulers
15. Compare and order lengths and record the results using >, < and =.

Aut + Spr	
18 + 15 = 33 statements	
80% rule of 33	
WA = 26	GD = 27-33

Summer ON-TRACK TARGET 35

Geometry – Position and direction
1. Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three quarter turns (clockwise and anti-clockwise).
2. Order and arrange combinations of mathematical objects in patterns and sequences.

Problem Solving and Efficient Methods
…

Measurement – Time
3. Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.
4. Know the number of minutes in an hour and number of hours in a day.
5. Compare and sequence intervals of time.

Measurement – Mass, Capacity and Temperature
6. Choose and use appropriate standard units to estimate and measure to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels:
   a) length/height in any direction (m/cm);
   b) mass (kg/g);
   c) temperature (°C);
   d) Capacity (litres/ml).
7. Compare and order
   a) lengths,
   b) mass,
   c) volume/capacity
…and record the results using >, < and =.

Aut + Spr + Sum	
18 + 15 + 12 = 45 statements	
80% rule of 45	
WA = 36	GD = 37-45

Year 3

Autumn ON-TRACK TARGET 12

Number – place value

1. Identify, represent and estimate numbers using different representations.
2. Find 10 or 100 more or less than a given number;
3. Recognise the place value of each digit in a three digit number (hundreds, tens, ones).
4. Compare and order numbers up to 1000
5. Read and write numbers up to 1000 in numerals and in words.
6. Solve number problems and practical problems involving these ideas.
7. Count from 0 in multiples of [4, 8,] **50 and 100**

Number – addition and subtraction

8. Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds.
9. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.
10. Estimate the answer to a calculation and use inverse operations to check answers.
11. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Number – multiplication and division

12. Count from 0 in multiples of 4, 8, [50 and 100]
13. **Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.**
14. Write and calculate mathematical statements for multiplication and division using the multiplication tables they know using the multiplication (x), division (÷) and equals (=) signs.
15. Solve problems including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects.

Total **Statements** = 15	
80% rule	
WA = 12	GD = 13-15

Spring ON-TRACK TARGET 22

Number: Multiplication and Division

1. Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
2. Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental methods and progressing to formal written methods.
3. Solve problems including missing number problems involving multiplication and division, positive integer scaling problems and correspondence problems in which n objects are connected to m objectives.

Measurement – Money

4. Add and subtract amounts of money to give change, using both £ and p in practical contexts.

Statistics

5. Interpret and present data using bar charts, pictograms and tables.
6. Solve one step and two step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

Measurement – Length and Perimeter

7. Measure, compare, add and subtract lengths (m/cm/mm);
8. Measure the perimeter of simple 2 D shapes.

Number - Fractions

9. Count up and down in tenths.
10. Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
11. Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.
12. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.
13. Solve problems that involve all of the above.

Aut + Spr	
15 + 13 = 28 statements	
80% rule of 28	
WA = 22	GD = 23-28

Summer ON-TRACK TARGET 35

Fractions

1. Recognise and show, using diagrams, equivalent fractions with small denominators.
2. Compare and order unit fractions, and fractions with the same denominators.
3. Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7].
4. Solve problems that involve all of the above.

Measurement – Time

5. Tell and write the time from:
a) **an analogue clock and 12 hour and 24 hour clocks**;
b) an analogue clock, including using Roman numerals from I to XII.
6. Estimate and read time with increasing accuracy to the nearest minute.
7. Record and compare time in terms of seconds, minutes and hours
8. Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.
9. Know the number of seconds in a minute and the number of days in each month, year and leap year
10. Compare durations of events [for example to calculate the time taken by particular events or tasks].

Geometry – Properties of shape

11. Recognise angles as a property of shape or a description of a turn.
12. Identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.
13. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
14. Draw 2 D shapes and make 3 D shapes using modelling materials.
15. Recognise 3 D shapes in different orientations and describe them.

Measurement – Mass and Capacity

16. Measure, compare, add and subtract mass (kg/g);
17. Measure, compare, add and subtract volume/capacity (l/ml).

Aut + Spr + Sum	
15 + 13 + 17 = 45 statements	
80% rule of 45	
WA = 36	GD = 37-45

Year 4

Autumn ON-TRACK TARGET 13

Number – place value

1. Count in multiples of [6, 7, 9,] **25 and 1000.**

2. Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones)

3. Order and compare numbers beyond 1000.

4. Identify, represent and estimate numbers using different representations.

5. Round any number to the nearest 10, 100 or 1000.

6. Solve number and practical problems that involve all of the above and with increasingly large positive numbers.

7. Count backwards through zero to include negative numbers.

8. Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.

Number- addition and subtraction

9. Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

10. Estimate and use inverse operations to check answers to a calculation.

11. Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.

Measurement- Length and Perimeter

12. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

13. convert between different units of measure [for example, kilometre to metre]

Number – multiplication and division

14. Recall and use multiplication and division facts for multiplication tables up to 12 x 12.

15. Count in multiples of 6, 7, 9, [25 and 1000]

16. Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

17. Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Total **Statements** = 17	
80% rule	
WA = 14	GD = 15-17

Spring ON-TRACK TARGET 24

Number – Multiplication and Division

1. Recall multiplication and division facts for multiplication tables up to 12 x 12.

2. Use place value, known and derived facts to multiply and divide mentally, including:

a) multiplying by 0 and 1;
b) dividing by 1;
c) Multiplying together three numbers.

3. Recognise and use factor pairs and commutativity in mental calculations.

4. Multiply two digit and three digit numbers by a one digit number using formal written layout.

5. Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Measurement – Area

6. Find the area of rectilinear shapes by counting squares.

Fractions

7. Recognise and show, using diagrams, families of common equivalent fractions.

8. Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.

9. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.

10. Add and subtract fractions with the same denominator.

Decimals

11. Recognise and write decimal equivalents of any number of tenths or hundredths.

12. Find the effect of dividing a one- or two digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.

13. Solve simple measure and money problems involving fractions and decimals to two decimal places.

14. Convert between different units of measure [for example, kilometre to metre]

Aut + Spr	
17 + 14 = 31 statements	
80% rule of 31	
WA = 25	GD = 26-31

Summer ON-TRACK TARGET 37

Decimals

1. Compare numbers with the same number of decimal places up to two decimal places.

2. Round decimals with one decimal place to the nearest whole number.

3. Recognise and write decimal equivalents to 1/4, 1/2, 3/4.

4. Find the effect of dividing a one- or two digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.

Measurement – Money

5. Estimate, compare and calculate different measures, including money in pounds and pence.

6. Solve simple measure and money problems involving fractions and decimals to two decimal places.

Time

7. Convert between different units of measure [for example, hour to minute].

8. Read, write and convert time between analogue and digital 12- and 24-hour clocks.

9. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

Statistics

10. Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

11. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Geometry – Properties of shape

12. Identify acute and obtuse angles and compare and order angles up to two right angles by size.

13. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.

14. Identify lines of symmetry in 2 D shapes presented in different orientations.

15. Complete a simple symmetric figure with respect to a specific line of symmetry

Geometry – Position and direction

16. Describe positions on a 2 D grid as coordinates in the first quadrant.

17. Plot specified points and draw sides to complete a given polygon.

18. Describe movements between positions as translations of a given unit to the left/right and up/down.

Aut + Spr + Sum	
17 + 14 + 18 = 49 statements	
80% rule of 49	
WA = 39	GD = 40-49

Year 5

Autumn ON-TRACK TARGET 13

Number – place value

1. Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.

2. Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.

3. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.

4. Solve number problems and practical problems that involve all of the above.

5. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Number- addition and subtraction

6. Add and subtract numbers mentally with increasingly large numbers.

7. **Add and subtract whole numbers with more than 4 digits**, including using formal written methods (columnar addition and subtraction).

8. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

9. Solve addition and subtraction multistep problems in contexts deciding which operations and methods to use and why.

Statistics

10. Solve comparison, sum and difference problems using information presented in a line graph.

11. Complete, read and interpret information in tables including timetables.

Number – multiplication and division

12. Multiply and divide numbers mentally drawing upon known facts.

13. Multiply and divide whole numbers by 10, 100 and 1000.

14. **Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.**

15. Recognise and use square numbers and cube numbers and the notation for squared (^{2}) and cubed (^{3})

16. **Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.**

17. Know and use the vocabulary of prime numbers, prime factors, and composite (non-prime) numbers.

18. Establish whether a number up to 100 is prime and recall prime numbers up to 19

Total **Statements** = 18	
80% rule	
WA = 14	GD = 15-17

Spring ON-TRACK TARGET 28

Number – Multiplication and Division

1. Multiply and divide numbers mentally drawing upon known facts.

2. Multiply numbers up to 4 digits by a one- or two digit number using a formal written method, including long multiplication for two digit numbers.

3. Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context.

4. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.

Number – Fractions

5. Compare and order fractions whose denominators are all multiples of the same number.

6. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.

7. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 11/5].

8. Add and subtract fractions with the same denominator and denominators that are multiples of the same number.

9. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

10. Read and write decimal numbers as fractions [for example, 0.71 = 71/100].

11. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Number – Decimals and percentages

12. Read, write, order and compare numbers with up to three decimal places.

13. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.

14. Round decimals with two decimal places to the nearest whole number and to one decimal place.

15. Solve problems involving number up to three decimal places

16. Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.

17. Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.

Aut + Spr	
18 + 17 = 35 statements	
80% rule of 35	
WA = 28	GD = 29 - 35

Summer ON-TRACK TARGET 41

Number – Decimals

1. Solve problems involving number up to three decimal places.

2. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

3. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

Geometry – Properties of Shape and Angles

4. Identify 3 D shapes, including cubes and other cuboids, from 2 D representations.

5. Use the properties of rectangles to deduce related facts and find missing lengths and angles

6. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

7. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.

8. Draw given angles, and measure them in degrees (˚).

Identify:

a) angles at a point and one whole turn (total 360˚);
b) angles at a point on a straight line and 1/2 a turn (total 180˚);
c) Other multiples of 90˚.

Geometry – Position and direction

9. Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.

Measurement – Converting Units

10. Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).

11. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.

12. Solve problems involving converting between units of time**.**

Measurement – Volume

13. Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water].

14. Use all four operations to solve problems involving measure.

Aut + Spr + Sum	
18 + 17 + 14 = 49 statements	
80% rule of 49	
WA = 39	GD = 40-49

Year 6

Autumn ON-TRACK TARGET 16

Number: place value
1. Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.
2. **Round any whole number to a required degree of accuracy.**
3. Use negative numbers in context, and calculate intervals across zero.
4. Solve number and practical problems that involve all of the above

Number – addition, subtraction, multiplication and division
5. **Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.**
6. Multiply multi-digit number up to 4 digits by a 2 digit number using the formal written method of long multiplication.
7. **Divide numbers up to 4 digits by a 2 digit whole number** using the formal written method of long division, **and interpret remainders as whole number** remainders, fractions **or by rounding as appropriate for the context.**
8. **Divide numbers up to 4 digits by a 2 digit number** using the formal written method of short division**, interpreting remainders according to context.**
9. Perform mental calculations, including with mixed operations and large numbers.
10. Identify common factors, common multiples and prime numbers.
11. Use their knowledge of the order of operations to carry out calculations involving the four operations.
12. Solve problems involving addition, subtraction, multiplication and division.
13. Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.

Fractions
14. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
15. Compare and order fractions, including fractions > 1
16. Generate and describe linear number sequences (with fractions)
17. Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.
18. Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example ¼ x ½ = 1/8]
19. Divide proper fractions by whole numbers [for example 1/3 ÷ 2 = 1/6]
20. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example 3/8]
21. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Geometry – position and direction
22. Describe positions on the full coordinate grid (all four quadrants.
23. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Total **Statements** = 23	
80% rule	
WA = 18	GD = 19-23

Spring ON-TRACK TARGET 31

Number – Decimals
1. Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.
2. Multiply one digit numbers with up to two decimal places by whole numbers.
3. Use written division methods in cases where the answer has up to two decimal places.
4. Solve problems which require answers to be rounded to specified degrees of accuracy.

Number – Percentages
5. Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.
6. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Algebra
7. Use simple formulae.
8. Generate and describe linear number sequences.
9. Express missing number problems algebraically.
10. Find pairs of numbers that satisfy an equation with two unknowns.
11. Enumerate possibilities of combinations of two variables

Measurement – Converting Units
12. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
13. 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, using decimal notation to up to three decimal places.
14. Convert between miles and kilometres.

Measurement – Perimeter, area and volume
15. Recognise that shapes with the same areas can have different perimeters and vice versa.
16. Recognise when it is possible to use formulae for area and volume of shapes.
17. Calculate the area of parallelograms and triangles.
18. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3].

Number – Ratio
19. Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
20. Solve problems involving similar shapes where the scale factor is known or can be found.
21. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Aut + Spr	
23 + 21 = 44 statements	
80% rule of 44	
WA = 35	GD = 36-44

Summer ON-TRACK TARGET 41

Geometry – Properties of Shape
1. Draw 2 D shapes using given dimensions and angles.
2. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
3, Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

Problem Solving …

Statistics
4. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
5. Interpret pie charts and line graphs and use these to solve problems.
6. Construct pie charts and line graphs.
7. Calculate and interpret the mean as an average

Investigations…

Aut + Spr + Sum	
23 + 21 + 7 = 51 statements	
80% rule of 51	
WA = 41	GD = 42-51

Use **long-term assessments** at the end of the school year. Use the assessment overviews, assessments from Tapestry and teacher judgements to ascertain the standard the child is working at by the end of the year. In years 2 and 6 use national tests for children and the statutory assessment framework to make end of key stage judgements.