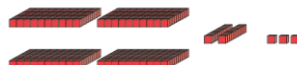
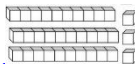
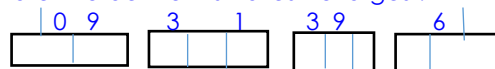
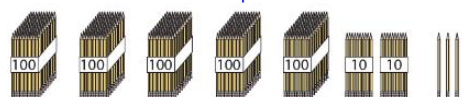
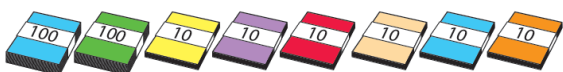


	Autumn	Spring	Summer																																		
Number and place value	Count from 0 in multiples of 4, 50 and 100; find 10 or 100 more or less than a given number e.g. 10 more than 395	Compare and order numbers up to 1000	Identify, represent and estimate numbers using different representations																																		
	1 week My starting number is 217. I count on by 100s seven times. What is the last number I count? Explain your reasoning. If you keep subtracting 4 from 104 you will eventually reach 0. Do you agree? - Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) What number is represented in each set?  What is the value of bold digit in each of these numbers? 534 708 913 860571 - Identify, represent and estimate numbers using different representations Which place value model shows 28?  674 is made of 6 hundreds, 7 tens and 4 ones. - Read and write numbers to at least 1000 in numerals Write eight hundred and nine in figure. What is another way to write 2 units, 6 hundreds and 7 tens?	Use the sign =, < or > to make the number sentence true? 35 - 30 50 ÷ 10, 35 - 30 5 x 2 5 4 7 Use these digits to make 5 different numbers and then put them in order, starting with the smallest one. Insert a digit into each box so that the numbers are in order from smallest to largest.  Solve number problems and practical problems involving place value and rounding. Billy found a bag full of money. He counted up 23 ten pound notes, 2 twenty pound notes, 5 five pound notes and a pound coin. How much money was in the bag? Round 496 and 493 to the nearest 10 Round 496 and 947 to the nearest 100. Find the number of pencils.  Find the number of exercise books. 	- Compare and order numbers up to 1000 - Solve number problems and practical problems involving place value and rounding. - Count from 0 in multiples of 4, 50 and 100; find 10 or 100 more or less than a given number e.g. 10 more than 395 <table><tr><td></td><td>than 342</td><td>153</td><td>212</td><td>465</td><td>575</td><td>983</td></tr><tr><td>100 more</td><td>442</td><td>253</td><td>312</td><td>565</td><td>675</td><td>1083</td></tr><tr><td>100 less</td><td>242</td><td>53</td><td>112</td><td>365</td><td>475</td><td>783</td></tr><tr><td>10 more</td><td>352</td><td>163</td><td>222</td><td>375</td><td>485</td><td>993</td></tr><tr><td>10 less</td><td>332</td><td>143</td><td>202</td><td>455</td><td>565</td><td>973</td></tr></table>		than 342	153	212	465	575	983	100 more	442	253	312	565	675	1083	100 less	242	53	112	365	475	783	10 more	352	163	222	375	485	993	10 less	332	143	202	455	565
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Addition & Subtraction

2 week

- Add and subtract numbers mentally, including:

a three-digit number and ones

a three-digit number and tens

a three-digit number and hundreds

Add 7 to 231. Subtract 8 from 219. What is 472 minus 70? What is the sum of 417 and 40?

What number is needed to add to 341 to make 641?

What number is needed to take away from 702 to make 202?

Write the missing numbers:

$801 + 9 = \square$, $415 - 60 = \square$, $\square + 463 = 763$

- Add and subtract numbers with up to three digits using formal written methods of columnar addition and subtract

$$\begin{array}{r} \text{3 1} \\ 845 \\ - 238 \\ \hline 607 \end{array} \quad \begin{array}{r} \text{1} \\ 729 \\ + 163 \\ \hline 892 \end{array}$$

- Estimate the answer to a calculation and use inverse operations to check answers

$702 - 249$ is approximately $700 - 250 = 450$; check $453 + 249 = 702$.

$187 + 248$ estimate: $190 + 250 = 440$

accurate answer: $187 + 248 = 435$

Checking using inverse operation:

$435 - 187 = 248$, $435 - 248 = 187$

$$\begin{array}{r} \text{1 1} \\ 187 \\ + 248 \\ \hline 435 \end{array}$$

- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

investigate the numbers which could go in the boxes when $2 \times \square = 7 + \square$

$$\begin{array}{|c|c|} \hline \square & 3 \\ \hline \end{array} = \begin{array}{|c|c|} \hline 2 & \square \\ \hline \end{array} + \begin{array}{|c|c|} \hline \square & 6 \\ \hline \end{array}$$

Crowded attendance at two football matches was 903 and 798. What was the total attendance?

What is the difference between 345 and 876?

- Add and subtract numbers mentally, including:
a three-digit number and ones
a three-digit number and tens
a three-digit number and hundreds.

- Add and subtract numbers with up to three digits, using formal written methods of columnar addition

- Estimate the answer to a calculation and use inverse operations to check answers

- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction e.g. There are 46 boys and 58 girls in Year 3, but 12 children are away; how many Year 3 children are at school?

- Add and subtract numbers mentally, including:
a three-digit number and ones
a three-digit number and tens
a three-digit number and hundreds

- Add and subtract numbers with up to three digits, using the efficient written methods of columnar addition and subtraction

- Estimate the answer to a calculation and use inverse operations to check answers

- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Multiplication & Division

2 weeks

- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

$$\begin{array}{l} 3 \times 8 = \square \times 4 = 32 \quad 8 \times \square = 40 \\ 15 \div 5 = \square \div 3 = 10 \quad 36 \div \square = 9 \end{array}$$

What is 10 times 7? Multiplied 9 by 8. Divide 45 by 5?

- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods

There are 5 groups of 3. How would you write a multiplication number sentence for this question?

$$\begin{array}{r} 28 \\ \times 4 \\ \hline 112 \end{array}$$

- Solve problems, including missing number problems, involving multiplication and division

$$90 = 3 \times \square \quad 240 = \square \times 4$$

What is the relationship between these calculations?

$$\begin{array}{ll} 2 \times 3 & 4 \times 3 \\ 2 \times 30 & 4 \times 30 \\ 20 \times 3 & 40 \times 3 \\ 20 \times 3 \times 10 & 40 \times 3 \times 10 \end{array}$$

What is 3×4 ?

What is 13×4 ? How did you get that? Make up a problem for 13×4 and solve it.

Write a story for $18 \div 3$.

- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

- Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods

- Solve problems, including missing number problems, involving multiplication and division

Putting the digits 1, 2 and 3 in the empty boxes, how many different calculations can you make?

$$\square \square \times \square = \square$$

- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

- Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods

- solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects.

$$45 \div m = 9 \quad m \div 9 = 72 \quad 63 \div m = 9$$

$$m = 5$$

$$m = \square$$

$$m = \square$$

$$5 \times b = 35 \quad b \times 8 = 16 \quad 3 \times b = 15$$

Work out the value of b.

Fractions

3 weeks

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10

Recognise $\frac{1}{10}$ as one tenth, and know that it means one whole divided into 10 equal parts.



3 cakes shared between 10 children gives $\frac{3}{10}$ each.

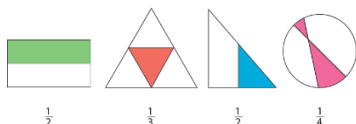
- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators

What fraction of the squares are orange?



Find $\frac{1}{3}$ of 9 beads, then $\frac{2}{3}$ of 9 beads

True or false? Explain why?

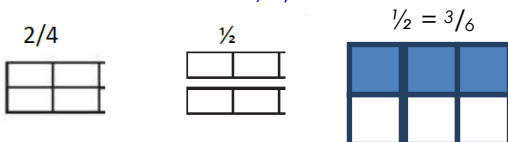


- understand the relation between unit fractions as operators (fractions of), and division by integers
to find $\frac{1}{3}$, you divide by 3; to find $\frac{1}{5}$, you divide by 5

- Recognise and use fractions as numbers on the number line: unit fractions and non-unit fractions with small denominators

- Recognise and show, using diagrams, equivalent fractions with small denominators

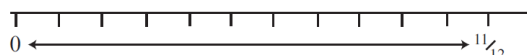
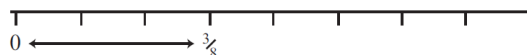
$\frac{5}{7}$ equivalent fraction is $\frac{10}{14}$ (denominator and numerator multiplied by 2), $\frac{20}{28} = \frac{5}{7}$ (denominator and numerator divided by 4).



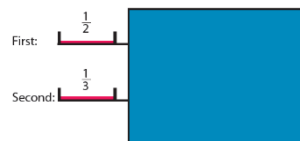
- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10

- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators e.g. there are 8 marbles and three of them are red; what fraction of the marbles are red?

- Recognise and use fractions as numbers on the number line: unit fractions and non-unit fractions with small denominators



Only a fraction of each line is shown. The rest is hidden behind the blue screen. Which whole line is the longer? Explain your reasoning



- Recognise and show, using diagrams, equivalent fractions with small denominators
- Compare and order unit fractions, and fractions with the same denominators e.g. put in order $\frac{3}{8}$, $\frac{1}{8}$, $\frac{7}{8}$, $\frac{5}{8}$

- Solve problems that involve fractions
Amy ate $\frac{1}{4}$ of her 12 sweets and Ben ate $\frac{1}{2}$ of his 8 sweets, who ate more sweets?

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10

- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. E.g. find $\frac{4}{5}$ of 30

- Recognise and use fractions as numbers on the number line: unit fractions and non-unit fractions with small denominators

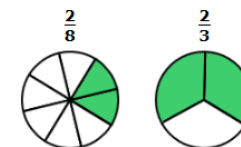
- Recognise and show, using diagrams, equivalent fractions with small denominators

- Add and subtract fractions with the same denominator within one whole

If $\frac{1}{3}$ of a cake is eaten then $\frac{2}{3}$ remains or
 $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$, $\frac{3}{5} - \frac{2}{5} = \frac{1}{5}$

- Compare and order unit fractions, and fractions with the same denominators

put in order $\frac{1}{2}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{6}$
Which fraction is greater?



- Solve problems that involve fractions

Ali, Ben and Cara have 24 fish. $\frac{2}{3}$ of them belong to Ali, $\frac{1}{4}$ belong to Ben and the rest belong to Cara; how many fish belong to Cara?

Measurement

2 week

- Measure, compare, add and subtract: length (m/cm/mm)

How much ribbon is left when 36cm is cut from 1m? Which is longer: 6½cm or 62mm? 5m or 450cm? Measure and draw lines to the nearest ½ cm.

A crocodile is 3 times as long as a pig. An elephant is 1.2 m longer than the crocodile. The elephant is 4.2 m long. How long is the pig?

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

I buy 2 packs of sweets for 75p each; how much change will I get from £2?

Erin spends 4 two pence coins on a pencil, then Joseph spends 3 one pound coins on a stapler. How much money do they spend in total?

Sophie and Ravi have saved some money. Altogether they have saved £35. Sophie has saved £4 more than Ravi. How much have they each saved?

I have a £2 coin, two £1 coins, three 50p coins, a 20p and seven 5p coins; how much more do I need to make £10?

- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks

Draw hands on a clock face to show 'ten to four'

What time is it?



- Record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight
- Compare durations of events, for example to calculate the time taken by particular events or tasks.

- Measure, compare, add and subtract: length (m/cm/mm) mass (kg/g)

Find 3 vegetables which weigh between 100g and 300g. Read 250g on a scale labelled every 100g. Which is heavier: 1kg 300g or 1½kg?

A big of potato weighs about ½ kg on the scales. What would be the weight on the scales of 10 big potatoes?

What is the difference in length between the pen and the pencil?



- Add and subtract amounts of money to give change, using both £ and p in practical contexts.
- Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour digital clocks
- Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight

How long does it take to make a cup of tea? 5 minutes/5 hours/5 seconds

Complete the table.

Film	Start	Finish	Film length
The 3 Wolves	10.35am	11.45am	
Moon Wars	11.05am	12.50pm	
Spider Story		1.10pm	50 mins

- Compare durations of events, for example to calculate the time taken by particular events or tasks.
- Know the number of seconds in a minute and the number of days in each month, year and leap year

- measure, compare, add and subtract: length (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

Read 300ml on a scale labelled every 200ml. Order a set of containers by capacity, using a measuring jug and water to check.

A bottle of medicine holds 75ml. A teaspoon holds 5ml. How many teaspoon of medicine in the bottle?

- measure the perimeter of simple 2-D shapes

measure accurately the sides of a triangle in cm or mm, in order to find the perimeter

- add and subtract amounts of money to give change, using both £ and p in practical contexts e.g. Ali is saving 80p each week, to buy a toy costing £5; how many weeks will it take him?
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour digital clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight
- Compare durations of events, for example to calculate the time taken by particular events or tasks.

Mark got into the pool at 3:35pm. He swam for 40 minutes. What time did he get out? Robin left the airport at 08:45 to Milan. The flight lasting for 2 hours and 4 minutes. At what time did he land at Milan Airport?

- Know the number of seconds in a minute and the number of days in each month, year and leap year

Geometry

1 week

- Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them

e.g. number of faces, edges and vertices (singular: vertex), e.g. guess my shape: it has a square face and four triangular faces (square-based pyramid)

Have a range of 3-D shapes in a 'feely bag'. Can you feel for the cube, the cuboid, the pyramid, the cylinder and the cone? Explain how you know.

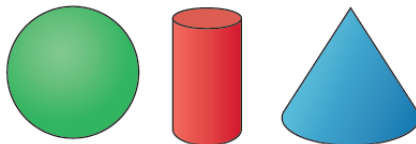
Describe what you are feeling to your classmates and see if they guess what the shape is.

True or false?

The shape of a cross section of a sphere is always a circle.

The shape of a cross section of a cylinder is always a circle.

The shape of a cross section of a cone is always a circle. Explain your reasoning.



sphere

cylinder

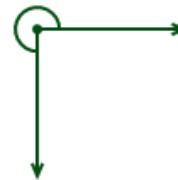
cone

Can you identify a 3-D shape where the cross section is always a square?

- Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them

- Recognise that angles are a property of shape or a description of turn

What fraction of a turn is this angle?



Can you draw a quadrilateral with:

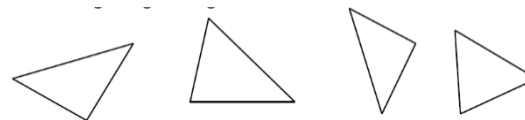
1 right angle? 2 right angles?

5 right angles? No right angle?

If some of these are impossible, can you explain why?

- 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

Circle the right angle triangles:



- Describe the properties of shapes using accurate language, including symmetrical/not symmetrical, lengths of lines, and acute and obtuse angles *e.g. sort triangles into those with an obtuse angle and those without*

- Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them

- Recognise that angles are a property of shape or a description of turn

- 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

- Identify horizontal and vertical lines and pairs of perpendicular and parallel lines

Horizontal line: A horizontal line is a line which goes straight from left to right.



Vertical line: A line goes straight up and 90° to the horizontal.



Perpendicular line:



Parallel line



Statistics

1 week

- Interpret and present data using bar charts, pictograms and tables,

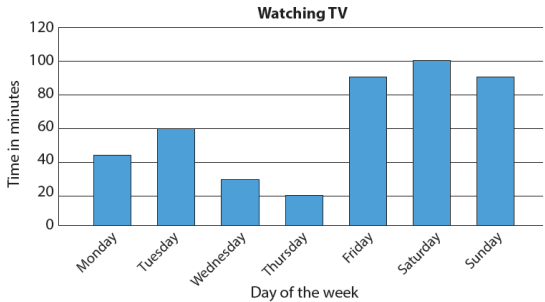
Class	Weekly awards for a tidy classroom
	 = 3 awards
Reception	   
Year 1	   +1
Year 2	 
Year 3	  +2
Year 4	
Year 5	
Year 6	  +1

Present the information in a bar graph.

- Solve one-step and two-step questions such as ‘How many more?’ and ‘How many fewer?’ using information presented in scaled bar charts and pictograms and tables.

- Solve one-step and two-step questions such as ‘How many more?’ and ‘How many fewer?’ using information presented in scaled bar charts and pictograms and tables.
- Interpret data presented in many contexts

The graph shows how many minutes Sam spent watching TV at home last week.



On which day did Sam watch the most TV?
 How many minutes of TV did Sam watch on Wednesday?
 How many more minutes did Sam watch on Friday than on Tuesday?
 How many fewer minutes did Sam watch on Thursday compared to Sunday?

- Interpret and present data using bar charts, pictograms and tables, understanding and using simple scales e.g. 2, 5, 10 units per cm with increasing accuracy.
- Solve one-step and two-step questions such as ‘How many more?’ and ‘How many fewer?’ using information presented in scaled bar charts and pictograms and tables.
- Interpret data presented in many contexts