



Year 2  
learning  
guide

# Maths

What will be covered in year 2

[illegible]

*By the end of Year 2, children are expected to*

## Number – number and place value

### Statutory requirements

Pupils should be taught to:

- count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
- recognise the place value of each digit in a two-digit number (tens, ones)
- identify, represent and estimate numbers using different representations, including the number line
- compare and order numbers from 0 up to 100; use  $<$ ,  $>$  and  $=$  signs
- read and write numbers to at least 100 in numerals and in words
- use place value and number facts to solve problems.

## Number – addition and subtraction

### Statutory requirements

Pupils should be taught to:

- 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
- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- 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 two-digit numbers
  - adding three one-digit numbers
- show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

## Number – multiplication and division

### Statutory requirements

Pupils should be taught to:

- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals (=) signs
- show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

## Number – fractions

### Statutory requirements

Pupils should be taught to:

- recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity
- write simple fractions for example,  $\frac{1}{2}$  of 6 = 3 and recognise the equivalence of  $\frac{2}{4}$

## Measurement

### Statutory requirements

Pupils should be taught to:

- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ( $^{\circ}\text{C}$ ); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- compare and order lengths, mass, volume/capacity and record the results using  $>$ ,  $<$  and  $=$
- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
- find different combinations of coins that equal the same amounts of money
- solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
- compare and sequence intervals of time
- 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
- know the number of minutes in an hour and the number of hours in a day.

## Geometry – properties of shapes

### Statutory requirements

Pupils should be taught to:

- identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
- compare and sort common 2-D and 3-D shapes and everyday objects.

## Geometry – position and direction

### Statutory requirements

Pupils should be taught to:

- order and arrange combinations of mathematical objects in patterns and sequences
- 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).

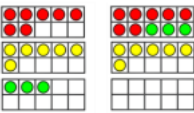
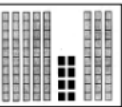
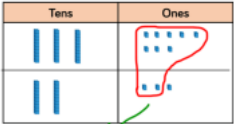
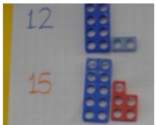
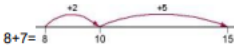

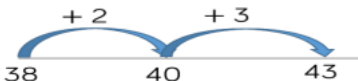
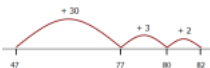
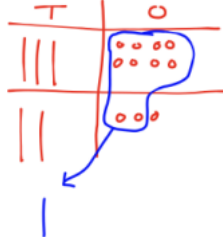
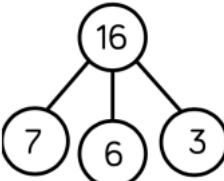

## Statistics

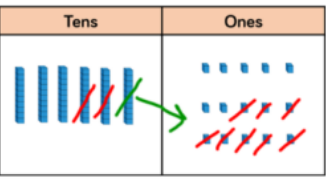
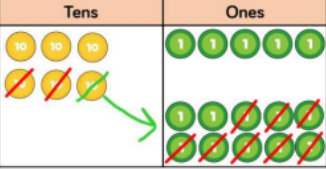
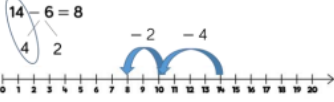
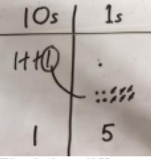
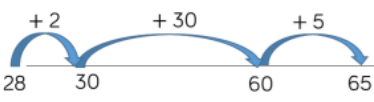
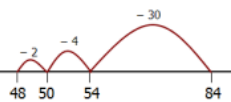
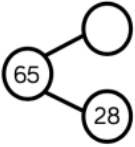

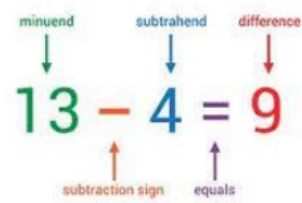
### Statutory requirements

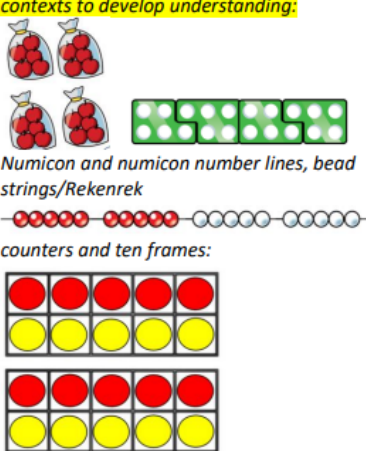
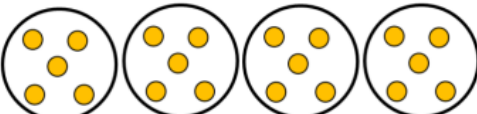
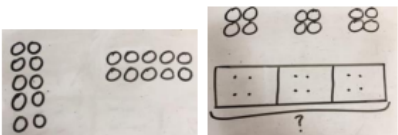
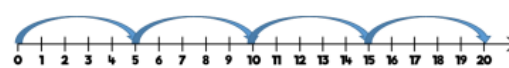
Pupils should be taught to:



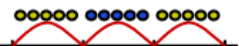

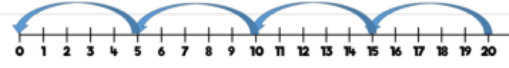
- interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- ask and answer questions about totalling and comparing categorical data.



+	<b>Skill:</b>	<b>Concrete:</b>	<b>Pictorial:</b>	<b>Abstract:</b>
Y 2	<p>TO + O TO + tens TO + TO</p> <p>Add three 1 digit numbers [Show addition of two or more numbers can be done in any order.]</p>	<p>Pupils use concrete objects alongside place value charts, part-whole models, ten frames and numberlines:</p>  $7 + 6 + 3 = 16$ <p>Base ten: <math>58 + 30 = 88</math></p>  <p>Base ten and place value charts with regrouping:</p>  $38 + 23 = 61$  $12 + 15 = 27$	<p>Efficient jumps <b>drawn on marked and blank number line</b> (progressing to mental jumps):</p> <p>Bridging ten- apply number bond to ten knowledge:</p>  $8 + 7 = 15$ <p>First when adding onto TO might need to count on in ones:</p>  $38 + 5 = 43$ <p>Progress to applying number bond knowledge and jumping to multiples of ten:</p>  $38 + 5 = 43$ <p>[Also jumps can be in 10s and then 1s] <math>47 + 35 = 82</math></p>  $47 + 35 = 82$ <p>Draw base ten and PV charts: Draw part-part-part models:</p> $38 + 23 = 61$  	<p><b>Informal mental jottings:</b>  <math>35 + 47 = 82</math>  <math>47 + 30 = 77</math>  <math>77 + 3 = 80</math>  <math>80 + 2 = 82</math></p> <p><b>Partitioning</b>  <math>35 + 47 = 82</math></p> <p><math>40 + 30 = 70</math>  <math>7 + 5 = 12</math></p> <p><b>expanded written method (vertical):</b></p> $\begin{array}{r} 47 \\ + 35 \\ \hline 82 \end{array}$ <p><i>Recording addition in columns supports place value and prepares for formal written methods with larger numbers.</i></p> <p>Recall and use addition facts to 20 fluently. Derive and use related facts up to 100.      Practise + to 20 to derive facts such as using <math>3 + 7 = 10</math> to calculate <math>30 + 70 = 100</math>, <math>100 - 70 = 30</math> and <math>70 = 100 - 30</math>.</p> <p>Check calculations, including by adding numbers in a different order to check addition and using inverse relationship Establishes commutativity and associativity of addition.</p> <p><b>Part + part + part = whole</b></p> 

-	<b>Skill:</b>	<b>Concrete:</b>	<b>Pictorial:</b>	<b>Abstract:</b>
Y R 2	<p>TO - O TO - tens TO - TO</p> <p>Show subtraction of two numbers <u>cannot</u> be done in any order.</p>	<p>Children use concrete resources to find the difference or take-away, including:</p> <p>Base ten:</p>  <p>Rekenreks, place value counters:</p>  <p>Counters, numicon and numicon numberlines and cubes and numberlines.</p> <p>The concrete resources should be used alongside charts and mats; place value charts, ten frames, part-whole and bar models.</p>	<p>Children should draw these methods to subtract one-digit numbers that cross ten:</p>  $14 - 6 = 8$ <p>Represent base ten pictorially:</p>  <p>Find the difference via drawing blank number lines and count on:</p> <p>65-28:</p>  <p>Or count back:</p> <p>84 - 36 = 48</p>    <p>Draw/ use part-whole and bar models</p>	<p>From Year 2, when subtracting one-digit numbers that cross 10, children should be encouraged to find the number bond to 10 when partitioning the subtracted number. Ten frames, number shapes and number lines are particularly useful for this.</p> <p>Expanded subtraction method (vertical):</p> $\begin{array}{r} 90 \text{ and } 8 \\ 30 \text{ and } 5 \\ 60 \text{ and } 3 \end{array}$ <p><math>90 - 35 = 55</math></p> <p>Pupils secure understanding of the language of subtraction and that it means finding the <b>difference</b>.</p>  <p><b>Whole - part = part</b></p> <p>Practise subtraction to 20 to derive facts such as using <math>3 + 7 = 10</math>, <math>10 - 7 = 3</math> and <math>7 = 10 - 3</math> to calculate <math>30 + 70 = 100</math>, <math>100 - 70 = 30</math> and <math>70 = 100 - 30</math>.</p> <p>Check calculations, including by adding to check subtraction.</p> <p>Solve problems by applying methods learnt, particularly part-whole and bar models.</p>

<p>Yr1: Solve one-step problems using concrete objects, pictorial representations and arrays (with the support of the teacher)</p> <p>Count in steps of 2, 5 and 10</p> <p>Yr2: Calculate statements for multiplication within the 2x, 5x, 10x and 3x multiplication tables and write them using the multiplication and equals signs.</p> <p>[Show multiplication of two numbers can be done in any order.]</p>	<p>Use concrete resources and real objects and contexts to develop understanding:</p>  <p>Numicon and numicon number lines, bead strings/Rekenrek</p> <p>counters and ten frames:</p> <p>, bead strings., number tracks and number lines. Build arrays with counters.</p>	<p>Encourage children to draw equal groups of:</p>  <p>Encourage children to draw arrays, bar models and other representations:</p>  <p>Draw jumps on marked and blank number lines:</p> 	<p>In year 1 children count in steps of 2, 5 and 10</p> <p>Children represent multiplication as repeated addition:</p> $5 + 5 + 5 + 5 = 20$ <p>They are not expected to record multiplication using x symbol.</p> <p>In Year 1, children use concrete and pictorial representations to solve problems.</p> <p>In Year 2, children are introduced to the multiplication symbol:</p> $4 \times 5 = 20$ $5 \times 4 = 20$ <p>... groups of ...=...</p> <p>Multiplication:</p> $6 \times 3 = 18$ <p>Factor (or Multiplier)      Factor (or Multiplicand)      Product</p>
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<p>Yr1: Solve one step problems using multiplication (sharing)</p> <p>Yr2: Recall &amp; use division facts for the 2,3, 5 and 10 multiplication tables. Calculate statements within the multiplication tables and write them using the division and equals signs. [Show division of two numbers <u>cannot</u> be done in any order.]</p>	<p>Use concrete and real objects in real life contexts:</p>  <p>Children use sharing circles and part-whole and bar model mats to share counters, numicon and base ten equally:</p>  <p>Link division to multiplication by creating arrays and thinking about the number sentences that can be created.</p>	<p>Draw arrays and number lines (first modelled using Numicon and Number lines/ beads/ rekenreks/counters/objects)</p> $15 \div 5 = 3$  <p>Draw part-whole and bar models:      Grouping on a number line:</p>  $10 \div 5 = ?$ $5 \times ? = 10$ 	<p>In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record division formally.</p> <p>Children solve problems by grouping and counting the number of groups. Grouping encourages children to count in multiples and links to repeated subtraction on a number line. They can use concrete representations in fixed groups such as number shapes which helps to show the link between multiplication and division.</p> <p>In Year 2, children are introduced to the division symbol:</p> <p>12 shared between 3 is 4</p> $12 \div 3 = 4$
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# Literacy—writing

By the end of each term, children are expected to...

## Autumn Term

Use CL, FS, ?, ! with some accuracy  
Use CL for proper nouns  
Begin to write different types of sentences - questions, exclamations and commands  
Begin to write expanded noun phrases  
Use coordination - and, or, but  
Use subordination - when, if, because  
Use 'ed' for simple past tense and some irregular verbs  
Begin to understand present progressive and past tense verb forms

## Spring Term

Use CL, FS, ?, ! with increasing accuracy  
Mostly write grammatically correct sentences  
Able to write facts  
Use a range of coordination - and, or, so  
Use a range of subordination - when, if, but, because  
Begin to use adverbs ending 'ly'  
Begin to use a comma in a list  
Begin to use a comma for contractions  
To Begin identify and correct incorrect subject/verb agreements

## Summer Term

Use punctuation mostly accurately CL FS ? !  
Write grammatically correct sentences most of the time  
Use coordinating and subordinating conjunctions  
Write expanded noun phrases  
Use a comma in a list  
Use a comma for contractions  
Use an apostrophe to mark singular possession  
Use adverbs ending 'ly'  
Maintain tense accurately most of the time (simple and irregular past tense)  
Maintain form  
Spell words with the suffixes - ment, ness, less, ful



## *Literacy— Greater depth writing*

- write effectively and coherently for different purposes, drawing on their reading to inform the vocabulary and grammar of their writing
- make simple additions, revisions and proof-reading corrections to their own writing
- use the punctuation taught at key stage 1 mostly correctly
- spell most common exception words
- add suffixes to spell most words correctly (e.g. –ment, –ness, –ful, –less, –ly)
- use the diagonal and horizontal strokes needed to join some letters

# Literacy—reading

*By the end of the year children should...*

Y2	
<b>Decoding/ Fluency</b>	<p>apply phonic knowledge consistently to decode quickly and accurately</p> <p>decode alternative sounds for graphemes</p> <p>read most words containing common suffixes such as: -ment, -less, -ness, -ful and -ly.</p> <p>read a wider range of common exception words e.g. because, beautiful, everybody, should, whole, parents, money.</p> <p>read most words without overtly segmenting and blending</p> <p>read phonically decodable books with fluency; sound out unfamiliar words automatically</p> <p>recite familiar poems by heart</p> <p>use expression appropriately to support the meaning of sentences</p> <p>read 90wpm</p>
<b>Vocabulary</b>	<p>discuss the meanings of words; link new meanings to known vocabulary</p> <p>discuss favourite words and phrases</p> <p>recognise some repeating language in stories and poems</p> <p>discuss and identify the meaning of new words sometime independent</p> <p>discuss and recognise simple recurring literacy language</p>
<b>Inference</b>	<p>make inferences about characters' feelings using what they say and do.</p> <p>infer simple points and begin, with support, to pick up on evidence</p> <p>answer and ask questions and modifying answers as the story progresses</p> <p>use pictures or words to make inferences</p> <p>make insightful inferences based on information given</p>
<b>Prediction</b>	<p>predict what might happen based on what has been read in terms of plot, character and language so far</p> <p>make predictions using my own knowledge as well as what has happened so far</p>
<b>Explain</b>	<p>explain and discuss my understanding of narrative, information books and poems</p> <p>express own views about a book or poem</p> <p>discuss some similarities between books</p> <p>listen to the opinion of others</p> <p>discuss and express views about a range of non-fiction text, drawing comparison and explaining viewpoint</p>
<b>Retrieval</b>	<p>independently read and answer simple questions about what they have just read</p> <p>ask and answer retrieval questions</p> <p>remember significant events and key information about the text that read</p> <p>monitor their reading, checking words that they have decoded, to ensure that they fit within the text they have already read</p> <p>show clear comprehension of texts read independently</p>
<b>Sequence</b>	<p>discuss the sequence of events in books and how items of information are related.</p> <p>retell using a wider variety of story language.</p> <p>order events from the text.</p> <p>begin to discuss how events are linked focusing on the main content of the story</p> <p>discuss sequence of events accurately and know how items are related</p>

Children should be able to read  
these.....

Year 1 Common Exception Words (NC)		
the	a	do
to	today	of
said	says	are
were	was	is
his	has	I
you	your	they
be	he	me
she	we	ask
go	so	no
by	my	here
there	where	friend
love	come	some
one	once	school
put	push	
pull	full	
house	our	















Children should be able to read  
these.....

Year 2 Common Exception Words (NC)		
door	floor	poor
because	find	kind
mind	behind	climb
child	children*	wild
most	only	both
old	cold	gold
hold	told	clothes
every	everybody	hour
even	any	many
great	break	steak
pretty	beautiful	
after	fast	last
past	father	class
grass	pass	plant
path	bath	busy
move	prove	improve
sure	sugar	
could	should	would
eye	people	water
who	whole	again
half	money	parents
Mr	Mrs	Christmas

**\*Note:** 'children' is not an exception to what has been taught so far but is included because of its relationship with 'child'.

## Phase 2 grapheme information sheet



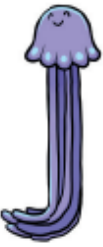















Autumn 1

Grapheme and mnemonic	Picture card	Pronunciation phrase	Formation phrase
 <span>s</span>	 snake	Show your teeth and let the <b>s</b> hiss out <b>ssssss ssssss</b>	Down the snake from head to tail.
 <span>a</span>	 astronaut	Open your mouth wide and make the <b>a</b> sound at the back of your mouth <b>a a a</b>	Around the astronaut's helmet and down into space.
 <span>t</span>	 tiger	Open your lips; put the tip of your tongue behind your teeth and press <b>t t t</b>	Down the tiger and across its neck.
 <span>p</span>	 penguin	Bring your lips together, push them open and say <b>p p p</b>	Down the penguin's back, up and around its head.
 <span>i</span>	 iguana	Pull your lips back and make the <b>i</b> sound at the back of your mouth <b>i i i</b>	Down the iguana and dot the leaf.
 <span>n</span>	 net	Open your lips a bit, put your tongue behind your teeth and make the <b>nnnnn</b> sound <b>nnnnn</b>	Down, up and over the net.
 <span>m</span>	 mouse	Put your lips together and make the <b>mmmmm</b> sound <b>mmmmm</b>	Down, up and over the mouse's ears.









## Phase 2 grapheme information sheet



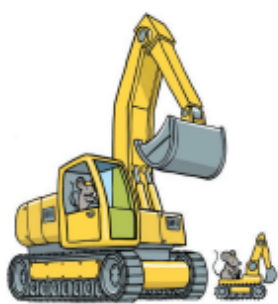
Autumn 2



Grapheme and mnemonic	Picture card	Pronunciation phrase	Formation phrase
 	 <p>jellyfish</p>	Pucker your lips and show your teeth use your tongue as you say <b>j j j</b>	Down the jellyfish and dot its head.
 	 <p>volcano</p>	Put your teeth against your bottom lip and make a buzzing <b>vvvvv vvvvv</b>	Down to the bottom of the volcano and back up to the top.
 	 <p>wave</p>	Pucker your lips and keep them small as you say <b>w w w</b>	Down and up and down and up the waves.
 	 <p>box</p>	Mouth open, then push the <b>cs/x</b> sound through as you close your mouth <b>cs cs cs (x x x)</b>	From the top, across the box to the bottom. From the top again across the box to the bottom.
 	 <p>yo-yo</p>	Smile, tongue to the top of your mouth, say <b>y</b> without opening your mouth <b>yyy</b>	Down, around the yo-yo and curl round the string.
 	 <p>zebra</p>	Show me your teeth and buzz the <b>z</b> sound <b>zzzzz zzzzz</b>	Across the top of the zebra's head, zig-zag down its neck and along.

# How to say the Phase 3 sounds

Grapheme	Catchphrase	Pronunciation phrase	Grapheme	Catchphrase	Pronunciation phrase
ai	 tail in the rain	Open your mouth wide and say <b>ai ai ai</b>	oo	 hook a book	Pucker your lips and keep them small as you say <b>oo oo oo</b>
ee	 sheep in a jeep	Smile with your lips apart and say <b>ee ee ee</b>	oo	 zoom to the moon	Open your mouth just a bit, put your hand on your tummy, pull your tummy in and say <b>oo oo oo</b>
igh	 a light in the night	Open your mouth in a relaxed way and say <b>igh igh igh</b>	ar	 march in the dark	Open your mouth wide, push your tongue down and say <b>ar ar ar</b>
oa	 soap that goat	Make an 'o' with your mouth and say <b>oa oa oa</b>	or	 born with a horn	Make an 'o' with your mouth, push your tongue down and say <b>or or or</b>

Grapheme	Catchphrase	Pronunciation phrase
ur	 <p>curl the fur</p>	<p>Open your mouth in a relaxed way, push your tongue down and say <b>ur ur ur</b></p>
ow	 <p>wow owl</p>	<p>Open your mouth wide then move your lips together as you say <b>ow ow ow</b></p>
oi	 <p>boing boing</p>	<p>Make an 'o' with your mouth then move your lips out as you say <b>oi oi oi</b></p>































Grapheme	Catchphrase	Pronunciation phrase
ear	 <p>get near to hear</p>	<p>Smile with your lips apart, push your tongue to your teeth as you say <b>ear ear ear</b></p>
air	 <p>chair in the air</p>	<p>Open your mouth wide, push your tongue down as you say <b>air air air</b></p>
er	 <p>a bigger digger</p>	<p>Open your mouth in a relaxed way, push your tongue down and say <b>ur ur ur</b></p>

Grapheme	Catchphrase	Pronunciation phrase	Phase 5 Graphemes
ear	 <p>get near to hear</p>	Smile with your lips apart, push your tongue to your teeth as you say <b>ear ear ear</b>	<b>ere</b> <b>ear</b>
air	 <p>chair in the air</p>	Open your mouth wide, push your tongue down as you say <b>air air air</b>	<b>are</b> <b>ere</b> <b>ear</b>
zh		Pucker your lips and show your teeth; push the air over your tongue as you say <b>zh zh</b>	<b>su</b> <b>si</b>

\*depending on regional accent

# Grow the code grapheme mat














Phase 2, 3 and 5

 s ss c se ce st sc	 t tt	 p pp	 n nn kn gn	 m mm mb	 d dd	 g gg	 c k ck cc ch	 r rr wr	 h
 b bb	 f ff ph	 l ll le al	 j g dge ge	 v vv ve	 w wh	 x	 y	 z zz s se ze	 qu
 ch tch ture	 sh ch ti ssi si ci	 th	 ng	 nk	 a	 e ea	 i y	 o a	 u o-e ou



# Grow the code grapheme mat

## Phase 2, 3 and 5

 ai ay a a-e eigh aigh ey ea	 ee ea e e-e ie y ey	 igh ie i i-e y	 oa o o-e ou oe ow	 oo ue u-e ew ou ui	yoo  ue u u-e ew	 oo u* oul	 ar a* al*
 or aw au aur oor al a oar ore	 ur er ir or	 ow ou	 oi oy	 ear ere eer	 air are ere ear	zh  su si	

\*depending on regional accent

## How to write capital letters

Use this document to ensure correct letter formation when you are teaching children to form capital letters.

Letter	Capital letter formation phrase
A	From the top, diagonally down to the left, up to the top, diagonally down to the right. Lift up and across.
B	From the top, down, back to the top. Round to the middle, round to the bottom.
C	From the top, curl around to the left to sit on the line.
D	From the top, down, back to the top. Curve right, down to the bottom.
E	From the top, down, back to the top. Across, back. Lift up and across the middle. Lift up and across the bottom line.
F	From the top, down, back to the top. Across, back. Lift up and across the middle.
G	From the top, curl around to the line, carry on up, then straight down. Lift up and across.
H	From the top and down. Space. From the top and down. Lift up and join the lines across the middle.
I	From the top to the bottom and stop.
J	From the top, all the way down, then short curl to the left.
K	From the top, down, up to the middle. Diagonally up, back and diagonally down to the line.
L	From the top, down and across the line.
M	From the top, down, back to the top. Diagonally down, diagonally up. Straight down to the line.
N	From the top, down, back to the top. Diagonally down, then straight up to the top.
O	From the top – all around the o.
P	From the top, down then back up. Curve right to halfway down.
Q	From the top – all around the o. Lift off. Short line diagonally down.
R	From the top, down, then back up. Curve right to halfway down. Diagonally down to the line.
S	From the top, under the snake's chin, slide down and round its tail.
T	From the top, down and stop. Lift up and from the left, make a line across the top.
U	From the top, down and curve right, then straight up to the top.
V	From the top diagonally right to the bottom, then diagonally up to the top.
W	From the top diagonally right to the bottom, diagonally up to the top, diagonally down to the line, then diagonally up again.
X	From the top, diagonally right to the bottom. Space. Start at the top, then diagonally left to the bottom.
Y	From the top diagonally right to the middle. Space. From the top diagonally left to the middle. Straight down to the bottom.
Z	From the top go across, diagonally down to the left and across the bottom.