



Year 3
learning
guide

Maths

What will be covered in year 3

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

By the end of Year 3, children are expected to have been taught...

Number – number and place value

Statutory requirements

Pupils should be taught to:

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- compare and order numbers up to 1000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1000 in numerals and in words
- solve number problems and practical problems involving these ideas.

Number – addition and subtraction

Statutory requirements

Pupils should be taught to:

- 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 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.

Number – multiplication and division

Statutory requirements

Pupils should be taught to:

- 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 positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Number – fractions

Statutory requirements

Pupils should be taught to:

- 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
- recognise and use fractions as numbers: 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 [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above.

Measurement

Statutory requirements

Pupils should be taught to:

- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes
- 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 and 24-hour clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight
- know the number of seconds in a minute and the number of days in each month, year and leap year
- compare durations of events [for example to calculate the time taken by particular events or tasks].

Geometry – properties of shapes

Statutory requirements

Pupils should be taught to:

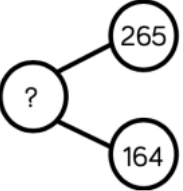
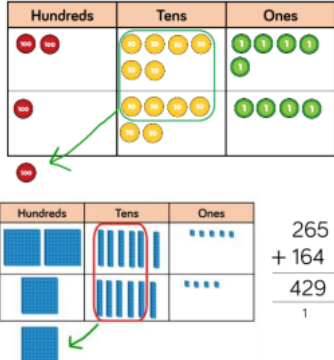
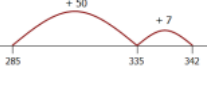
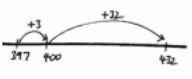
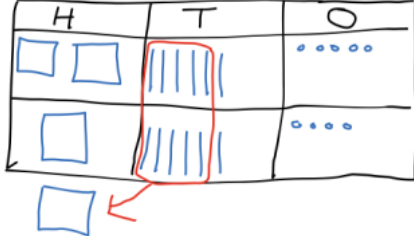
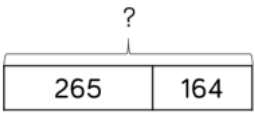
- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- recognise angles as a property of shape or a description of a turn
- identify right angles, recognise that two right angles make a half-turn, three make three quarters of 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.

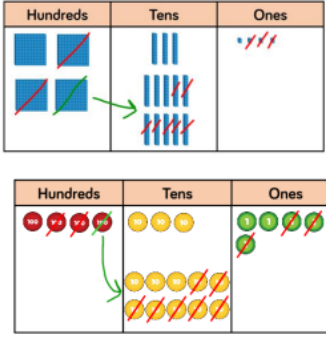
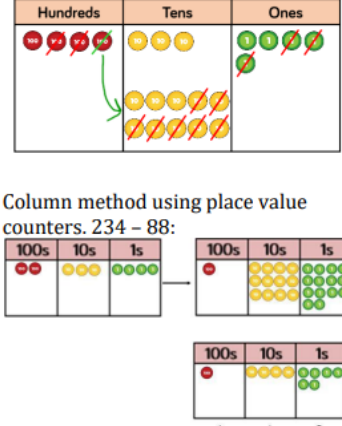
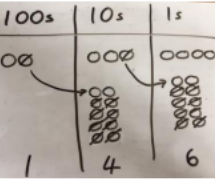

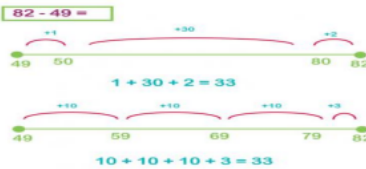
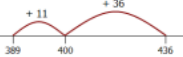
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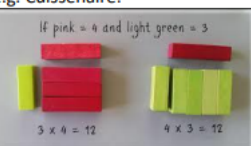
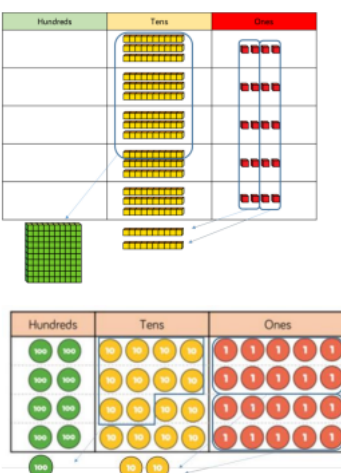
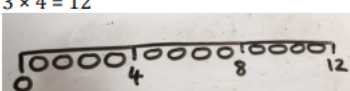
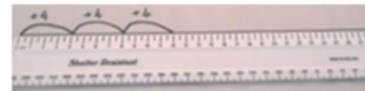
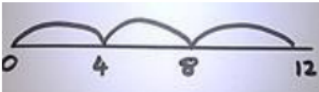
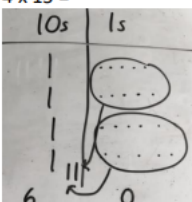
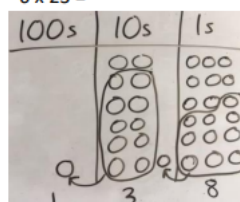
Statutory requirements

Pupils should be taught to:

- interpret and present data using bar charts, pictograms and tables
- 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.

+ Skill:	Concrete:	Pictorial:	Abstract:
<p>TO + TO HTO + TO HTO + HTO</p> <p>Introduce formal written methods of column addition.</p> <p>Continue to use pictorial and mental methods</p>	<p>Build on part-whole and bar models with base ten or place value counters:</p>  <p>All children use base 10/place value counters and place value charts to introduce/support formal column method:</p> 	<p>Draw/use Number lines:</p> <p>$57 + 285 = 342$</p>  <p>$397 + 35 = 432$</p>  <p>Expanded</p> <p>Vertical (used for selected children, if needed)</p> $\begin{array}{r} 300 + 70 + 4 \\ +200 + 40 + 8 \\ \hline 600 + 110 + 12 = 622 \end{array}$ <p>Ensure children draw (then write) their calculation alongside any concrete resources so they can see the links to the written column method:</p>  <p>Draw/use part-whole and bar models:</p> 	<p>HTO + O HTO + tens HTO + hundreds</p> <p>Use number facts and place value to solve problems.</p> <p>For mental calculations with TO numbers, answers could be >100.</p> <p>No number line (jottings)</p> <p>$57 + 285 = 342$ $285 + 50 = 335$ $335 + 7 = 342$</p> <p>If children are taught to add TO and HTO by using column formal method FIRST, they may not be able to add mentally two digit numbers which is a year 2 and beyond requirement. Formal methods are most efficient for adding and subtracting larger numbers and decimal numbers.</p> <p>Formal column method of addition:</p> $\begin{array}{r} 265 \\ + 164 \\ \hline 429 \\ 1 \end{array}$

- Skill:	Concrete:	Pictorial:	Abstract:
<p>TO - TO HTO - TO HTO - HTO</p> <p>Introduce formal written methods of column addition</p>	<p>All children use base 10/place value counters and place value charts to introduce/support formal column method:</p> <p>$435 - 273 = 162$</p>  <p>Column method using place value counters. $234 - 88 =$</p> 	<p>Represent base ten or the place value counters pictorially in drawn place value charts; remembering to show what has been exchanged.</p> <p>$234 - 88 =$</p>  <p>Draw part-whole and Bar Models:</p>  <p>Draw blank number lines:</p> <p>Find the difference by counting on or back:</p> <p>$82 - 49 =$</p>  <p>Progress to $436 - 389 = 47$</p> 	<p>Expanded vertical</p> $\begin{array}{r} 700 + 20 + 1 \\ - 200 + 20 + 7 \\ \hline 500 + 10 + 4 = 514 \end{array}$ <p>Some children might need to be taught the expanded method above. Most move straight to column. All should also use mental methods.</p> <p>Column method of subtraction:</p> <p>No exchanges: $874 - 523 = 351$</p> $\begin{array}{r} 874 \\ - 523 \\ \hline 351 \end{array}$ <p>With exchanges:</p> $\begin{array}{r} 435 \\ - 273 \\ \hline 162 \end{array}$ <p>minuend 985 subtrahend 589 difference 396</p> <p>Ensure children draw/write out their calculation alongside any concrete resources so they can see the links to the written column method and fully understand when to exchange.</p> <p>Estimate answers and use inverse to check.</p> <p>Use number facts and place value and apply methods learnt, including part-whole and bar model, to solve problems. Whole - part = part</p>

	Skill:	Concrete:	Pictorial:	Abstract:																																																				
x	<p>Yr 3: Write/calculate statements using the multiplication tables that they know (progressing to formal written methods). TO x O (multiplier is 2/3/4/5/8/10)</p> <p>Yr4: Use formal written layout: TO x O HTO x O</p>	<p>Use concrete resources to develop understanding of new multiplication facts/tables: e.g. Numicon:</p>  <p>e.g. Cuissenaire:</p>  <p>Use base ten/ place value counters and place value charts to introduce and represent: e.g. $245 \times 4 =$</p> 	<p>Draw number lines to show multiplication, moving to more abstract jumps on a blank number line: $3 \times 4 = 12$</p>    <p>Represent base ten or the place value counters pictorially in drawn place value charts; remembering to show what has been exchanged.</p> <p>$4 \times 15 =$</p>  <p>$6 \times 23 =$</p> 	<p>Expanded written multiplication method:</p> <table border="1"> <tr><td></td><td>H</td><td>T</td><td>O</td><td></td></tr> <tr><td></td><td></td><td>3</td><td>4</td><td></td></tr> <tr><td>x</td><td></td><td></td><td>5</td><td></td></tr> <tr><td></td><td></td><td>2</td><td>0</td><td>(5 x 4)</td></tr> <tr><td>+</td><td>1</td><td>5</td><td>0</td><td>(5 x 30)</td></tr> <tr><td></td><td>1</td><td>7</td><td>0</td><td></td></tr> </table> <p>Formal short multiplication method:</p> <table border="1"> <tr><td></td><td>H</td><td>T</td><td>O</td></tr> <tr><td></td><td>2</td><td>4</td><td>5</td></tr> <tr><td>x</td><td></td><td></td><td>4</td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table> <p>Use mental methods: <i>Practise mental methods and extend this to HTO numbers to derive facts, for example $200 \times 3 = 600$ into $600 \div 3 = 200$.</i> <i>Grid methods can be used to show mental method or to link with Place Value Chart concrete methods:</i></p> <table border="1"> <tr><td>x</td><td>20</td><td>6</td></tr> <tr><td>5</td><td>100</td><td>30</td></tr> </table> <p>= 130</p> <p>Yr3: Recall and use multiplication facts for the 3, 4, 6 and 8 multiplication tables.</p> <p>Yr 4: Recall multiplication facts to 12×12. Use place value, known & derived facts to multiply mentally, including \times by 0/1; \times 3 numbers. Recognise/use factor pairs and commutativity in mental calculations.</p>		H	T	O				3	4		x			5				2	0	(5 x 4)	+	1	5	0	(5 x 30)		1	7	0			H	T	O		2	4	5	x			4					x	20	6	5	100	30
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÷	<p>Divide 2 digits by 1 digit (sharing with no exchange)</p> <p>Divide 2-digits by 1-digit (sharing with exchange)</p> <p>Divide 2-digits by 1-digit (sharing with remainders)</p>	<p>Use base ten/ place value counters and place value charts to introduce and represent: 48÷2=24</p> <table border="1"> <thead> <tr> <th>Tens</th><th>Ones</th></tr> </thead> <tbody> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> </tbody> </table> <p>With exchange: 52÷4=13</p> <table border="1"> <thead> <tr> <th>Tens</th><th>Ones</th></tr> </thead> <tbody> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> </tbody> </table> <p>With remainders: 53÷4=13r1</p> <table border="1"> <thead> <tr> <th>Tens</th><th>Ones</th></tr> </thead> <tbody> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> </tbody> </table> <p>Children use sharing circles and part-whole and bar model mats to share counters, numicon and base ten equally or to use flexible partitioning.</p>	Tens	Ones					Tens	Ones									Tens	Ones											<p>Represent base ten or the place value counters pictorially in drawn place value charts; remembering to show what has been exchanged.</p> <p>Draw part-whole/bar models: 48÷2=24</p> <p>52÷4=13</p> <p>Grouping on a blank numberline (start at 0):</p> <p>96 ÷ 4 = 24</p> <p>20 x 4 4 x 4</p> <p>53 ÷ 4 = 13r1</p> <p>53</p>	<p>Part-whole models can provide children with a clear written method that matches the concrete representation.</p> <p>When dividing numbers with remainders, children can use Base 10 and place value counters to exchange one ten for ten ones. Starting with the equipment outside the place value grid will highlight remainders, as they will be left outside the grid once the equal groups have been made.</p> <p>Formal short division method:</p> <p>98 ÷ 7 = 14</p> <table> <tr><td></td><td>1</td><td>4</td></tr> <tr><td>7</td><td>9</td><td>8</td></tr> <tr><td></td><td>2</td><td></td></tr> </table> <p>252 ÷ 7 = 36</p> <table> <tr><td></td><td>3</td><td>6</td></tr> <tr><td>7</td><td>2</td><td>5</td></tr> <tr><td></td><td>2</td><td>4</td></tr> </table> <p>29 ÷ 8 = 3 REMAINDER 5</p> <table> <tr> <td>dividend</td> <td>divisor</td> <td>quotient</td> <td>remainder</td> </tr> <tr> <td>29</td> <td>8</td> <td>3</td> <td>5</td> </tr> </table>		1	4	7	9	8		2			3	6	7	2	5		2	4	dividend	divisor	quotient	remainder	29	8	3	5
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Literacy—writing

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

Autumn Term

Use noun phrases
Begin to use effective verbs
Use simple subordinating and coordinating conjunctions (when, before, after, while, so, because)
Use adverbs ending -ly
Begin to select determiners correctly a/an
Securely using regular past tense verbs (-ed) and common irregular verbs
Attempt to use direct speech with inverted commas
Use commas to separate items in a list
Use an apostrophe to mark singular possession
Using ? ! appropriately

Spring Term

Attempt to use paragraphs as a way of grouping relating information
Sometimes use pronouns to avoid repetition
Sometimes use prepositions (before, after, during, in, because of)
Express time, place and cause using adverbials
Attempt to use commas to separate main clause from subordinate clause
Begin to use a comma before closing inverted commas in direct speech
Begin to use apostrophe for regular plural nouns
Sometimes using present/past perfect e.g. He has/had gone out to play
Spell words with suffix s/es/ies, ness, er, tion

Summer Term

Write sentences with increasing accuracy
Choose appropriate punctuation for sentence type (? ! .)
Often include adverbs
Begin to use a comma after an adverbial that opens a sentence
Begin to use a comma to separate main clause from subordinate clause
Use a range of conjunctions to join ideas in a sentence
Maintain consistency in tense
Maintain form
Often use commas in a list
Use apostrophe for omission and possession (singular and regular plural)
Spell words with prefix - super, anti, dis, mis, in

Literacy—reading

By the end of the year children should...

<u>Y3</u>	
Fluency	<p>recite some poems (or songs) by heart, in groups and sometimes alone, building confidence and fluency</p> <p>when reading aloud, speak audibly and with growing fluency</p> <p>gradually internalise the reading process to read silently</p> <p>read 110 wpm</p> <p>re-read automatically to ensure the text makes sense, reading to the punctuation</p>
Vocabulary	<p>use dictionaries to check meaning of words read</p> <p>discuss words that capture readers interest or imagination</p> <p>identify how language choices help build meaning</p> <p>find the meaning of new words using substitution (synonyms) within a sentence</p> <p>discuss and explain vocabulary that captures the reader's imagination</p>
Inference	<p>infer characters' feelings, thoughts and motives from their stated actions or events</p> <p>justify inferences by referencing a specific point in the text</p> <p>ask/answer questions, including some simple inference</p> <p>ask questions based on characters' feelings, thoughts and motives</p> <p>without prompting, draw inferences and justify with evidence</p>
Prediction	<p>justify predictions using evidence from the text</p> <p>use relevant prior knowledge to make predictions and justify</p> <p>use details from the text to form further predictions</p>
Explain	<p>discuss the features of a wide range of fiction, poetry, plays, non-fiction and reference books</p> <p>identify how language, structure, and presentation contribute to meaning of both fiction and non-fiction texts</p> <p>recognise author's choices and the purpose of these</p> <p>listen to, discuss and justify views about a wide range of fiction, poetry and plays at a level beyond their level of independent reading</p>
Retrieval	<p>use contents page and subheadings to locate information</p> <p>learn the skill of 'skim and scan' to retrieve details</p> <p>begin to use quotations from the text</p> <p>retrieve and record information from a fiction text</p> <p>retrieve information from a non-fiction text</p> <p>retrieve and record information confidently from a non-fiction text</p>
Summarise	<p>identify main ideas drawn from a key paragraph or page</p> <p>begin to locate important and less important information</p> <p>give a brief verbal summary of a story</p> <p>with Teacher's modelling know how to record a summary</p> <p>identify themes within a text</p> <p>make simple notes from one source of writing</p> <p>summaries, with sufficient detail, their understanding of a text referring to characters, events and plot</p> <p>identify themes and conventions in a range of texts</p>

Children should be able to read
and write 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'.

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









Year 3 common exception words

Word	R	W	Word	R	W	Word	R	W
accident			consider			group		
accidentally			continue			guard		
actual			decide			guide		
actually			describe			heard		
address			different			heart		
although			difficult			height		
answer			disappear			history		
appear			early			imagine		
arrive			earth			increase		
believe			eight			important		
bicycle			eighth			interest		
breath			enough			island		
build			exercise			knowledge		
busy			experience			learn		
business			extreme			length		
calendar			famous			library		
caught			favourite			material		
centre			February			medicine		
century			forward			mention		
certain			forwards			minute		
circle			fruit			natural		
complete			grammar			naughty		



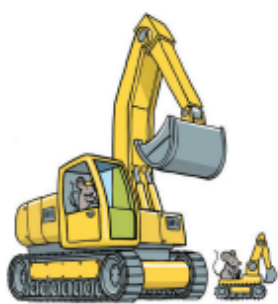
Children should be able to read
and write these.....



Word	R	W	Word	R	W	Word	R	W
notice			regular					
occasion			reign					
occasionally			remember					
often			sentence					
opposite			separate					
ordinary			special					
particular			straight					
peculiar			strange					
perhaps			strength					
popular			suppose					
position			surprise					
possess			therefore					
possession			though					
possible			thought					
potatoes			through					
pressure			various					
probably			weight					
promise			woman					
purpose			women					
quarter								
question								
recent								

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

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





























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

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 ear ear ear	ere ear
air	 <p>chair in the air</p>	Open your mouth wide, push your tongue down as you say air air air	are ere ear
zh		Pucker your lips and show your teeth; push the air over your tongue as you say zh zh	su si

*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.