

## Hyperlinked Core Curriculum

April 2022

The goal of this document is to provide our In-school Volunteers with ideas on how to work with a child on a specific skill. We hope it will also be of use to teachers and parents, and we are therefore making it publicly available on our website.

This document takes the Number Champions Core Curriculum and gives hyperlinks to appropriate resources for the individual skills. Many of these resources are written specifically for Number Champions by our Mentors, all of whom are experienced teachers. These resources are presented as ['PDF'](#).

There are also links to some third-party websites. We have restricted ourselves to sites which explicitly provide free information and where there do not seem to be issues with copyright. In some cases the sites ask you to register in order to download the document, but this should not involve any fee. (Many of the sites separately offer items for payment.) Where the resource is a video, we have aimed for a length of no more than 5 minutes. The links are a tiny fraction of the resources available.

As we cannot use online resources in our sessions, in some cases we have translated online games into written form. In these cases we have credited the source.

As you can see from the gaps, this is a work in progress. We will add new links as volunteers, Mentors, and others identify them, and to publish new versions periodically. We anticipate giving more than one resource for each skill.

If you identify any item where payment is being requested or where a site seems to limit our right to make the item available to a wide circulation, please let us know so that we can remove the link.

Our Mentors separately provide support to In-school Volunteers; if a volunteer is unsure how to access this support, please ask us.

If a volunteer has developed her or his own resource which they feel would be useful to others, please send us a description and we will discuss with you adding this to the next iteration of this document. We also would like to hear from you if you recommend an existing resource.


Lastly, we would welcome feedback on this document and on the individual links provided.

For any of the purposes above, please contact Number Champions at [mail@numberchampions.org.uk](mailto:mail@numberchampions.org.uk).

## Core curriculum Year 1

A glossary of terms is supplied separately

Where a skill means 'do mentally' it says 'mentally' or 'know'

Counting	+	-	X	÷	Measures
Read and write (in digits) numbers to 100. <a href="#">PDF</a>	Add two 1-digit numbers.	Use fingers or scoring out lines to do subtraction. <a href="#">PDF</a>	Use repeated addition for two: 2, 4, 6, 8, ... 20. <a href="#">PDF</a>	Draw half of circle, square, rectangle, or triangle.	Use ruler or tape as a number line.
Count forwards and back on number line. <a href="#">PDF</a>	Add any 2 numbers with total up to 20. <a href="#">PDF</a>	Count backwards or forwards on number line to do subtraction. <a href="#">PDF</a>	Count objects or dots in twos. <a href="#">PDF</a>	Find half of 2, 4, 6, 8, 10, or 12 when presented as 2 rows of counters or dots.	Measure small distances with ruler, including length of 1cm on finger to show child estimate.
Count on from any number. Thus, from 5, '6, 7, 8, 9, 10, 11..' <a href="#">PDF (same as count on number line)</a>	'Count on'. Eg, count 7+4 as '8, 9, 10, 11'. <a href="#">PDF</a>	Subtract 1-digit number from 1-digit number using aids. <a href="#">PDF</a>	Recognise an array as 'two threes' etc.  <a href="#">PDF</a>	Draw quarter of circle, square, or rectangle.	Use more than, less than for distances (also longer, shorter).
Count back from any number, say (9) '8, 7, 6..' <a href="#">PDF (same as count on number line)</a>	Know number bonds for 10. <a href="https://mathgeekmama.com/pyramid-fun-and-easy-math-card-game/">https://mathgeekmama.com/pyramid-fun-and-easy-math-card-game/</a> <a href="https://youtu.be/D1hwo pQLeCU">https://youtu.be/D1hwo pQLeCU</a> <a href="#">PDF</a>	Subtract numbers up to 20 using aids. <a href="https://www.youtube.com/watch?v=zccK5fxu8oc">https://www.youtube.com/watch?v=zccK5fxu8oc</a> <a href="https://www.youtube.com/watch?v=Blygi-IR6To">https://www.youtube.com/watch?v=Blygi-IR6To</a>	Use repeated addition for five: 5, 10, 15,...50. <a href="#">PDF</a>		Recognise different coins

		<a href="#">PDF (same as above 1-digit subtraction)</a>			
Understand columns labelled T, U are tens and units ('ones').  <a href="#">PDF</a>	Know number bonds for 20 in terms of $3 + 7 = 10$ so $3 + 17 = 20$ etc  <a href="#">PDF</a>	Subtract a 1-digit number from a 1-digit number mentally.  <a href="#">PDF</a>	Use repeated addition for ten: 10, 20, ... 100.  <a href="#">PDF</a>	Find quarter of 4, 8, 12, 16, or 20 when presented as four rows of dots or counters.	Equate 10p plus 1p coins to tens and ones as numbers.
Know 45 = 4 tens and 5 ones, etc. Know 16 = '1 ten and 6 ones' etc ('Place Value'). <a href="https://sites.google.com/site/primarycpd/latest-news/diyconcretematerialsforplacevalue">https://sites.google.com/site/primarycpd/latest-news/diyconcretematerialsforplacevalue</a>	Know $0 + \text{any number} = \text{same number}$ .  <a href="#">PDF</a>	Know any number - 0 = same number.  <a href="#">PDF</a>	<a href="https://www.tes.com/teaching-resource/free-multiplication-grid-6331818">https://www.tes.com/teaching-resource/free-multiplication-grid-6331818</a>	Recognise equal groups as step to understanding division. <a href="https://free-secret-resources.s3-eu-west-1.amazonaws.com/Year-2-Autumn-Block-4-Step-1-HW-EXT-Recognise-Equal-Groups.pdf">https://free-secret-resources.s3-eu-west-1.amazonaws.com/Year-2-Autumn-Block-4-Step-1-HW-EXT-Recognise-Equal-Groups.pdf</a>	Use more than, less than for cash amounts.
Know $<$ , $>$ , more than, less than, and compare numbers to 100.  <a href="#">PDF</a>  <a href="https://www.youtube.com/watch?list=RDCMUcW5diHfMyIPW3XNFzh4-1SA&amp;v=tFNoEHnxPvM&amp;feature=emb_rel_end">https://www.youtube.com/watch?list=RDCMUcW5diHfMyIPW3XNFzh4-1SA&amp;v=tFNoEHnxPvM&amp;feature=emb_rel_end</a>  <a href="https://nrich.maths.org/5572">https://nrich.maths.org/5572</a>	Use number sentences with + such as $18 = 3 + 15$ .  <a href="#">PDF</a>	Use number sentences with - such as $18 - 3 = 15$ .  <a href="#">PDF</a>			

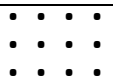
<p>Use number sentences such as <math>12 &gt; 3</math>, <math>0 &lt; 6</math></p>	<p>Add 10 to any 2-digit number.</p> <p><a href="#">PDF</a></p>	<p>Subtract 10 from any 2-digit number.</p> <p><a href="#">PDF</a></p>			
<p>Understand even (two balancing rows) or odd (one object left over).</p> <p><a href="#">PDF</a></p> <p><a href="#">Domino odd and even</a></p>	<p>Count on 'flipped', eg <math>4+7 = 7+4</math> so count '8, 9, 10, 11'.</p> <p><b><math>7+4 = 4+7</math> is the "Commutative property"</b></p> <p><a href="https://www.youtube.com/watch?v=WYggRpydBh8">https://www.youtube.com/watch?v=WYggRpydBh8</a></p>				

## Core curriculum Year 2

Needs to follow school teaching plan during year

Greyed boxes are if time permits

'Regrouping' is making 10 into ten 1s or ten 1s into a 10

Counting	+	-	X	÷	Measures
<p>Count from 0 in 2s, 3s, and 5s. Use this to count objects or dots in 2s, 3s, and 5s.</p> <p><a href="#">PDF</a></p>	<p>Mentally build on known addition facts: eg, <math>5+5 = 10</math> so <math>5+6=11</math>, to help addition.</p> <p><a href="#">PDF</a></p>	<p>Understand and use “- version of number bonds to 10”. Eg, <math>6+4=10</math> so <math>10-6=4</math>.</p> <p><a href="#">PDF</a></p>	<p>Know <math>3 \times 4 =</math> count of 3 rows of 4 etc.</p> 	<p>Know <math>12 \div 3</math> means split 12 equally between 3 people.</p> <p><a href="https://www.tes.com/teaching-resource/free-year-1-fraction-worksheet-12084501">https://www.tes.com/teaching-resource/free-year-1-fraction-worksheet-12084501</a></p>	<p>Know 1 metre = 100 centimetres.</p> <p><a href="#">PDF</a></p>
<p>Know even and odd for all numbers to 100.</p> <p><a href="#">Largest even or odd number</a></p>	<p>Add two 2-digit numbers without regrouping.</p> <p><a href="#">PDF</a></p> <p><a href="#">Challenge</a></p>	<p>Understand and use ‘- is inverse of +’. Eg, <math>7 + 8=15</math> so <math>15 - 8=7</math>.</p> <p><b>This video also covers a bit about addition, all in 5 minutes</b></p> <p><a href="https://www.youtube.com/watch?v=FtjkzSnZ4G4">https://www.youtube.com/watch?v=FtjkzSnZ4G4</a></p>	<p>Know <math>4 \times 3 = 3 \times 4</math> etc. ‘Commutative’</p> <p><a href="#">PDF</a></p>	<p>Know <math>12 \div 3</math> is not same as <math>3 \div 12</math>, etc. ‘Not commutative’.</p> <p><a href="#">PDF</a></p>	<p>Measure 1m on child’s height to give them an estimate of 1m.</p>
<p>Solve missing number problems such as. <math>3 + \square = 10</math>, <math>\square - 12 = 34</math> Generally use easier underlying sums.</p> <p><a href="https://nrich.maths.org/5652">https://nrich.maths.org/5652</a></p>	<p>Add a 1-digit to a 2-digit number with regrouping.</p> <p><a href="https://www.youtube.com/watch?v=pjhlq31kBo">https://www.youtube.com/watch?v=pjhlq31kBo</a></p>	<p>Subtract one 2-digit number from another with no regrouping. (Use Tens and Units headers if needed.)</p> <p><a href="#">PDF</a></p>	<p>Understand and use ‘÷ is inverse of X’. Eg, as <math>4 \times 5 = 20</math>, <math>20 \div 5 = 4</math> etc.</p>	<p>Understand fraction with 1 in top row (‘numerator’) <math>\frac{1}{2}</math> <math>\frac{1}{3}</math> <math>\frac{1}{4}</math> and draw these on square, rectangle.</p> <p><a href="#">PDF</a></p>	<p>Use symbols £ and p Know £1 is 100p. Be able to count amounts with coins.</p>

	<a href="https://www.youtube.com/watch?v=8mcTsyV56jl">https://www.youtube.com/watch?v=8mcTsyV56jl</a>  <a href="#">Challenge question</a>			<a href="https://www.youtube.com/watch?v=n0FZhQ_GkKw">https://www.youtube.com/watch?v=n0FZhQ_GkKw</a>	
Estimate numbers to nearest multiple of 10, seeing for example that 26 is closer to 30.	Use partitioning to support addition. Eg, $27 + 7 = 27 + 3 + 4 = 34$ .	Subtract 1-digit from 2-digit number with regrouping (with any aids needed). <a href="https://www.youtube.com/watch?v=Buyaqe_L5-Y">https://www.youtube.com/watch?v=Buyaqe_L5-Y</a>	Know 2 times table to 2 X 10. Eg, mentally, what is 6 times 2? See all values are even.	Know $2/4 = 1/4 + 1/4$ , $3/4 = 1/4 + 1/4 + 1/4$ etc. See $2/4 = 1/2$ in square.	Know 60 minutes is an hour. Tell time to closest 5 minutes including 1/4 past/to and half past.
Count on or back from any number in 10s.	Add two 2-digit numbers with regrouping.  <a href="#">PDF – links to videos</a>  <a href="#">PDF – column addition</a>	Use partitioning $23 = 20 + 3 = 10 + 13$ etc to support subtraction.	Know 10 times table to 100. Eg, mentally, what is 10 times 7?	Understand simple fractions of small numbers, eg 1/3 of 6. Relate to ÷.	See that minutes on clock give 5 times table.
Estimate sum of two numbers to nearest multiple of 10.	Mentally add all pairs of 1 digit numbers including sums over 10.	<a href="https://www.themeasuredmom.com/40-free-printable-math-games-for-math-fact-fluency/">https://www.themeasuredmom.com/40-free-printable-math-games-for-math-fact-fluency/</a>  <b>Free to get printable “Subtraction bingo” but you need to register on this site</b>	Know 5 times table to 10 X 5 and recognise pattern. <a href="https://nrich.maths.org/6962">https://nrich.maths.org/6962</a>	Understand $1/2 + 1/2 = 1$ $1/4 + 1/4 + 1/4 + 1/4 = 1$ $1/3 + 1/3 + 1/3 = 1$	Calculate change with simple examples.

<p>Solve simple word problems in +, -, X or ÷. Eg, 4 children each have 5 pencils – how many pencils in total?  <a href="https://rich.maths.org/7819">https://rich.maths.org/7819</a></p>	<p>Use <math>9+1 = 10</math> to add and subtract 9 mentally. Similarly, use <math>11 = 10+1</math> to add and subtract 11 mentally.</p>	<p>Use 'bar modelling' (see glossary) to solve word problems requiring subtraction</p>	<p>Reason that a number not ending in 0 or 5 does not divide by 5.</p>	<p>Understand remainder for small division sums: <math>7 \div 3</math> is 2 remainder 1.</p>	
	<p><b>A puzzle using addition</b>  <a href="https://rich.maths.org/179">https://rich.maths.org/179</a></p>		<p><a href="#">Multiplication Games</a></p>	<p><a href="#">Division Game</a></p>	