

# Ready to Progress Criteria & Number Fun Quick Links

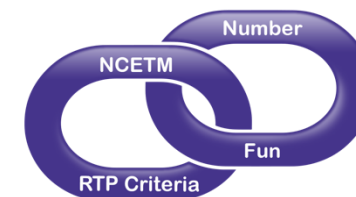
## Year 6

Here is a Quick Link reference guide to help you link 2020 DfE ready-to-progress criteria\* for Year 6 with the Number Fun resources.

This document contains:

- **Key Number Fun Song Video** – the ideal video to help children begin to explore this RTP Criteria.
- **Additional Number Fun Links** – additional material to support and extend the learning in this RTP Criteria.

Many song videos are accompanied by Teacher Ideas Packs, designed to provide creative games and activities to support the teaching of each objective.



For access to Dave's online training to support the concepts covered in the Ready to Progress Criteria strands, please check out our training portal: <https://teach.numberfun.com>

### KEY:

**SV** = Song Video

**SHOP**: Additional Downloadable PDF Resources

	Year 5 ready-to-progress criteria	Key Song Videos	Additional Links	Year 6 ready-to-progress criteria	Key Song Videos	Additional Links
Number & Place Value	<b>5NPV-1</b> Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.	<b><a href="#">Papa Titioning's Log Compound</a></b> <i>(Papa Titioning in a lumberjack who organises his logs in Base 10. The imagery here connects a splinter (1/1000<sup>th</sup> of a log) through to a compound (1,000,000 logs). A powerful tool for exploring place value.)</i>	<b><a href="#">SV: One Tenth</a></b> <b><a href="#">SHOP: Place Value Counter Playing Cards</a></b> <b><a href="#">SHOP: Papa Titioning's Log Playing Cards</a></b>	<b>6NPV-1</b> Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).	<b><a href="#">Papa Titioning's Log Compound</a></b> <i>(Papa Titioning in a lumberjack who organises his logs in Base 10. The imagery here connects a splinter (1/1000<sup>th</sup> of a log) through to a compound (1,000,000 logs). A powerful tool for exploring place value.)</i>	<b><a href="#">SV: One Tenth</a></b> <b><a href="#">SV: Jump</a></b> <b><a href="#">SHOP: Place Value Counter Playing Cards</a></b> <b><a href="#">SHOP: Papa Titioning's Log Playing Cards</a></b>
	<b>5NPV-2</b> Recognise the place value of each digit in numbers with up to 2 decimal places and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.	<b><a href="#">One Tenth</a></b> <i>(This video uses the imagery of Papa Titioning's logs and the relationship between a whole, tenths, hundredths, and thousandths.)</i>	<b><a href="#">SV: Papa Titioning's Log Compound</a></b> <b><a href="#">SV: Digit Zero</a></b> <b><a href="#">SHOP: Gattegno Grids</a></b> <b><a href="#">SHOP: Papa Titioning's Log Gattegno Charts</a></b>	<b>6NPV-2</b> Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.	<b><a href="#">Papa Titioning's Log Compound</a></b> <i>(Papa Titioning in a lumberjack who organises his logs in Base 10. Pause the video at the overview of his Log Classification System. Use alongside a Gattegno Grid to explore place value.)</i>	<b><a href="#">SV: Papa Titioning's Log Compound</a></b> <b><a href="#">SHOP: Papa Titioning's Log Playing Cards</a></b> <b><a href="#">SHOP: Gattegno Grids</a></b> <b><a href="#">SHOP: Papa Titioning's Log Gattegno Charts</a></b>

Number & Place Value	<p><b>5NPV-3</b> Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.</p>	<p><b><u><a href="#">Rock Anthem</a></u></b> (This counting song explores counting in decimal places on a number line. It is a simple song to adapt and use alongside the backing track recording.)</p>	<p><u><a href="#">SHOP: Number Line Strips</a></u></p>	<p><b>6NPV-3</b> Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.</p>	<p><b><u><a href="#">Lumber Lickin' Logs</a></u></b> (This video helps children read numbers with up to 10 digits. Explore the values created using Number Line strips.)</p>	<p><u><a href="#">SHOP: Number Line Strips</a></u></p>
	<p><b>5NPV-4</b> Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.</p>	<p><b><u><a href="#">Measurement Conversion Song</a></u></b> (This song converts units of length, mass and volume. A metre and a kilometre are measured into 2, 4, 5 and 10 equal parts.)</p>	<p><u><a href="#">SHOP: Number Line Strips</a></u></p>	<p><b>6NPV-4</b> Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.</p>	<p><b><u><a href="#">Measurement Conversion Song</a></u></b> (Use this song as an introduction to this concept. Where can you see equal parts? Use alternative scales e.g. mm instead of metres.)</p>	<p><u><a href="#">SHOP: Number Line Strips</a></u> <u><a href="#">SV: It's a Prefix</a></u> (Exploring common prefixes used in measurement, e.g. kilo, deci, giga, milli etc.)</p>
	<p><b>5NPV-5</b> Convert between units of measure, including using common decimals and fractions.</p>	<p><b><u><a href="#">Measurement Conversion Song</a></u></b> (This song converts units of length, mass and volume. A metre and a kilometre are measured into 2, 4, 5 and 10 equal parts.)</p>	<p><u><a href="#">SHOP: Number Line Strips</a></u></p>			
Number Facts	<p><b>5NF-1</b> Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.</p>	<p><b><u><a href="#">Table Troopers</a></u></b> (Check out Page 12 of this Resources Search Tool and click on the Table Trooper icon for the multiplication table you would like to access.)</p>	<p><u><a href="#">SV: Tables Recall Accelerator Challenge (Mega Toughies)</a></u> <u><a href="#">SHOP: Array Cards</a></u> <u><a href="#">SHOP: Multiplication Posters</a></u> <u><a href="#">SHOP: Times Tables Challenge Grids</a></u> <u><a href="#">SHOP: Multiplication Triangles</a></u></p>			
	<p><b>5NF-2</b> Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).</p>	<p><b><u><a href="#">Multiplication Manipulation Iso-Mega-Micro Machine</a></u></b> (This function machine takes a table fact (e.g. <math>7 \times 4 = 28</math>) and creates an Iso fact (e.g. <math>0.7 \times 40 = 28</math>), a mega fact (e.g. <math>70 \times 4 = 280</math>) and a micro fact (e.g. <math>0.7 \times 4 = 2.8</math>)</p>	<p><u><a href="#">SHOP: Place Value Counter Playing Cards</a></u> <u><a href="#">SHOP: Papa Titoning's Log Playing Cards</a></u></p>			

Addition & Subtraction				<p><b>6AS/MD-1</b> Understand that 2 numbers can be related additively or multiplicatively and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).</p> <p><b>Calculation</b> (This song explores the language and structures of calculation story examples. Use the imagery to explore relationships. When exploring addition &amp; subtraction, find the multiplicative relationship and visa-versa.)</p>	
				<p><b>6AS/MD-2</b> Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.</p> <p><b>6AS-2: Manipulate the Calculation (+)</b> <b>6MD-2: Manipulate the Calculation (*)</b> (Each of these videos provide examples of how we might manipulate calculations using number properties and inverses.)</p>	<p><a href="#">SV: Manipulate the Calculation (-)</a> <a href="#">SV: Manipulate the Calculation (+)</a></p>
				<p><b>6AS/MD-3</b> Solve problems involving ratio relationships.</p> <p><b>Declan the Dodgy Decorator</b> (Declan is mixing colours in preparation for decorating a house. How many pots will he need of each colour?)</p>	<p><a href="#">SHOP: Here's the Model, What's the Question</a> (Open-ended Bar Model resources – ideal for this RTP Criteria.)</p>
				<p><b>6AS/MD-4</b> Solve problems with 2 unknowns.</p> <p><b>Honest Joe's Dodgy Discount Store</b> (Honest Joe is working out percentage discounts for some of the special items found in his store. Use the story scenario to move from 1 to 2 unknowns. E.g. the discount was £1, what could the original price and the percentage discount have been?)</p>	<p><a href="#">SHOP: Here's the Model, What's the Question</a> (Open-ended Bar Model resources – ideal for creating simple problems with more than 1 unknown.) <a href="#">Visual Bar Model Policy</a> (Check out this policy for a wide range of single and multi-step Bar Model problems.)</p>
Multiplication and Division	<p><b>5MD-1</b> Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.</p>	<p><b>Jump</b> (The first two sections of this video explore multiplying and dividing by 10 and 100 – the digit's jump!)</p>	<p><a href="#">SV: Papa Titoning's Log Compound</a> <a href="#">SHOP: Gatteqno Grids</a></p>	<p>For Year 6, MD ready-to-progress criteria are combined with AS ready to-progress criteria (please see above).</p>	<p>See above</p>
	<p><b>5MD-2</b> Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.</p>	<p><b>Factors and Multiples</b> (This video gives clear definitions for factors and multiples alongside worked examples.)</p>	<p><a href="#">SV: Prime Number Baubles</a> <a href="#">SHOP: Number Fun Zoo – Factors</a></p>		

Multiplication and Division	<p><b>5MD–3</b> Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.</p>	<p><a href="#"><u>Papa Tittoning's Multiplication Song</u></a> (This is column multiplication in a story context. There are 3 versions of this video - the link here is the hardest version.)</p>	<p><a href="#"><u>SV: Calculation</u></a> (This video helps children learn the key vocabulary for calculation and the structures behind each operation.)</p>			
	<p><b>5MD–4</b> Divide a number with up to 4 digits by a one-digit number using a formal written method and interpret remainders appropriately for the context.</p>	<p><a href="#"><u>Papa Tittoning's Division Song</u></a> (This is short division in a story context. There are 3 versions of this video - the link here is the hardest version. The video provides clear conceptual understanding.)</p>	<p><a href="#"><u>SV: Calculation</u></a> (This video helps children learn the key vocabulary for calculation and the structures behind each operation.)</p>			
Fractions				<p><b>6F–1</b> Recognise when fractions can be simplified and use common factors to simplify fractions.</p>	<p><a href="#"><u>The Missing Chunk</u></a> (Countess Vulga and Count Mixeda explore ways of simplifying fractions (especially verse 3) and the benefits of converting to decimals and percentages)</p>	
	<p><b>5F–1</b> Find non-unit fractions of quantities.</p>	<p><a href="#"><u>Working out a Discount</u></a> (Honest Joe is working out discounts on some of the items in his Discount Store)</p>	<p><a href="#"><u>SHOP: Here's the Model, What's the Question</u></a> (Open-ended Bar Model resources – ideal for this RTP Criteria.)</p>	<p><b>6F–2</b> Express fractions in a common denomination and use this to compare fractions that are similar in value.</p>	<p><a href="#"><u>Fraction House Rock</u></a> (This is a classic Number Fun song that explores equivalent fractions – required for converting to common denominators)</p>	
				<p><b>6F–3</b> Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.</p>	<p><a href="#"><u>The Missing Chunk</u></a> (Countess Vulga and Count Mixeda are working out how much of the royal chocolate bar is missing. Pause the video at the set-up of each verse. How can we compare the three fractions involved and put them in order?)</p>	<p><a href="#"><u>Visual Fractions Policy</u></a> (Check out this policy for a wide range of posters to help children master Fractions)</p>
	<p><b>5F–2</b> Find equivalent fractions and understand that they have the same value and the same position in the linear number system.</p>	<p><a href="#"><u>Fraction House Rock</u></a> (This is a classic Number Fun song that explores equivalent fractions)</p>	<p><a href="#"><u>SHOP: Number Line Strips</u></a> <a href="#"><u>SHOP: Fraction Blocks</u></a></p>			
	<p><b>5F–3</b> Recall decimal fraction equivalents for <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math> and <math>\frac{1}{10}</math> and for multiples of these proper fractions.</p>	<p><a href="#"><u>Decimal Fractions Parrot</u></a> (A memory song for decimal fraction equivalents)</p>	<p><a href="#"><u>SHOP: FDP Triangles</u></a> <a href="#"><u>SV: Fraction Recall Accelerator Challenge</u></a> (For fluent recall)</p>			

<b>Geometry</b>	<b>5G–1</b> Compare angles, estimate, and measure angles in degrees ( $^{\circ}$ ) and draw angles of a given size.	<u><a href="#">Polygon Properties Picture Prize</a></u> <i>(This video provides a context for estimating and measuring angles. It provides a context for challenging children to draw angles too.)</i>	<u><a href="#">SV: 360 Degrees</a></u> <u><a href="#">SHOP: Polygon Property Pictures</a></u>	<b>6G–1</b> Draw, compose, and decompose shapes according to given properties, including dimensions, angles, and area, and solve related problems.	<u><a href="#">Polygon Properties Picture Prize</a></u> <i>(This video provides a creative context for drawing, composing and decomposing polygons. See the <a href="#">Polygon Property Pictures</a> resources set.)</i>	<u><a href="#">Formula</a></u> <i>(Formulas for calculating area and circumference.)</i> <u><a href="#">SHOP: Polygon Property Pictures</a></u>
	<b>5G–2</b> Compare areas and calculate the area of rectangles (including squares) using standard units.	<u><a href="#">Colin Fritter, Carpet Fitter</a></u> <i>(Colin Fritter fits carpets in rectangular rooms. The unit used in this video is square metres.)</i>	<u><a href="#">SHOP: Polygon Property Pictures</a></u> <i>(Explore the areas of the pictures found in this adaptable resource by asking, 'what if' type challenges.)</i>			

**\*DfE Guidance:** 'Teaching mathematics in primary schools June 2020', can be downloaded in full, or per year group, from this page: [www.gov.uk/government/publications/teaching-mathematics-in-primary-schools](http://www.gov.uk/government/publications/teaching-mathematics-in-primary-schools) Summary tables on pages 9-15 (of the full, Years 1-6 document) track criteria across year groups. Within the year group documents, the 'Making connections' blue boxes, detail connections across criteria.

**Number Fun Resources Search Tool** – this is a full hyperlinked listing of all the 320+ Number Fun Song Videos that are categorised according to mathematical domain and sub-domain. This tool is found on the homepage on numberfunportal.com or can be downloaded here: <https://resources.numberfunportal.com/Teacher+Portal/planning-tool.pdf>

*Number Fun song videos are designed to be powerful tools for communicating conceptual understanding and stimulating reasoning through story, song, visualisation, animation and humour.*

<https://numberfun.com> – For access to all the Number Fun Resources: teaching portals, online training website, visual policies and the Number Fun Shop