A Number Fun Quick Link Guide for:

White Rose Maths

Year: 3

Number: Multiplication & Division

Spring Term 2022:

Block: 1 Weeks: 1 to 3

Here is a quick reference guide to help you link the White Rose Planning with the Number Fun Resources.

This document contains hyperlinks to:
Key Number Fun Song Video – the ideal video to help children begin to explore this small step.
Additional Number Fun Links – additional resources to support and extend the learning within this small step.

Check out our Guide to using Number Fun Videos and Portal effectively. Many Number Fun videos are accompanied by Teacher Ideas Packs, designed to provide creative games and activities to support the teaching of each objective. For information about all the Number Fun Training, Consultancy and Resources visit: www.numberfun.com.

Hyperlinks:

Click the Video Thumbnail
The hyperlink will take you to this song's page on the Number Fun Portal
(Note: You will need to log into the Number Fun Portal to access each song's resources.)

Click the Icon Thumbnail to hyperlink to this resource in the Number Fun online Shop

Click the Concept Teaching Video Thumbnail to hyperlink directly to the video

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Top Warm-Up Suggestions

The Tables Recall Accelerator Challenge encourages children into quick recall of facts. It comes in 2 versions. The main video includes the audio of the products in time with the song. The second does not have the audio and a delayed representation on screen.

Top Shop Suggestion

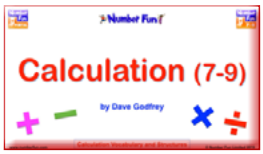
Array Cards

This set of 144 playing cards help children visualise and reason about multiplication facts. Each playing card includes an array image with red and yellow circles. What if each counter is worth 10p? How much would each array cost?

Conceptual Understanding

'Lots of' & 'Multiplied by'

Is the picture represented here showing 3 x 4 = 12 or 4 x 3 = 12? When I was a child, I was taught to read 3 x 4 as 3 'lots of' 4. This is the convention often used in these White Rose small steps. You could reason that this image is better understood as 4 x 3 = 12. This is certainly true when using the mathematical phase 'multiplied by'. The image shows repeated addition: 4 + 4 + 4 = 12. 4 is being 'multiplied' 3 times, i.e. 4 x 3 = 12. 4 is the 'multiplicand' (the number to be multiplied) and 3 is the 'multiplier' (the number by which 4 is being multiplied). Multiplying 4 by 3 gives you the 'product' of 12. This convention has been recommended by NCETM for the last 2 decades and is used in the Number Fun videos. The 'multiplied by' image is also preferable when considering the Scaling structure of multiplication, (see the videos linked here to explore this structure). Lastly, when we think about 135 x 3, is it best understood as '135 lots of 3' or 135 multiplied 3 times? Surely the latter is preferable... Thank goodness multiplication is commutative!

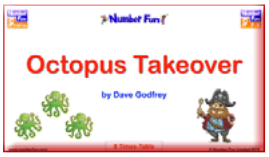


Small Steps

1: Consolidate 2, 4 & 8 times-tables

This Multiple Battle sets the 2s verses the 4s verses the 8s. It explores, accompanied by visualistions, the relationship between the three sets of multiples.

Get Your Bananas is a 4 times-table song about bunches of bananas. Also check out the Table Troopers Video for the 4 times-table.



The Octopus Takeover video explores the 8 times-table, with the octopuses gradually taking over a pirate ship.

Table Troopers is a fact recall video that includes counting in multiples, the table facts in order and then out of order. See the video for the 4 times-table.

Times-Table Story Cards

This ultimate download contains a set of playing cards for each of the 3, 4, 5, 6, 7, 8, 9, 11 & 12 Times-Tables – 50 pages in total. Each table is linked to the story context explored in their respective song videos on the Number Fun Portal.

Array Cards

This set of 144 playing cards help children visualise and reason about multiplication facts. Each playing card includes an array image with red and yellow circles in groups of 5, mirroring a Rekenrek or Slavonic Abacus representation

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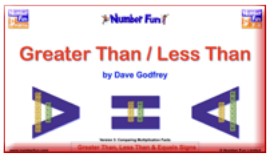
2: Comparing statements



This version of the Greater Than/ Less Than video (which includes the Equals Sign too) compares multiplication statements alongside array imagery. It has been created specifically to support this small step.

Array Cards

This set of 144 playing cards help children visualise and reason about multiplication facts. Each playing card includes an array image with red and yellow circles. Cut off the abstract fact line and compare images. Which is greater? How do you know?

3: Related calculations

In this version of the Robotic Functioning Machine, the machine is creating related calculations. Pause the video after each calculation is put in the machine and challenge children to record on a whiteboard the related calculation. Can they correctly predict which related calculation the machine will produce?

Array Cards

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4: Multiply 2-digits by 1-digit (1)

In the first verse of this video, the Robotic Functioning Machine is multiplying numbers by 3. The numbers are in the abstract. Pause the video after each multiplicand is placed in the machine. Challenge children to use Base 10 to calculate the product. Then reveal the product.

5: Multiply 2-digits by 1-digit (2)

Papa Titioning is a lumberjack who organises his logs into stacks of 10 and loose logs to mirror our Base 10 system. This video helps children understand 2-digit by 1-digit column multiplication, with regrouping, in a story context.

Papa Titioning's Logs

This PDF includes images of Papa Titioning's Logs – loose logs, stacks of 10, crates of 100 and containers of 1000. A story version of the Base 10 / Dienes materials.

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6: Divide 2-digits by 1-digit (1)

This video introduces children to the Mental Chunking or Partitioning strategy for solving 2-digit by 1-digit division. The Hunk is the biggest chunk and defined as 10 times the divisor. A very catchy video that will get you dancing away. Use verse 1 and reason. Note: This strategy uses the grouping structure.

7: Divide 2-digits by 1-digit (2)

Papa Titioining is back with the challenge of sharing some of his logs between different numbers of care homes. Focus on the Base 10 imagery and animation to highlight how Papa T. has to regroup a stack of 10 into 10 ones in order to share fairly.

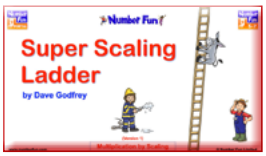
Papa Titioning's Logs

This PDF includes images of Papa Titioning's Logs – loose logs, stacks of 10, crates of 100 and containers of 1000. A story version of the Base 10 / Dienes materials.

8: Divide 2-digits by 1-digit (3)

The Grouping and Remainder Dance has proved to be a powerful tool for helping children work confidently with remainders. Groups of children are encouraged to get into groups of a certain size. In each case there is a remainder. Can you enact a version of your own?

9: Scaling



Basic Version

Alternative Version

Farmer Pete has lost some of his animals. They are hiding up in a tree, on top of the barn etc. Pete calls in Firefighter Esme who has a Super Scaling Ladder to rescue the animals. A powerful video for developing understanding of the Scaling structure of multiplication.

10: How many ways?