# A Number Fun Quick Link Guide for:

# White Rose Maths



## Year: 5

## Number: Multiplication & Division

## Autumn Term 2021:

## Block: 4 Weeks: 8 to 10

**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.)*

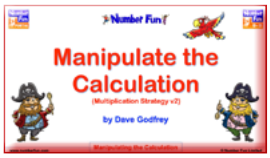
**Click the Icon Thumbnail** to hyperlink to this resource in the Number Fun online Shop

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

# Year: 5 Autumn Weeks: 8 to 10

# Number: Multiplication & Division

## Top Number Fun Warm-Up Suggestions




Pirate Captain Hugh and Pirate Captain Bert needs some help with multiplication. Hugh's parrot provides them with a great mental strategy for calculating the product. Play, pause and reason your way through this video.


The Multiplication Master has built the Sneaky Scaling Blaster! This fun-filled story video helps children grasp the Scaling structure of multiplication. When multiplying by a fraction, e.g. 1/10th, we have a clear image that links to division too.

## Top Number Fun Shop Suggestions

All shop suggestions are downloads unless highlighted otherwise.

### Times Table Challenge Grids

This set includes 6 different speed grids. Children are challenged to complete the grids at speed and to recognise which table facts they do not know fluently. Use these for recall and formative assessment.

### Square, Cubed and Prime Number Cards

This PDF contains three sets of cards to help children memorise and explore square, cubed and prime numbers.

## Small Steps

## 1: Multiples


This video explores the Factors and Multiples of 10, 24 and 0.5. The video includes clear definitions of a factor and a multiple and is accompanied by visualisations of Number Shapes to support conceptual understanding.

## 2: Factors


This video explores the Factors and Multiples of 10, 24 and 0.5. The video includes clear definitions of a factor and a multiple and is accompanied by visualisations of Number Shapes to support conceptual understanding.
(Also see Factor Spider Video)

### Number Fun Zoo - Factors

The Number Fun Zoo is a hundred square with a difference! Each animal represents a different number of factors. Dog = 1 factor, chicken = 4 factors etc. What do the children notice about the hundred square? Can they work out how many factors each animal is representing?

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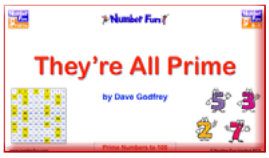
## 3: Common factors


Use this video to recap on the definitions of a factor and a multiple. Do 10 and 24 have any common multiples? Does the representation of both numbers using Number Shapes reveal any common factors?

## 4: Prime numbers

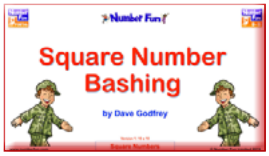



This dance track video provides children with a clear definition of a prime number. It also helps children remember all the prime numbers from 1 to 100. Encourage children to sing out the verses, but come up with a dance during the chorus! Great for memory and engagement! The dancing number visualisations have been carefully created.


Eratosthenes was a Greek mathematician who came up with a strategy for finding all the 2-digit primes by discounting multiples of single digit primes.


Also check out the video: Prime Number TV for Primes up to 20.

## 5: Square numbers

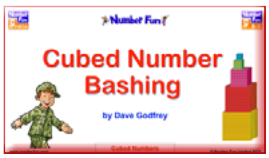



This has been a very popular Number Fun Video. Square Number Bashing is a memory song which helps children remember a clear definition of a square number and to remember the square numbers up to 100. The video includes visualisations of the square numbers on an abacus.

### Square, Cubed and Prime Number Cards

This PDF contains three sets of cards to help children memorise and explore square, cubed and prime numbers. The Square Number Cards include visualisations used in the Square Number Bashing Video.

## 6: Cube numbers




Cubed Number Bashing is a version of Square Number Bashing aimed at helping children remember a clear definition of a cubed number and to remember the cubed numbers up to 100. Again the video includes visualisations of the cubed numbers using cubes.

### Square, Cubed and Prime Number Cards

This PDF contains three sets of cards to help children memorise and explore square, cubed and prime numbers. The Cubed Number Cards include visualisations used in the Cubed Number Bashing Video.

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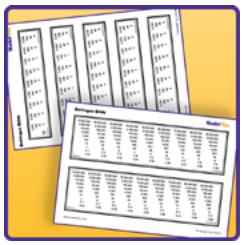
# Number: Multiplication & Division

## 7: Multiply by 10


Use the first 48 seconds of this video to see a story example of multiplying by 10 using the scaling structure of multiplication, i.e. 2 metres, 10 times the size (or 10 times bigger). Reason that multiplying by 10 can mean making a number 10 times the size.



### Gattegno Charts

Gattegno Grids are powerful tools for exploring multiplication and division by 10, 100 and 1000. Print and utilise as required.

## 8: Multiply by 100


Jump helps children visualise what happens to a number when you multiply and divide by 10, 100 and 1000 on a place value grid. Link the first verse to the previous small step and the second verse to visualise what happens when you multiply and divide by 100.

### Papa Titioning's Log Gattegno Charts

This is a story context version of a Gattegno grid. Papa Titioning is a lumberjack who organises his logs into multiples of 10. Use the grid to explore multiplication and division by 10, 100 and 1000.

## 9: Multiply by 10, 100 & 1,000


Return to the Jump video. Check out the extra video underneath the song video and mirror this in your classroom for extra impact! Dress some children up in football bibs - these children jump to and from masking tape marks on the floor. Encourage all the children to jump and mirror their moves!


In this video Pirate Captain Hugh is giving Pirate Captain Bert some clues to some treasure. This involves converting from kilometres to metres and from metres to kilometres. Verse 1 involves Bert converting 1.2km into 1200 metres.

## 10: Divide by 10


Use the first chorus and verse of this video to set up a reasoning question and to explore how the 'grouping' understanding of division by 10 relates to numbers. 4265 ÷ 10 means, 'how many 10s in 4265'. The imagery reveals 426 tens and 5 ones.
Therefore 4265 ÷ 10 = 426.5


The Multiplication Master has built the Sneaky Scaling Blaster! Her evil plan is to shrink all the schools in the world so no children can fit in and go to school. This video explores the Scaling structure of multiplication. In the conclusion Boffin sets the blaster to Scale factor 1/10th... shrinking them both to a tenth of the size.

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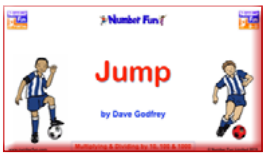
## 11: Divide by 100




Jump helps children visualise what happens to a number when you multiply and divide by 10, 100 and 1000 on a place value grid. Link the first verse to the previous small step and the second verse to visualise what happens when you multiply and divide by 100.

**Base 10 Playing Cards**

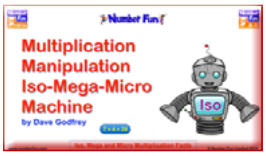
Print and chop to create a set of playing cards with four suits - Ones, Tens, Hundreds and Thousands. Deal a card and divide it by 100. Utilise for a host of games and activities.
(Check out Place Value Counter Playing Cards and Papa Titioning's Log Playing Cards too!)

## 12: Divide by 10, 100 & 1,000


Return to the Jump video. After exploring this sequence of small steps, they should now have a clear understanding of what happens when you multiply and divide by 10, 100 and 1,000. Use this video to celebrate that understanding.


In this video Pirate Captain Hugh is giving Pirate Captain Bert some clues to some treasure. This involves converting from kilometres to metres and from metres to kilometres. Verse 2 involves Bert converting 4500m into 4.5 kilometres.

## 13: Multiples of 10, 100 & 1,000




The Multiplication Manipulation Iso-Mega-Micro Machine is very clever! It converts a known fact, e.g. 7 x 4 = 28 into
(1) Iso fact (same product) e.g. 0.7 x 40 = 28
(2) Mega Fact e.g. 70 x 4 = 280
(3) Micro Fact e.g. 0.7 x 4 = 2.8
Each time children are multiplying and dividing the factors using multiples of 10 (or 100 or 1000)