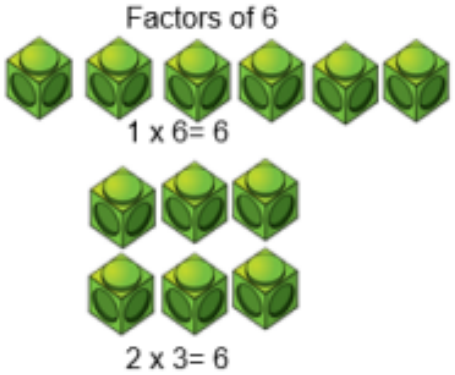
KIRF: I can find factor pairs of a number.

Children should now know all multiplication and division facts up to 12 × 12. When given a number in one of these times tables, they should be able to state a factor pair which multiply to make this number.

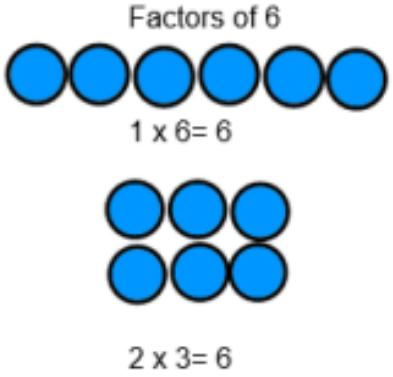
Year Five – Autumn 1

What can this look like?

Concrete:



Pictorial:



Abstract:

Factors of 6

1 x 6 = 6

factor factor product

2 x 3 = 6

factor factor product

1, 2, 3, 6

Questions to ask at home

Can you find a **factor** of 28?

Find two numbers whose **product** is 20.

How many **factors** does 25 have?

Key vocabulary

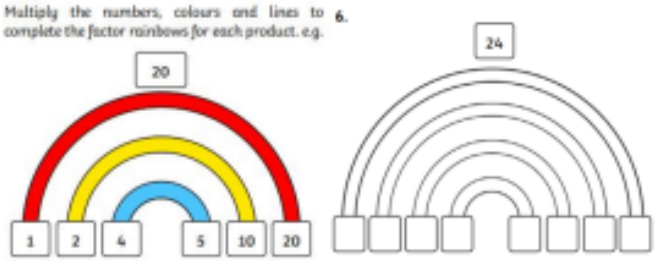
Array- An ordered collection of counters, cubes or other item in rows and columns.

Factor- A number that multiplies with another to make a product.

Product- The result of multiplying one number by another.

Things to try

Factor Rainbows- children can draw, paint or chalk factor rainbows.



Websites:

https://www.topmarks.co.uk/maths-games/multiples-and-factors

https://www.mathnook.com/math/math-speed-racing-factors.html

https://www.math-play.com/Factors-Millionaire/factors-millionaire-game_html5.html

https://whiterosemaths.com/homelearning/year-5/week-8-number-multiplication-division/

KIRF: I can identify prime numbers up to 20

A prime number is a number with only two factors- itself and one. The aim is for children to recall the prime numbers to 20 instantly.

Year Five – Autumn 2

What can this look like?

Concrete:

5 is a prime number

Pictorial:

5 is a prime number

5				
1	1	1	1	1

5
5

Abstract:

Prime numbers to 20

2 3 5 7

11 13 17 19

Questions to ask at home

What is a **prime number?**

What is a **composite number?**

What are the **prime numbers** to 20?

Key vocabulary

Composite number- A whole number that can be made by multiplying other whole numbers.

Factor- A number that multiplies with another to make a product.

Multiple -The result of multiplying a number by an integer.

Prime number - A whole number with only two factors, one and the number itself.

Things to try

Penta primes

Here are ten cards numbered 0 to 9:

Using all ten cards, rearrange them to make five prime numbers.

Can you find a way of doing it with five two-digit numbers?

How about using one one-digit number, one three-digit number and three two-digit numbers? ...

Websites:

https://www.bbc.co.uk/bitesize/topics/zfq7hyc/articles/z2q26fr

https://www.transum.org/Maths/Game/Prime_Pairs/

https://www.primarygames.com/math/matheggsprime/

https://whiterosemaths.com/homelearning/year-5/week-8-number-multiplication-division/

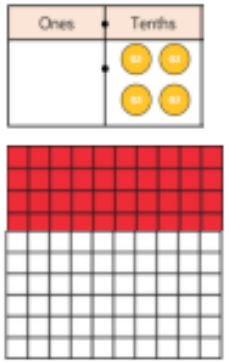
KIRF: I can recognise equivalent fractions and decimals.

Fractions are part of a whole, just like decimals are part of a whole. There are equivalents of fractions and decimals. For example ¼ is the same as 0.25. 9/10 is equivalent to 90/100 and 0.9. Children need to be able to recognise these instantly.

Year Five – Spring 1

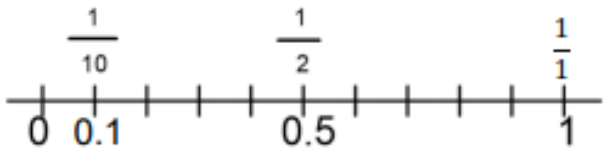
What can this look like?

Concrete:



$0.4 = \frac{4}{10}$

Pictorial:



Abstract:

Fraction	Decimal
$\frac{1}{2}$	0.5
$\frac{1}{4}$	0.25
$\frac{3}{4}$	0.75
$\frac{1}{10}$	0.1
$\frac{2}{10}$	0.2
$\frac{3}{10}$	0.3

Questions to ask at home

How many **tenths** is 0.8?
How many **hundredths** is 0.12?
Write 0.75 as a **fraction**?
Write $\frac{1}{4}$ as a **decimal**?

Key vocabulary

Convert- To change the expression without changing the size or amount.
Decimal number- A number with a decimal point.
Fraction- A fraction represents the equal parts of the whole.
Hundredth- One out of 100 equal parts. The fraction form is $\frac{1}{100}$ and the decimal 0.01
Tenth- One out of 10 equal parts. The fraction form is $\frac{1}{10}$ and the decimal 0.1

Things to try

Dominos- write the fraction and decimal the domino is showing
Bingo- make your own fraction to decimal bingo game
Pairs game- make your own fraction and decimal card matching game

Websites:

https://www.mathplayground.com/ASB_Puppy_Chase_Decimals.html
https://www.transum.org/software/SW/Starter_of_the_day/Students/Pairs.asp?Topic=15
https://mrnussbaum.com/death-to-decimals-and-the-adventures-of-fraction-man-online-game
https://whiterosemaths.com/homelearning/year-5/spring-week-10-number-decimals-and-percentages/

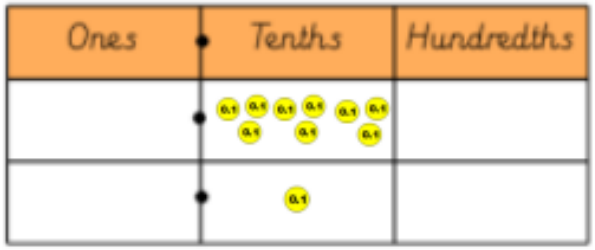
KIRF: I know decimal number bonds to 1 and 10.

Children should see the links with number bonds to 10, 100 and 1000 to identify decimal number bonds to 1 and 10 and recall these instantly.

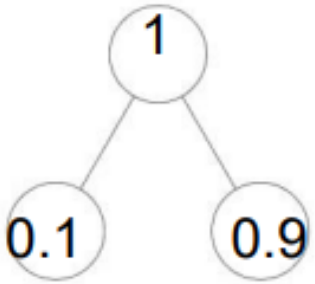
Year Five – Spring 2

What can this look like?

Concrete:



Pictorial:



Abstract:

$0.1 + 0.9 = 1$

$0.9 + 0.1 = 1$

$1 - 0.1 = 0.9$

$1 - 0.9 = 0.1$

Questions to ask at home

What do I **add** to 0.8 to make 1?

What is 1 **take away** 0.06?

What is 1.3 **less than** 10?

How many more than 9.8 is 10?

What is the **difference** between 0.92 and 10?

Key vocabulary

Complements- In addition, a number and its complement make a total e.g. 0.3 is the complement of 0.7 to make 1

Decimal number- A number with a decimal point.

Number bonds- Pairs of numbers that add together to make another number.

Sum- The result of an addition

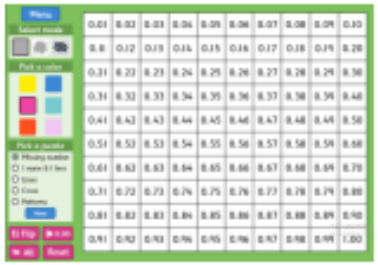
Things to try

Part part whole- Use the part part whole model to create your own decimal number bonds. How many ways can you make 1? How many ways can you make 10?

Use money- how many ways can you make £1? E.g. 0.90p + 0.10p

Website: https://www.topmarks.co.uk/learning-to-count/paint-the-squares

https://whiterosemaths.com/homelearning/year-5/summer-week-2-number-decimals/



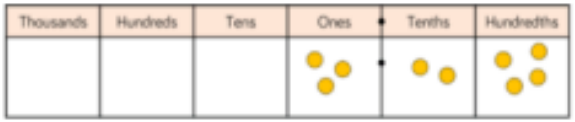
KIRF: I can recall metric conversions.

Children should be able to convert between metric units of mass, length and capacity.

Year Five – Summer 1

What can this look like?

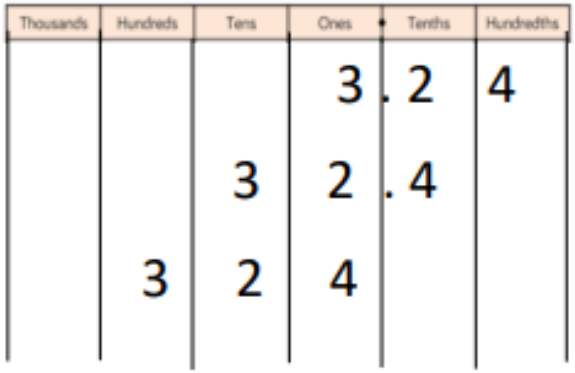
Concrete:



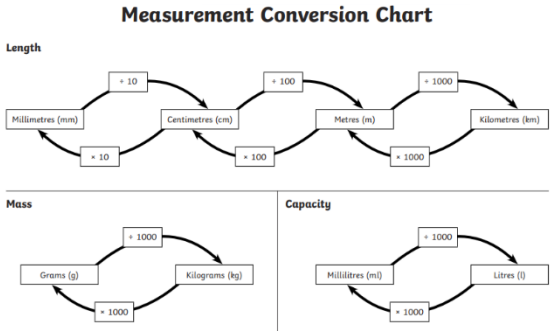
How many mm are in 3.24cm?

How many cm are in 3.24m?

Pictorial:



Abstract:



Questions to ask at home

What do the prefixes **kilo, milli** and **centi** mean?

Complete the sentence- there are …..grams in a ……kilogram.

Complete the sentence- to convert from metres to centimetres you …….

Key vocabulary

Capacity- How much of a solid, liquid or gas an object can hold.

Convert- To change the expression without changing the size or amount.

Length- The measurement of something from end to end.

Mass- How much an object weighs.

Metric units- Units of measurement using the powers of 10.

Things to try

Measure up- measure the length, mass and volume of different items in your home. Show the measurements in different units of measures.

Ready steady cook- help out in the kitchen to follow a recipe. Can you convert the units of measures?

Websites:

https://uk.splashlearn.com/measurement-games

https://www.ictgames.com/mobilePage/mostlyPostie/index.html

https://www.bbc.co.uk/bitesize/articles/z63qdp3

KIRF: I can recall square numbers up to 12^2 and their square roots.

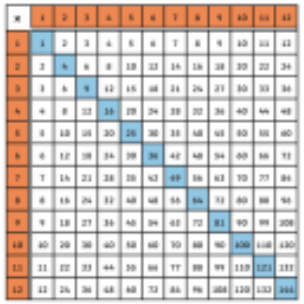
Square numbers have an odd number of factors and are the result of multiplying a whole number by itself.

The aim is for children to recall square numbers up to 12^2 instantly.

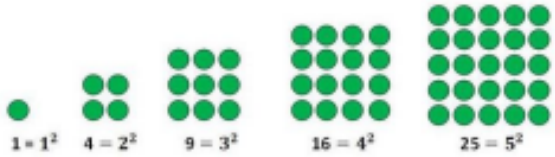
Year Five – Summer 2

What can this look like?

Concrete:



Concrete and Pictorial:



Abstract:

1^2	1 x 1	1
2^2	2 x 2	4
3^2	3 x 3	9
4^2	4 x 4	16
5^2	5 x 5	25
6^2	6 x 6	36
7^2	7 x 7	49
8^2	8 x 8	64
9^2	9 x 9	81
10^2	10 x 10	100
11^2	11 x 11	121
12^2	12 x 12	144

Questions to ask at home

What is 8 **squared**?
What is 7 **multiplied by itself**?
What is the **square root** of 144?
Is 81 a **square number**?

Key vocabulary

Notation- A symbol. The notation ^{2} means squared e.g. 5^2 is 5 squared, 5 × 5 = 25

Square number- The result when a number has been multiplied by itself.

Square root- A square root of a number is a value that, when multiplied by itself, gives the number. e.g. the square root of 9 is 3

Things to try

Around the clock- think of a clock face. What are each of the numbers a square root of? E.g. 12: 12 is the square root of 144.

What are each of the numbers squared?

Dice roll- whatever the number lands on, square it

Cards- turn a card over, square it and call out the answer. Can you say the answer quicker than your partner?

Websites:

https://www.topmarks.co.uk/maths-games/hit-the-button

https://mathszone.co.uk/using-applying/puzzles-and-logic-problems/splat-square100-primary-games-3/

https://wordwall.net/resource/9919606/maths/whack-square

https://whiterosemaths.com/homelearning/year-5/week-9-number-multiplication-division/