Autumn term- Year 5 Maths –**Fractions A**

| Previously learned vocabulary	
Numerator (y2)	Denominator (y2)
unit fraction (y3)	non-unit fraction (y3)
common denominator (y3)	Equivalent (y2)
Tenths (y3)	Hundredths (y4)
New vocabulary	
mixed number	thousandths
improper fraction	simplest form

Adding and subtracting fractions

When the denominators are the same fractions (sometimes called <u>like fractions</u>) can be easily added or subtracted. The denominator stays the same and you just add or subtract the numerator

$$\frac{1}{3} + \frac{1}{3} = \frac{2}{3} \qquad \frac{8}{6} - \frac{5}{6} = \frac{3}{6}$$
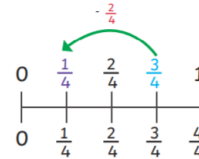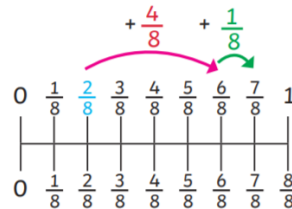
Adding and subtracting fractions (when denominators are related multiples)

If the denominators are NOT the same (sometimes called <u>unlike fractions</u>) we first have to convert one or both so the denominators are the same

Convert so the denominators are the same.
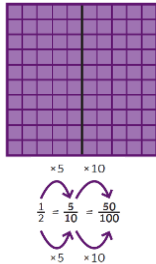To get from /3 to /6 we x by 2

$$\frac{1}{3} = \frac{2}{6}$$

$$\frac{1}{3} + \frac{1}{6}$$

$$\frac{2}{6} + \frac{1}{6}$$

Now we can add as before →.

This also applies for subtracting fractions with different denominators
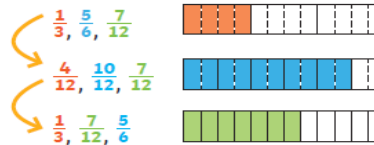
Equivalent Fractions

To find equivalent fractions, we multiply or divide the numerator and denominator by the same number

$$\frac{1}{2} = \frac{5}{10} = \frac{50}{100}$$
×5   ×10

Order and compare fractions (when denominators are related multiples)

Similar to +/-
1. Make the denominators the same by converting
2. Compare or order the fractions
3. Write back as original fraction

$$\frac{1}{3}, \frac{5}{6}, \frac{7}{12}$$

$$\frac{4}{12}, \frac{10}{12}, \frac{7}{12}$$

$$\frac{1}{3}, \frac{7}{12}, \frac{5}{6}$$

Top Tips for Adding and subtracting fractions
1. Make the denominator the same (by converting). Do the same to the numerator & the denominator
2. Add or subtract the numerators
3. Simplify if needed

Mixed numbers and improper fractions

Mixed numbers – Contain a whole number and a fraction

whole → $2\frac{1}{4}$ ← fraction
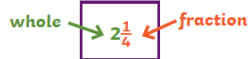
Improper fractions - Numerator is greater than the denominator

$$\frac{5}{3}$$

Convert mixed number to improper fraction

Multiply the whole part by the denominator to make an improper fraction

$$2\frac{5}{6} = \frac{12}{6} + \frac{5}{6} = \frac{17}{6}$$

Then add the two fractions together

Convert improper fractions to mixed numbers

$$\frac{9}{4}$$

$$9 \div 4 = 2r1 \qquad 2\frac{1}{4}$$

Divide the numerator by the denominator

This shows you the whole number and the fraction
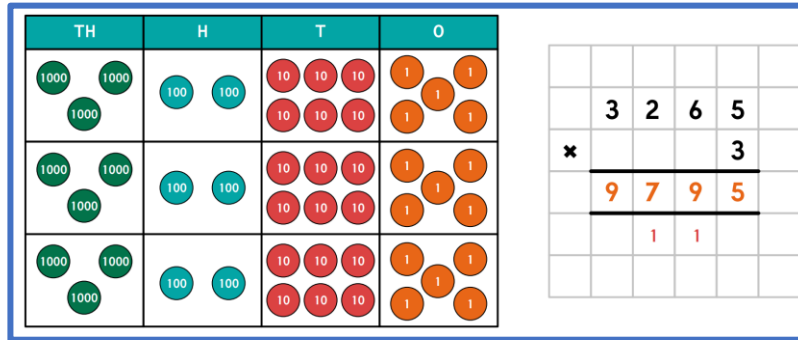
Year 5 Maths – Multiplication & Division B

Previously learned vocabulary	
Factor (y4)	factor pairs (y4)
Remainder (y4)	Multiples (y3)
commutative (y2)	array
New Vocabulary	
composite	prime factor
square(d) ^{2}	cube(d) ^{3}

Multiply numbers up to 4 digits by a one-digit number.

TH	H	T	O

$$3\ 2\ 6\ 5 \times 3 = 9\ 7\ 9\ 5$$

$$2543 \times 7 = 17\ 801$$

Multiply numbers up to 4 digits by a two-digit number.

	1	5	4	
×		2	6	Start with the ones.
	9	2	4	154 × 6 = 924
3	0	8	0	154 × 20 = 3080
4	0	0	4	3080 + 924 = 4004

$$2543 \times 67 = 170\ 381$$

		2	5	4	3
	×			6	7
	1	7	8	0	1
1	5	2	5	8	0
1	7	0	3	8	1

Before multiplying by the number in the tens column, remember to use zero as a placeholder because the 6 in 67 is 6 tens (60).

Divide numbers up to 4 digits by a 1 digit number

	3	8
4	1 ^{1}5	^{3}2
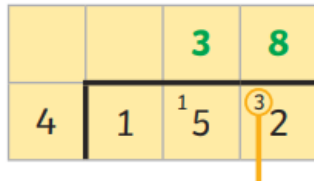
15 ÷ 4 = 3 remainder 3
Remember to exchange any remainders and move them into the next column.

	2	5	4	3
×				7
1	7	8	0	1

Remember to move any exchanged digits into the next column. After the next multiplication, add the exchanged number to the answer.

Divide with remainders

	4	5	5	r	3
5	2	2 ^{2}7	^{2}8		
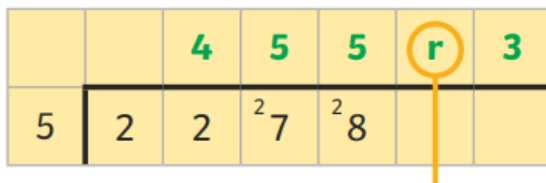
28 ÷ 5 = 5 remainder 3
If your calculation has a remainder, remember to record it in the answer using the letter r

Efficient division

621 ÷ 3

600	÷	3	=	200
21	÷	3	=	7
200	+	7	=	207

408 ÷ 4

To divide by 4 we can halve and halve again.

408 ÷ 2 = 204

204 ÷ 2 = 102

so 408 ÷ 4 = 102

768 ÷ 8

To divide by 8 we can halve and halve again. Then divide the answer by 2.

768 ÷ 2 = 384

384 ÷ 2 = 192

192 ÷ 2 = 96

so 768 ÷ 8 = 96

Year 5 Maths – <u>Fractions B</u>

| Previously learned vocabulary	
Numerator (y2)	Denominator (y2)
unit fraction (y3)	non-unit fraction (y3)
common denominator (y3)	Equivalent (y2)
Tenths (y3)	Hundredths (y4)
New vocabulary	
mixed number	thousandths
improper fraction	simplest form
Percent/ percentage	

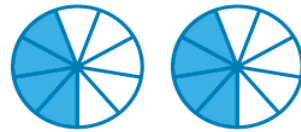## Multiplying fractions by integers

<u>Multiplying unit fractions by an integer (whole number)</u>
Just multiply the numerator by the whole number to get the answer. Keep the denominator the same

$\frac{1}{3} \times 5 = \frac{5}{3}$
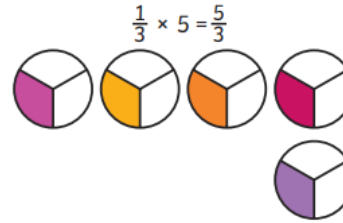
<u>Multiplying non-unit fractions (more than 1 as numerator) by a whole number (integer)</u>
Just multiply the numerator by the whole number to get the answer and keep the denominator the same (similar to above)

$2 \times \frac{4}{9} = \frac{8}{9}$

Multiplying mixed numbers by a whole number (integer)
Convert to an improper fraction, then multiply the numerator by the integer (as above)

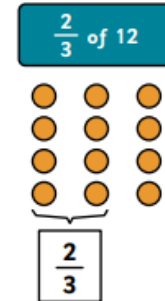| $2\frac{1}{4} \times 2$	=	$\frac{9}{4} \times 2$	=	$\frac{18}{4}$	=	$4\frac{2}{4}$	=	$4\frac{1}{2}$

Or use repeated addition

Use repeated addition.

$2\frac{1}{4} \times 2 = 2\frac{1}{4} + 2\frac{1}{4} = 4\frac{2}{4} = 4\frac{1}{2}$

Find the whole

$\frac{1}{5}$ of ☐ = 9

5 lots of 9

If we do not know the whole, using a bar model will help to visualise the problem.

$\frac{1}{5}$ of ____ = 9

This means that 9 is $\frac{1}{5}$ of _____

9 is $\frac{1}{5}$ of 45

Dividing fractions by whole numbers

$\frac{1}{6} \div 4 = \frac{1}{24}$

Multiply the denominator by the whole number
Keep the numerator the same
Simplify if needed

Fractions of a quantity

$\frac{2}{3}$ of 12 $\frac{3}{5}$ of 15

$\frac{2}{3}$ $\frac{3}{5}$

$\frac{1}{3}$ of 12 = 4 $\frac{1}{5}$ of 15 = 3
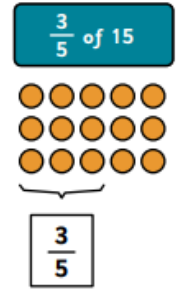
$\frac{2}{3}$ of 12 = 8 $\frac{3}{5}$ of 15 = 9

Fractions of an amount

40				
8	8	8	8	8
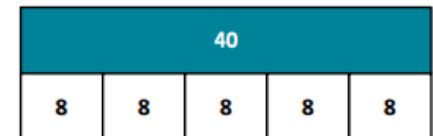
The denominator tells us how many parts to split the whole into.

$\frac{1}{5}$	of	40	=	8
$\frac{2}{5}$	of	40	=	16
$\frac{3}{5}$	of	40	=	24
$\frac{4}{5}$	of	40	=	32

Y5 Maths – Decimals A & B

Previously learned vocabulary
Decimal (y4)
Hundredth (y4)
Thousandth (y5)
Decimal places (y4)

New vocabulary (learned in y6)
Mixed number

Compare and order decimals

TH	H	T	O	.	t	h	th
		3	2	.	6	7	
		3	2	.	7	6	

Use of place value knowledge to compare and order decimal numbers

Addition and subtraction with decimals

187.65 + 25.3=

We set out the addition like this using place value knowledge to help. Make sure the decimal points are lined up!

```
  1 8 7 . 6 5
+ 0 2 5 . 3 0
_____
        .
```

Top Tip! Add in place holders to empty spaces

Rounding decimals to the nearest whole number and one decimal place

1.1 ← 1.11 1.12 1.13 1.14 | 1.15 1.16 1.17 1.18 1.19 → 1.2
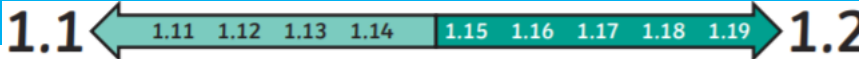
If the hundredths digit is 1, 2, 3 or 4, we round down to the nearest tenth.

If the hundredths digit is 5, 6, 7, 8 or 9, we round up to the nearest tenth.

1 ← 1.1 1.2 1.3 1.4 | 1.5 1.6 1.7 1.8 1.9 → 2
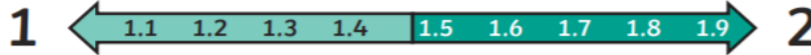
If the tenths digit is 1, 2, 3 or 4, we round down to the nearest whole number.

If the tenths digit is 5, 6, 7, 8 or 9, we round up to the nearest whole number.

Multiplying and dividing decimals by integers

```
    3 . 4 5
  ×     3
  _____
  1 0 . 3 5
    1   1
```

```
.12 ÷ 4

    2 . 0 3
  4 | 8 . ¹1 2
```

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

Continues to the left as we have previously learnt

New section on our place value grid

Multiplying and dividing decimals by 10, 100 and 1000

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			2	0	8	
		2	0	8		
			2	0	8	

× 10 / ÷ 10

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		4	3	5		
4	3	5	0			
		4	3	5		

× 100 / ÷ 100

2.3 x 100 = 230

2 . 3
2 3 . 0 (one place to the left)
2 3 0 . 0 (two places to the left)
Tip: the decimal point must not move.

14 ÷ 1,000 = 0.014

1 4 . 0 (write the whole number with a decimal point and placeholder)
1 . 4 (one place to the right)
0 . 1 4 (two places to the right)
0 . 0 1 4 (three places to the right)
Tip: the decimal point must not move.

To **multiply a number by 10, 100 or 1,000**, move the digits 1, 2 or 3 places to the left. Use placeholders (0) to fill empty columns.

To **divide a number by 10, 100 or 1,000**, move the digits 1, 2 or 3 places to the right. Use placeholders (0) to fill empty columns.

This number has…

Ones	Tenths	Hundredths	Thousandths
1 1	1/10	1/100 1/100	1/1000 1/1000 1/1000

2 ones

1 tenth

2 hundredths

3 thousandths

We read it at 2.123
Two point one, two, three

Autumn Term – Y6 Maths – **Fractions A**

Previously Learned Vocabulary

Previously Learned Vocabulary	
Mixed number (y5)	Thousandths (y5)
Simplify (y5)	Improper fraction (y5)
Decimal equivalents (y4)	

Equivalent fractions

$\frac{1}{2}$ is equal to...

$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10} = \frac{6}{12}$$
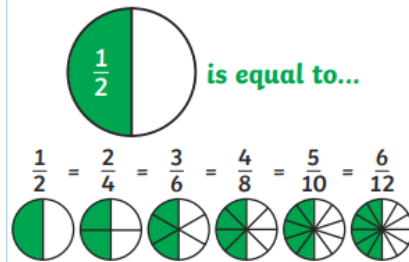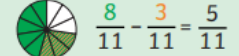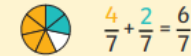
You can find equivalent fractions by multiplying or dividing the numerator and denominator by the same number

Adding and subtracting fractions

1. Make the denominator the same
2. Add or subtract the numerators
3. Simplify if needed

Same Denominators

$$\frac{4}{7} + \frac{2}{7} = \frac{6}{7} \qquad \frac{8}{11} - \frac{3}{11} = \frac{5}{11}$$

Different Denominators

$$\frac{2}{7} + \frac{3}{5} \qquad \frac{9}{10} - \frac{1}{4}$$

Multiples of 7: 7, 14, 21, 28, **35**   Multiples of 10: 10, **20**
Multiples of 5: 5, 10, 15, 20, 25, 30, **35**   Multiples of 4: 4, 8, 12, 16, **20**

$$\frac{2}{7} = \frac{10}{35}, \frac{3}{5} = \frac{21}{35} \qquad \frac{9}{10} = \frac{18}{20}, \frac{1}{4} = \frac{5}{20}$$

$$\frac{10}{35} + \frac{21}{35} = \frac{31}{35} \qquad \frac{18}{20} - \frac{5}{20} = \frac{13}{20}$$

Add or subtract the whole numbers and fractions separately.

$$2\frac{2}{5} + 1\frac{3}{10} \qquad 2\frac{1}{2} - 1\frac{1}{4}$$

$$2+1=3 \qquad 2-1=1$$

$$\frac{2}{5} + \frac{3}{10} = \frac{4}{10} + \frac{3}{10} = \frac{7}{10} \qquad \frac{1}{2} - \frac{1}{4} = \frac{2}{4} - \frac{1}{4} = \frac{1}{4}$$

$$3 + \frac{7}{10} = 3\frac{7}{10} \qquad 1 + \frac{1}{4} = 1\frac{1}{4}$$

Convert the mixed numbers to improper fractions.

$$2\frac{2}{5} + 1\frac{3}{10} \qquad 2\frac{1}{2} - 1\frac{1}{4}$$

$$2\frac{2}{5} = \frac{12}{5} \quad 1\frac{3}{10} = \frac{13}{10} \quad 2\frac{1}{2} = \frac{5}{2} \quad 1\frac{1}{4} = \frac{5}{4}$$

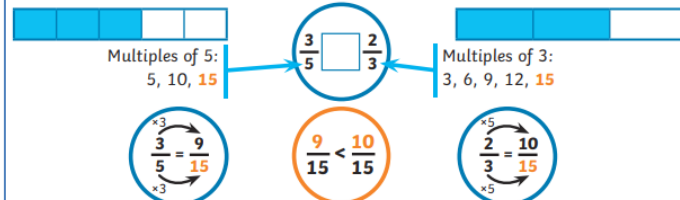$$\frac{12}{5} + \frac{13}{10} = \frac{24}{10} + \frac{13}{10} = \frac{37}{10} \qquad \frac{5}{2} - \frac{5}{4} = \frac{10}{4} - \frac{5}{4} = \frac{5}{4}$$
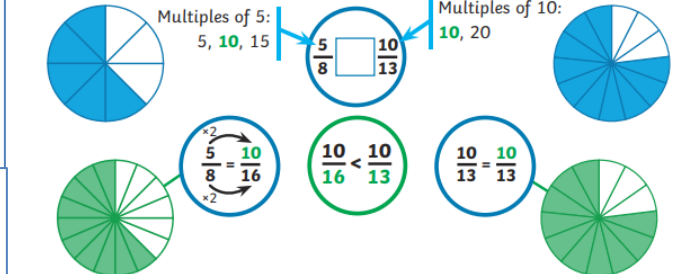
$$\frac{37}{10} = 3\frac{7}{10} \qquad \frac{5}{4} = 1\frac{1}{4}$$

Order and compare fractions

Use the Common Denominator

Multiples of 5: 5, 10, **15**   Multiples of 3: 3, 6, 9, 12, **15**

$$\frac{3}{5} = \frac{9}{15} \qquad \frac{9}{15} < \frac{10}{15} \qquad \frac{2}{3} = \frac{10}{15}$$

Use the Common Numerator

Multiples of 5: 5, **10**, 15   Multiples of 10: **10**, 20

$$\frac{5}{8} \quad \frac{10}{13}$$

$$\frac{5}{8} = \frac{10}{16} \qquad \frac{10}{16} < \frac{10}{13} \qquad \frac{10}{13} = \frac{10}{13}$$

Proper fractions

A fraction is a part of a whole.

$$\frac{3}{5}$$

- numerator = number of parts referred to
- fractions bar = divided by / out of
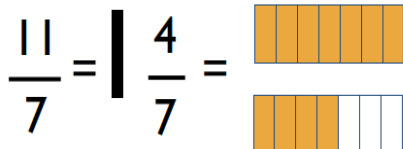- denominator = number of parts in whole

Fractions are divisions yet to be done...

$$\frac{1}{8} = 1 \div 8 = 0.125$$

Improper fractions and mixed numbers

Improper fractions and mixed numbers show fractions more than a whole.

$$\frac{11}{7} = 1\frac{4}{7} =$$

Simplify fractions

$$\frac{9}{12}$$

$$\frac{9}{12} = \frac{3}{4}$$

Factors of 9:
1, **3**, 9
Factors of 12:
1, 2, **3**, 4, 6, 12
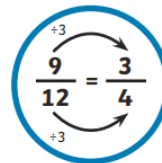
Previously Learned Vocabulary

Product (y3)	Factor (y4)
Multiple (y3)	Prime (y5)
Remainder (y4)	Short division (y3)
Millions (y5)	Round/ rounding (y4)
Equivalence (y5)	Integers (y3)

New Vocabulary

Long division	
Common factors	Common multiples

Multiply numbers up to 4 digits by 2 digit numbers

Start with the ones.
$154 \times 6 = 924$
$154 \times 20 = 3080$
$3080 + 924 = 4004$

Bus stop method for short division

$186 \div 6 =$

no groups of 6 can be made

$1 \times 6 = 6$
$3 \times 6 = 18$

Order of Operations

B	Brackets	$10 \times (4 + 2) = 10 \times 6 = 60$
O	Order	$5 + 2^2 = 5 + 4 = 9$
D	Division	$10 + 6 \div 2 = 10 + 3 = 13$
M	Multiplication	$10 - 4 \times 2 = 10 - 8 = 2$
A	Addition	$10 \times 4 + 7 = 40 + 7 = 47$
S	Subtraction	$10 \div 2 - 3 = 5 - 3 = 2$

Long division

Long division is useful if you need to divide by a 2-digit number. It is set out similar to short division.

$8670 \div 15$.

$8 \div 15$ does not give a whole number answer so we look at the next digit.

$86 \div 15 = 5$ with 11 left over. Put a 5 above the 6 on the line.

$15 \times 5 = 75$. Take that 75 away from the 86 to get your remainder of 11.

Next, carry the 7 down to make 117.

$117 \div 15 = 7$ with 12 left over. Put a 7 above the 7 on the line. $15 \times 7 = 105$. Take that away from 117 to get your remainder of 12.

Finally, carry the 0 down to make 120.

$120 \div 15 = 8$. Put an 8 above the 0 on the line.

Now you have your final answer:

$8670 \div 15 = 578$

Year 6 Maths –Fractions B

Proper fractions

A fraction is a part of a whole.

$$\frac{3}{5}$$

numerator = number of parts referred to
fractions bar = divided by / out of
denominator = number of parts in whole

Fractions are divisions yet to be done…

$$\frac{1}{8} = 1 \div 8 = 0.125$$

Improper fractions and mixed numbers

Improper fractions and mixed numbers show fractions more than a whole.

$$\frac{11}{7} = 1\frac{4}{7} =$$

Multiplying Fractions by Fractions
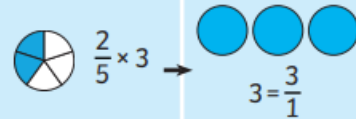
$$\frac{1}{2} \times \frac{2}{5}$$

Multiply numerator by numerator

Multiply denominator by denominator

The answer here would be $\frac{2}{10}$

Multiplying Fractions by Fractions

$$\frac{1}{2} \times \frac{1}{3} = \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$

Multiplying Fractions by Whole Numbers

$$\frac{2}{5} \times 3 \qquad 3 = \frac{3}{1}$$

$$\frac{2}{5} \times \frac{3}{1} = \frac{6}{5} = 1\frac{1}{5}$$

Another method for multiplying fractions by whole numbers
  Multiply the numerator by the whole number
  Keep the denominator the same
  Simplify if needed

$$\frac{3}{5} \times 3$$
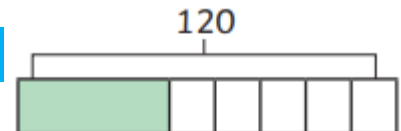
The answer here would be $\frac{9}{5}$ or $1\frac{4}{5}$

Previously Learned Vocabulary	
Mixed number (y5)	Thousandths (y5)
Simplify (y5)	Improper fraction (y5)
Decimal equivalents (y4)	
New Vocabulary	
Percent/ percentage	

Did you know?
X and of are interchangeable?

Dividing fractions by whole numbers

$$\frac{1}{6} \div 4 = \frac{1}{24}$$

Multiply the denominator by the whole number
Keep the numerator the same
Simplify if needed

Find the whole

Find the whole:
4/9 of the whole = 24
1/9 of the whole = 24 ÷ 4 = 6
The whole is 9 × 6 = 54

24
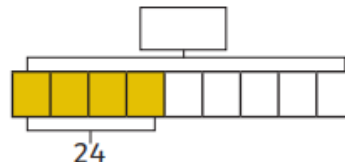
Fractions of amounts

Divide the whole number by the denominator.
Multiply by the numerator.

120

Find $\frac{3}{8}$ of 120:

$\frac{1}{8}$ of 120 = 120 ÷ 8 = 15

$\frac{3}{8}$ of 120 = 3 ×15 = 45

Y6 Maths – Decimals A & B

Previously learned vocabulary
Decimal (y4)
Hundredth (y4)
Thousandth (y5)
Decimal places (y4)
New vocabulary (learned in y6)
Multi-step
Long division
Interval

Compare and order decimals

THHTO.tth
3 2 . 6 7
3 2 . 7 6

Use of place value knowledge to compare and order decimal numbers

Round any number to a required degree of accuracy

Round 432.674 to 2 dp

7 is the place, next door is 4
It is less than 5 so 7 stays as it is and we eliminate the 4!
The answer would be 432.67

Find the place
Look next door
5 or more, raise the score
4 or less, let it rest
Look to the right...
Eliminate the digits!

Addition and subtraction with decimals

187.65 + 25.3=

We set out the addition like this using place value knowledge to help. Make sure the decimal points are lined up!

```
  1 8 7 . 6 5
+ 0 2 5 . 3 0
```

Top Tip! Add in place holders to empty spaces

Multiplying and dividing decimals by integers

	3	.	4	5
×				3
1	0	.	3	5
	1		1	

$8.12 \div 4$

```
    2 . 0 3
4 | 8 . ₀1 2
```

Multiplying and dividing decimals by 10, 100 and 1000

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			2	0	8	
		2	0	8		
			2	0	8	

× 10 / ÷ 10

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		4	3	5		
4	3	5	0			
		4	3	5		

× 100 / ÷ 100

To **multiply a number by 10, 100 or 1,000,** move the digits 1, 2 or 3 places to the left. Use placeholders (0) to fill empty columns.

To **divide a number by 10, 100 or 1,000,** move the digits 1, 2 or 3 places to the right. Use placeholders (0) to fill empty columns.

2.3 x 100 = 230
2 . 3
2 3 . 0 (one place to the left)
2 3 0 . 0 (two places to the left)
Tip: the decimal point must not move.

14 ÷ 1,000 = 0.014
1 4 . 0 (write the whole number with a decimal point and placeholder)
1 . 4 (one place to the right)
0 . 1 4 (two places to the right)
0 . 0 1 4 (three places to the right)
Tip: the decimal point must not move.

Science Unit – Living things and their habitats; Classification and Micro organisms
Oak Class – Heptonstall School

Key Vocabulary

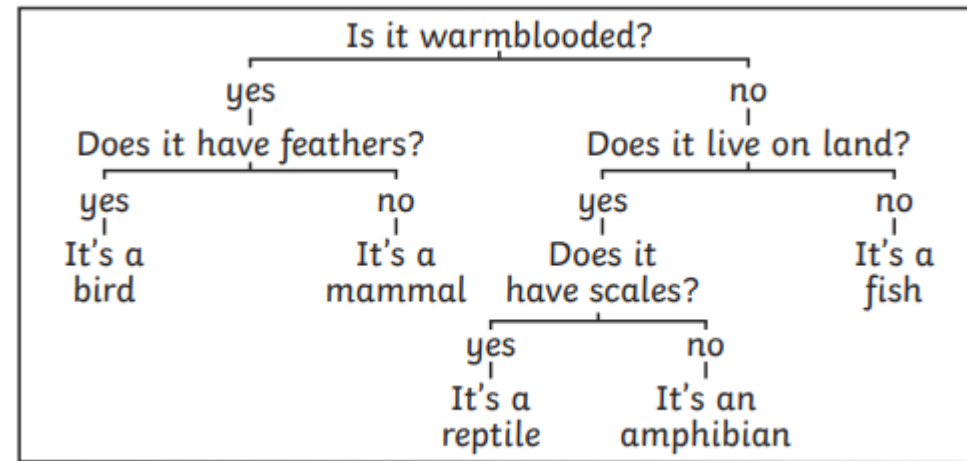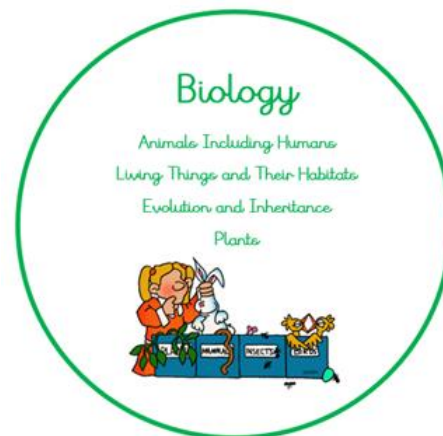|	
Microorganism	a <u>microscopic</u> organism, especially a <u>bacterium</u>, virus, or <u>fungus</u>.
Conifero	conifers are a group of cone-bearing seed plants
Domain	the largest of all groups in the classification of life.
Species	a group of organisms that can reproduce with one another in nature and produce fertile offspring
Characteristics	a distinguishing quality, trait, or feature
kingdom	the second highest taxonomic rank
Organism	A living thing, such as an animal, a plant, a bacterium, or a fungus.
Classification	the arrangement of animals and plants in groups according to their observed similarities

Key Information I will learn...

Classification tree

Is it warmblooded?
yes — Does it have feathers?
yes — It's a bird
no — It's a mammal
no — Does it live on land?
yes — Does it have scales?
yes — It's a reptile
no — It's an amphibian
no — It's a fish
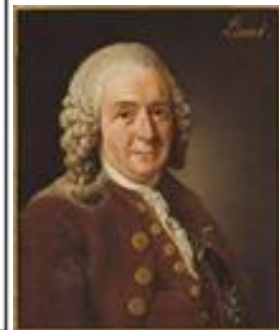
This is a <u>biology</u> unit of Science. This is because it is a study of living things.

Biology
Animals Including Humans
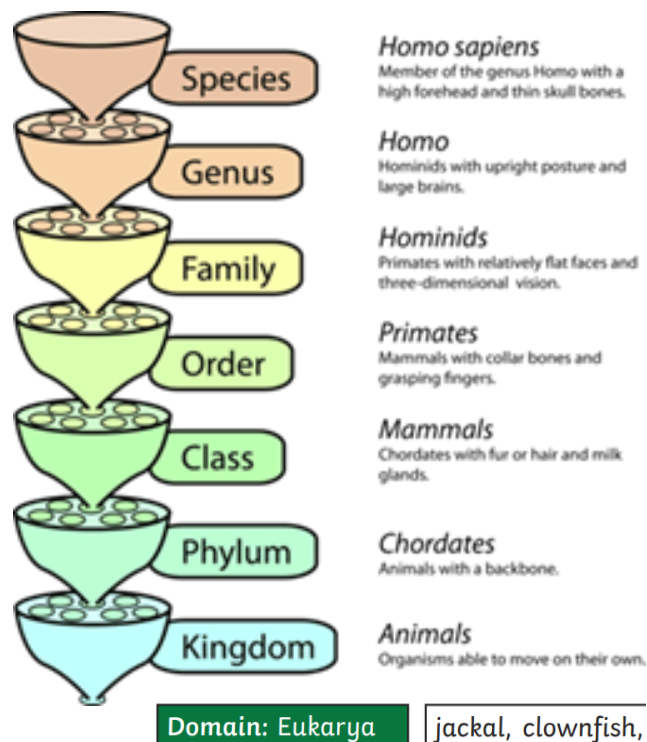Living Things and Their Habitats
Evolution and Inheritance
Plants

Classification

Carl Linnaeus (23rd May 1707 – 10th January 1778) was a Swedish botanist, zoologist, taxonomist, and physician.

In 1735, he first published a system for classifying all living things.

An adapted version of this system is still used today: The Linnaeus System
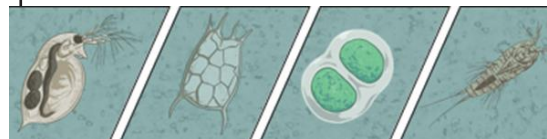
Linnaeus classification system

- **Species** — *Homo sapiens*: Member of the genus Homo with a high forehead and thin skull bones.
- **Genus** — *Homo*: Hominids with upright posture and large brains.
- **Family** — *Hominids*: Primates with relatively flat faces and three-dimensional vision.
- **Order** — *Primates*: Mammals with collar bones and grasping fingers.
- **Class** — *Mammals*: Chordates with fur or hair and milk glands.
- **Phylum** — *Chordates*: Animals with a backbone.
- **Kingdom** — *Animals*: Organisms able to move on their own.

Domain: Eukarya | jackal, clownfish,

Helpful Microbes	Harmful Microbes
Bacteria – cheese	Bacteria – salmonella is a bacterium that can lead to food poisoning
Yeast – wine	Virus – chicken pox and flu are examples of viral diseases
Bacteria – yoghurt	Fungi – athlete's foot
Yeast – bread dough	Bacteria – plaque
Penicillium fungi - antibiotics	Fungi - mould

Three domains

Microorganisms are viruses, bacteria, moulds and yeast. Some animals (dust mites) and plants (phytoplankton) are also microorganisms.

Microorganisms are very tiny living things that can only be seen using a microscope. They can be found in and on our bodies, in the air, in water and on objects around us.

Key Questions

How can we group organisms?

How can we group plants?

What are characteristics?

What is the difference between flowering and non-flowering plants?

Who was Carl Linnaeus?

What is a micro-organism?

How can micro-organisms be harmful and helpful?

Key facts

- Microorganisms are very tiny living things that can only be seen using a microscope. They can be found in and on our bodies, in the air, in water and on objects around us. Viruses, bacteria, moulds, yeast, some animals (dust mites) and plants (phytoplankton) are also microorganisms
- Some microorganisms can be harmful to the body such as the virus COVID 19 and bacteria salmonella. Some microorganisms can be helpful such as bacteria present in yogurt and cheese

End Goals

- Can give examples in the five vertebrate groups and some in the invertebrate group.
- Can give key characteristics of these groups.
- Can give examples of flowering and non-flowering plants.
- Can identify unknown plants using ID and classification charts.
- Can explain why animals belong to groups.
- Know that Carl Linnaeus classify plants and animals.
- Can use ID guides to identify plants.
- Can classify plants in different ways using observable characteristics/ similarities and differences.
- Give reasons for classifying plants based on characteristics

Must Knows
Living things and their habitats – Classification & Micro organisms

Key Facts:

- A living organism moves, reproduces, grows and excretes.
- The stem of a plant moves towards the strongest light source and the roots move away from light.
- Plants can reproduce sexually and asexually.
- Vertebrates can be put into groups of mammals, birds, fish, amphibians and reptiles.
- Plants can be put into groups of flowering and non-flowering.
- Scientists group organisms based on their features. Grouping organisms can help scientists to understand how organisms are related to each other.
- Classification keys are used to classify animals. Classification keys are used to identify different animals based on their features. Classification keys are made up of several questions with "yes" or "no" answers.
- Carl Linnaeus was a Swedish botanist who wrote a book called Systema Naturae or System of Nature. Linnaeus was famous for developing the first system to classify animals and plants.
- The classification was based on a hierarchical system. Linnaeus initially divided the Kingdom Animalia into six classes. These were mammals, birds, amphibians, fish, insects and worms.
- Classification keys are used to classify plants. Classification keys are used to identify different plants based on their features. Trees can be classified as deciduous, evergreen and coniferous.
- Bacteria are simple organisms invisible to the naked eye Some bacteria can cause diseases and infections. Humans have good bacteria in their bodies that help to digest food.
- Viruses are microorganisms that need a host, and are invisible to the naked eye. They can cause diseases such as flu or a common cold. Fungi are microorganisms. Some can cause infections. Some can be used in bread making.
- Microorganisms, such as bacteria, viruses and fungi, can be classified.
- The classification of microorganisms is based on their features, such as shape. Bacteria, viruses and fungi have different shapes

Key Vocabulary

Capital punishment	The legally authorised killing of someone as punishment for a crime. This was abolished in the UK in 1965.
Law	The system of rules which a particular country or community recognizes as regulating the actions of its members and which it may enforce by issuing penalties.
Compensation	Something, typically money, awarded to someone in recognition of loss, suffering, or injury
Wergild	Anglo-Saxon compensation.
Crucifixion	An ancient form of execution in which a person was nailed or bound to a cross
Judge	A person who is in charge of a trial in a court and decides how a person who is guilty of a crime should be punished, or who makes decisions on legal matters
Magistrate	An official who acts as a judge in law courts which deal with minor crimes or disputes.

Key Information I will learn...

The Halifax Gibbet was an early guillotine used to decapitate those who had committed certain crimes.

scold's bridle

Police Force

The police force was first introduced in London in 1829. Sir Robert Peel introduced them as part of a campaign to improve public law. These policemen were called 'Bobbies' or 'Peelers'. They wore long, blue coats and tall hats and their only weapon was a truncheon.

During Anglo-Saxon times, trials by ordeal were used to see if people were innocent or guilty (hot water, cold water and iron bar).

To deter people from committing crimes, the Tudors came up with even more terrifying punishments, including public executions.. The scold's bridle was worn for gossiping and the dunking stool to find out if someone was a witch.

Roman laws, written around 450 BC, were called the 'Twelve Tables'. Not following these rules was a crime. Punishments were severe to deter people from not following them. People could pay to have their punishment lessened.
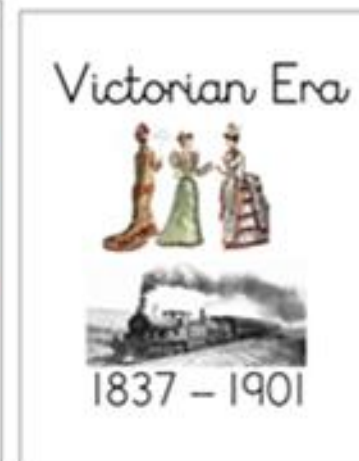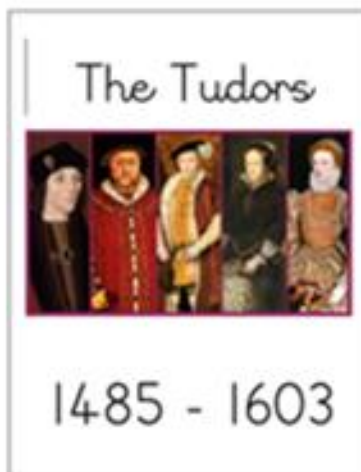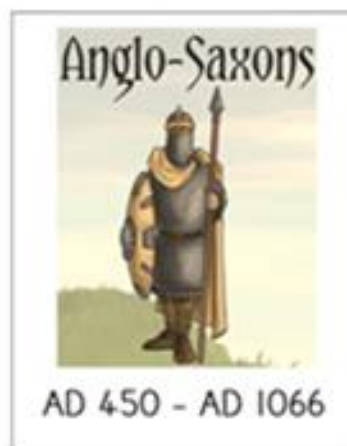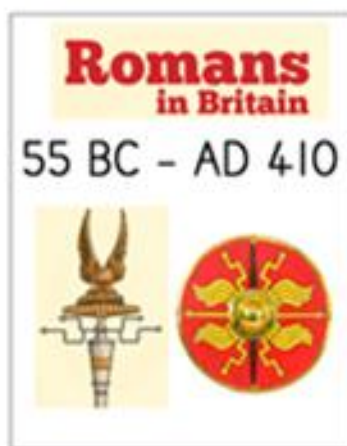
This is a history topic. We will be working as historians

End Goals

Assess the need for punishment in Britain to change over time and whether previous sanctions were appropriate, fair and logical.

Explore reasons why changes may have occurred, backed up by evidence or provide evidence that refutes some historical theories.

Construct informed and structured responses to historical questions and hypotheses that involve thoughtful selection and organisation of relevant historical information

Independently investigate own lines of enquiry by posing questions to answer

Use documents, printed sources the internet, pictures, photographs, music, artefacts, historic buildings, visits to museums and galleries and visits to sites to collect evidence about the past to build conclusions.

Investigate and interpret historical events using a range of sources discussing how and why things happened and how this may differ in a modern-day context.

Key Questions

What was the Halifax gibbet?
how do we currently prevent crime, how do we deter time and how we respond to crime?
Which crimes were the most common?

Romans in Britain
55 BC – AD 410

Anglo-Saxons
AD 450 – AD 1066

The Tudors
1485 - 1603

Victorian Era
1837 – 1901

Substantive concepts		
concept	**Definition**	**Linked vocabulary**
Parliament	Parliament is the legislature, or lawmaking group that oversees the government. In Great Britain, the government leader, called the prime minister, is always a member of Parliament. Parliament in Great Britain consists of the sovereign (King-in-Parliament), the House of Lords, and the House of Commons.	Government Monarch Prime minister House of Lords House of Commons
Religion	Religion is a fundamental set of beliefs and practices that are followed by a large number of people.	Faith Beliefs Worship

Crime and Punishment
How has crime and punishment in Great Britain changed through the ages
Must know facts

Key Facts:

- Capital punishment was abolished in the UK in 1965.
- A jury of 12 people decides whether someone is guilty or innocent.
- A judge or magistrate decides on the punishment for the crime committed.
- Roman punishments were very severe to deter people from committing crimes.
- Punishments from the Roman times included crucifixion, becoming a gladiator and whipping.
- The Tudors came up with punishments that would humiliate people such as public executions.
- During Anglo-Saxon times, trials by ordeal were used to see if people were innocent or guilty (hot water, cold water and iron bar).
- The Halifax Gibbet was an early guillotine used to decapitate those who had committed certain crimes.
- Sir Robert Peel establish the Metropolitan Police.
- Theft has always been the most common crime.

Must Knows quiz score................

Art - Activism   Oak Class – Heptonstall School

Key Vocabulary

Activism	The policy or action of using vigorous campaigning to bring about political or social change.
Screen printing	A technique for transferring ink onto a surface by pushing it through a mesh screen with a stencil on it

Key Information I will learn...

Arist Activist

Luba Lukova   Faith Ringgold   Kate DeCiccio

Shepard Fairey

• Shepard Fairey is a contemporary street artist and activist.

• In his work he tackles topics such as political power and propaganda.

• Fairey uses stencils and screen print to make his work.

End points

Practise seeing negative and positive shapes.
Explore what your passions, hopes and fears might be. What makes you you? How can you find visual equivalents for the words in your head?
Explore colour: make colours, collect colours, experiment with how colours work together.
Explore combinations and layering of media.
Develop Mark Making
Make visual notes to capture, consolidate and reflect upon the artists studied
Understand that artists sometimes use their skills, vision and creativity to speak on behalf of communities they represent, to try to change the world for the better.
Understand that the nature of the object (artwork in gallery, graffiti on wall, zine) can be specific to the intention of the artist.
Explore what kinds of topics or themes YOU care about. Articulate your fears, hopes, dreams. Think about what you could create (possibly working collaboratively) to share your voice and passion with the world.
Use screen-printing and/or monoprinting over collaged and painted sheets to create your piece of activist art.
Or create a zine using similar methods.

Key questions

In what ways can artists express their ideas and opinions?
What do you care about and how best can you communicate this visually?
What is screen printing?

Structure - Playgrounds

Apparatus	Equipment designed for recreation and play, such as seesaws and swings.
Bench hook	A tool which hooks onto the edge of the workbench. It's used to hold woodwork still when sawing.
Coping saw	A saw with a narrow D-shaped metal blade, used for cutting curves in woods.
Dowel	Wood in the shape of a cylinder. Dowels come in all different sizes and thicknesses.
Jelutong	A type of softwood, it is lightweight, easy to cut and shape.
Mark out	To measure and mark where a piece of material needs to be cut or shaped.
Modify	To change something to improve or fix it.
Natural materials	Materials which come from nature. (e.g. wood comes from trees)
Plan view	A two-dimensional diagram used to describe a place or object from above with annotations and other details such as measurements.
Playground	An outdoor area for children to play in. They usually have different apparatus to play on such as climbing frames and slides.
Prototype	A simple model that lets you test out your idea and how it will look and work.
Reinforce	To make a structure or material stronger, especially by adding another material or element to it.
Structure	Something which stands, usually on its own.
Tenon saw	A saw with a flat blade, used for cutting wood in straight lines or angles.
User	A person that uses something.
Vice	A piece of equipment used to hold an object still while you work on it.

Did you know?

The first children's playground was built in 1859 in a park in Manchester, Great Britain.

Key facts

Kapow Primary

There are many types of **apparatus** in a **playground**, such as slides, swings, monkey bars, tunnels, see-saws and treehouses. Which do you like?

Coping saw

Hands away from the blade

Vice holding work secure

⚠ Remember to fix or hold your wood securely on the **bench hook** or **vice** when sawing, and keep your fingers out of the way of the blade.

End Goals

Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.
Building a range of play apparatus structures drawing upon new and prior knowledge of structures.
Measuring, marking and cutting wood to create a range of structures.
Using a range of materials to reinforce and add decoration to structures.
Improving a design plan based on peer evaluation.
Testing and adapting a design to improve it as it is developed.
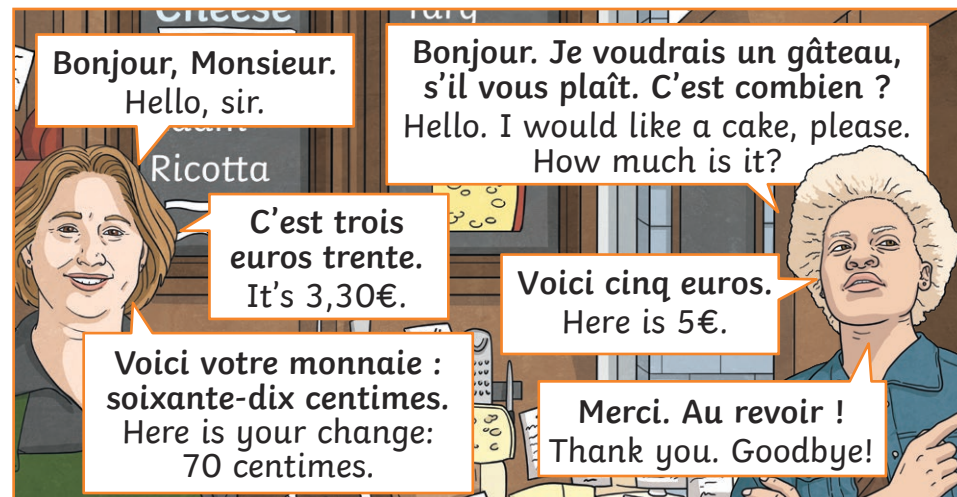Identifying what makes a successful structure.

Key Vocabulary – French Money

cinq euros	dix euros	vingt euros	cinquante euros
un euro	deux euros	cinquante centimes	vingt centimes
dix centimes	cinq centimes	deux centimes	un centime

Bonjour, Monsieur.
Hello, sir.

Bonjour. Je voudrais un gâteau, s'il vous plaît. C'est combien ?
Hello. I would like a cake, please. How much is it?

C'est trois euros trente.
It's 3,30€.

Voici cinq euros.
Here is 5€.

Voici votre monnaie : soixante-dix centimes.
Here is your change: 70 centimes.

Merci. Au revoir !
Thank you. Goodbye!

Key Vocabulary – Shopping Conversations

Bonjour, Madame/Mademoiselle/Monsieur			
Hello, madam/miss/sir			
Je voudrais…	le/la/les	un/une	du/de la/de l'/des
I would like…	the (m/f/plural)	a/an (m/f)	some (m/f/plural)
C'est combien ?	C'est… euros.	Voici…	Voici votre monnaie.
How much is it?	It's… euros.	Here is…	Here is your change.
s'il vous plaît	Merci (beaucoup).		Au revoir !
please	Thank you (very much).		Goodbye!

Key Knowledge and Grammar

Money

- In English, the pound sign comes before the money amount. In French, the euro sign comes **after** the amount. Euros and cents are separated by a comma as opposed to a full stop.

- It's more common to say **C'est deux euros quarante** (It's 2,40€), although it is also acceptable to say **C'est deux euros quarante centimes**.

Numbers

- When the number is a multiple of 100, there is an **s** on **cents**, e.g. **quatre-cents** (400). However, if there are other numbers after the hundred, then there is no **s** on the end of **cent**, e.g. **quatre-cent-cinquante** (450).

- There is an **s** on **vingts** in **quatre-vingts** (80) but if there are other numbers after **vingt**, then there is no **s** at the end, e.g. **quatre-vingt-dix** (90).

Key Vocabulary – At the Shops

Où est... ? Where is...?

le magasin de chaussures (m)	la fromagerie (f)	la boucherie (f)
la boulangerie (f)	la pâtisserie (f)	la bijouterie (f)
le magasin de jouets (m)	le magasin de vêtements (m)	la confiserie (f)

à côté de next to
Remember that if a noun is feminine, use **de la**. If the noun is masculine, use **du**. | **entre** between

La boucherie est à côté du magasin de vêtements.
The butcher is next to the clothes shop.

La pâtisserie est entre la boulangerie et le magasin de chaussures.
The cake shop is between the bakery and the shoe shop.
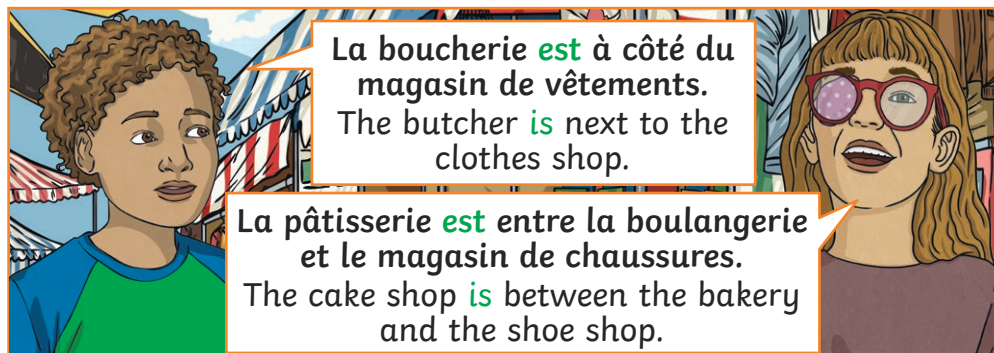
Key Vocabulary – All About Clothes

un manteau (m)	une jupe (f)	une chemise (f)	un pull (m)
bleu/bleue	blanc/blanche	jaune	noir/noire
rouge	vert/verte	gris/grise	violet/violette
marron	orange	rose	**foncé** – dark **clair** – light

Key Knowledge and Grammar

Adjectives

• In French, almost all adjectives go after the noun, e.g. **un pull** bleu (a blue jumper).

• Some colours have a feminine form when describing a feminine noun e.g. **une jupe** bleue (a blue skirt).

• If you add 'dark' or 'light' to the colour, it does not need to change to agree in gender or number, e.g. **une jupe** vert foncé (a dark green skirt), **une chemise** rose clair (a light pink skirt).

Year 5
Databases

Key Learning

- To understand what a database is.
- To design and create a database.
- To build queries to find information.
- To solve problems using a database.

Key Resources

2Investigate

Key Vocabulary

Condition
A condition is a rule you give to a database to help it find the right information.

Filter
Filtering what information is shown according to any filter rules applied.

Query
A user will run a query to find specific information in a database.

Data
A set of facts or information that help us learn something or make decisions.

Group
Putting similar pieces of information together in a database so it is easy to read and understand.

Record
A collection of related data or information that is stored together as a single unit.

Database
A set of data that can be held in a computer in a format that can be searched and sorted for information.

Linked Tables
A database can contain more than one table which can be linked together so a query can include information from the linked tables.

Sort
Organising data by a rule such as alphabetical or numerical.

Edit
To change, add or remove data from a record.

Validation
A field can have specific data types such as numbers, letters, dates and times which helps minimise input errors.

Operator
An operator tells a database what to do with data when someone is making a query. Such as: Find everyone whose score 'is equal to' 10.

Field
A heading in a database record against which data is entered.

purple mash
2simple

Key Images

Add record
Add record

Edit record

View mode

Update Query
Create query

Database Design

Report
Report

Key Questions

What do databases help us do?

Databases help organise data into one place. Data can be added, stored and retrieved by more than one person. When data is retrieved it can be combined to form information that someone might wish to find out. It is much quicker, more convenient and can be used by many people.

What is a query?

A query is the word used instead of question when using databases. Someone will create a query to find the answer to something they want to know.

What does a record contain?

A record contains fields of data that form information about something or someone. A database will contain lots of records. For example, a database record could be a record on one child at a school that has fields: name, age and class.

What does the AND operator help someone do?

The AND operator joins rules (conditions) together. Using AND means all the conditions have to be met. AND helps someone find specific information (records).

How can errors be kept to a minimum when entering data into a database?

Fields can have the data types entered into them set. Additionally, constraints such as always required or has options can be used.

Why might a database need more than one table?

It can get very messy and confusing for users of a database if all data is kept in one table. For example, a vet surgery might need a table on the pets and a separate table on the customers.
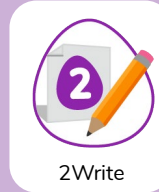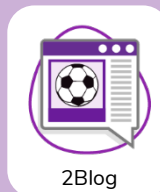
purple mash
2simple

Year 6
Blogging

Key Learning

- To understand blogs and their features.
- To plan the theme, content and structure for a blog post.
- To write and style a blog post.
- To review and comment on blog posts with an understanding of online safety.

Key Resources

2Blog

2Write

2Connect

Key Vocabulary

Approval
The act of acknowledging something is appropriate.

Blog
A regularly updated website or web page, typically one run by an individual or small group, that is written in an informal or conversational style.

Blog Post
A piece of writing or other item of content published on a blog.

Commenting
To express an opinion or reaction in speech or writing.

Draft
The first version of something you write.

Edit
To carefully check a created piece of writing for smaller errors.

Hyperlink
A word, phrase, image, or icon in a digital document that, when clicked or tapped, takes you to another part of the same document or to a completely different resource, such as a webpage, image, video, or file, on the internet or a local network.

Moderation
The process of reviewing, managing, and acting on user-generated content to ensure it sticks to the website's community guidelines and legal requirements.

Netiquette
Short for "network etiquette" or "internet etiquette," this refers to the set of social conventions and informal rules that guide online communication and interaction.

Plan
To think ahead and decide what you are going to do before you start doing it.

Publish
To make your written work available for other people to read.

Revise
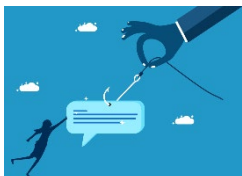To look at your written work again and make significant changes to improve it.

Vlog
A personal website or social media account where a person regularly posts short videos.

purple mash
2simple

Year 6
Blogging

Key Images

The 'hook'	Look and feel	Conclusion	Engagement

Plan → **Draft** → **Revise** → **Edit** → **Publish**

Key Questions

What is a blog?

A blog is a website or webpage that is regularly updated by the author. A blog also allows the reader to post comments or opinion based on what is written.

What can a blog be about?

A blog can be written about any subject that others might find interesting to read about and comment upon.

How are the readers involved in a blog?

A key feature of blogs is that the readers can leave a comment or opinion about what they have read on the blog. The interesting discussions and comments on blogs are often why blogs become successful.

What role does the blog moderator play?

The primary goals of moderation on blogs include protecting the organisation's reputation, supporting good discussions, improving the user experience and creating a positive and trustworthy space for readers to interact.

purple mash
2simple

Dance involves movements of the body with rhythm, usually to music. Instead of using words, we can use dance as a way of expressing ourselves and our feelings. Dance also improves our fitness, gives us better coordination, and helps us to connect with other people.

Diversity

Members: 20

Nationality: British

Age range: 18 - 29

Fact: Diversity won Britain's Got Talent in 2009
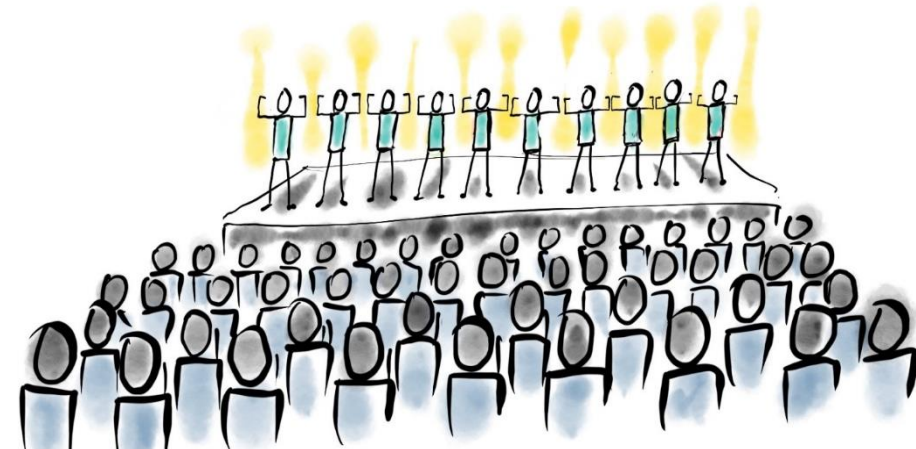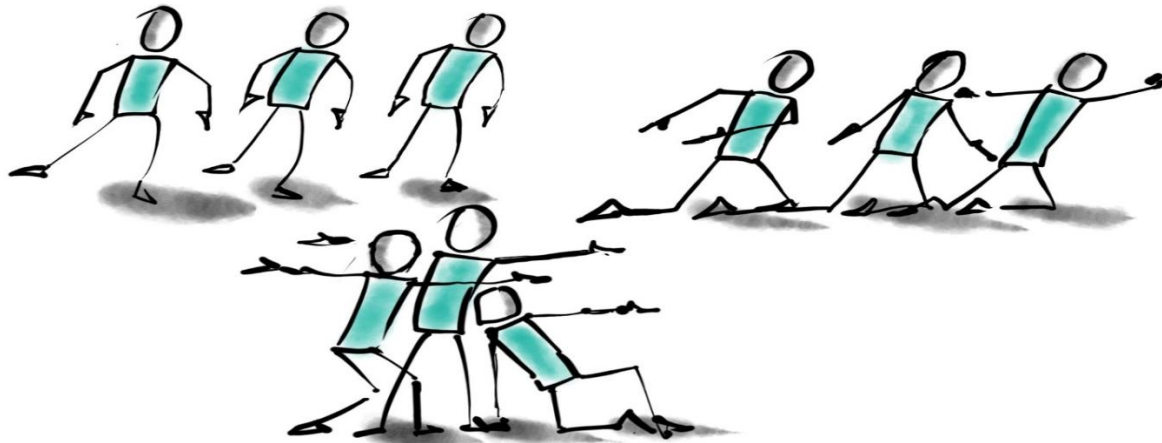
routine   movement   fluency

music   unison

choreography

beat of 8

STEPS TO SUCCESS

These are the skills I need to achieve success in UKS2 Dance:

To be inspired by music and different stimuli.

To show ideas through dance.

To create sections of dance on your own, and in a group.

To apply the principles of dance to a routine.

To combine movements – keeping to the beat.

To perform to an audience.

pe planning

Volleyball is a fast-paced sport played on a court with 2 teams separated by a net. The 6 players in a team must pass the ball and hit it into their opponent's side. Points are scored when the opponents cannot return the ball over the net without it touching the floor. There is also a version of volleyball that is played on sand.
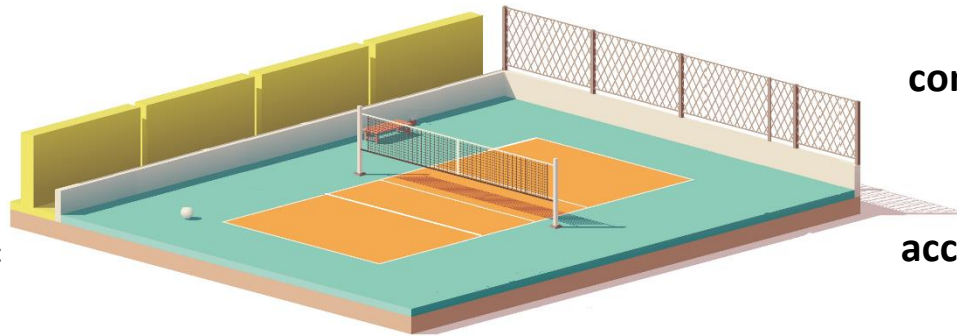
Regla Torres

Club: Ciudad Habana

National Team: Cuba

Position: Middle blocker
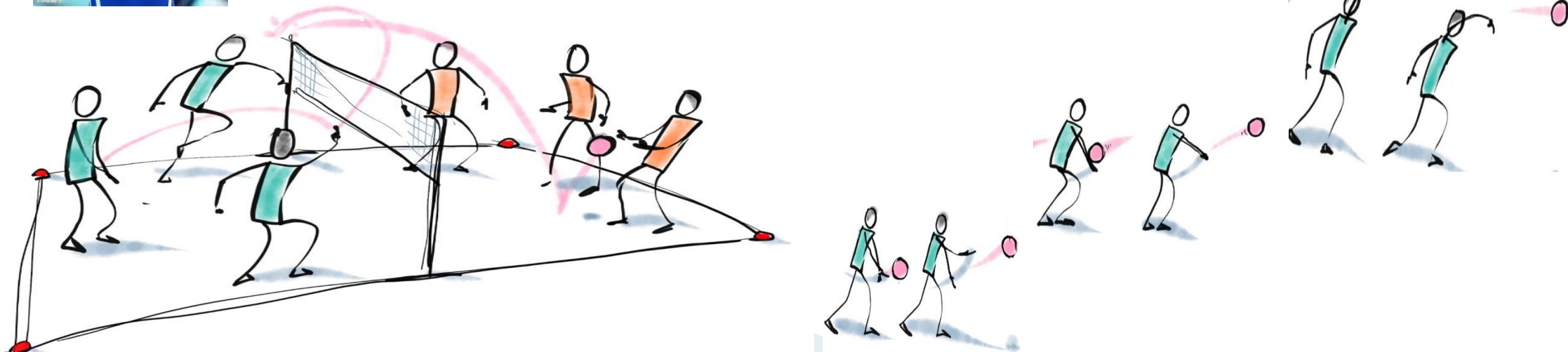
Fact: Torres has won 3 Olympic gold medals.

control   ready   successful

direction   speed

accuracy   space   ball flight

STEPS TO SUCCESS

These are the skills I need to achieve success in UKS2 Volleyball:

To react quickly to a travelling ball.	To play shots appropriate to the situation.
To move feet quickly to get into good positions.	To play shots accurately.
To be confident to play different shots.	To compete against others knowing when to attack and when to defend.

Key Vocabulary

Guru Gobind Singh - is the last of the ten Gurus. He is the one who transformed the Sikh faith.

Guru Granth Sahib - is the name of the Sikh holy book.

Khalsa - the Khalsa is the collective body of all initiated Sikhs.

Amrit – is the ceremony where a Sikh person becomes a part of the Khalsa

Sewa – means 'selfless service'. It involves acting selflessly and helping others in a variety of ways, without any reward or personal gain.

Langar - is a community kitchen and, as part of it, free vegetarian food is served in the kitchens of a Gurdwara (a Sikh temple) every day.
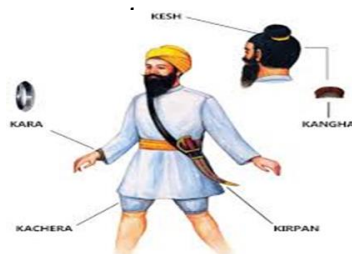
The 5Ks

Kesh – uncut hair	Kangha - comb	Kara - wristband	Kachera – short trousers	Kirpan -sword

Khandra symbol - is the symbol of the Sikh faith

Key Information I will learn...

The Five K's are the markers of Sikh identity, and they consist of: uncut hair, a short sword or knife, a steel wristband, a wooden comb, and shorts worn as .

Amrit is the ceremony where a Sikh person becomes a part of the Khalsa.

The Khalsa wear the 5ks as a sign of commitment.

Initiated Sikhs carry a kirpan and it symbolises how they should be willing to die for their faith

Sikhism teaches about Sewa. It means 'selfless service' and involves helping others without any reward or personal gain.

Key questions

How do Sikhs show commitment to their faith through religious practice?

What symbols are important to Sikhs?

How do Sikhs show commitment to their faith through rites of passage?

How do Sikhs show commitment by putting faith into action?

What can we learn from Sikh beliefs and ways of life?

Values are things that we believe are important and show this by the way we act.

Sikhs demonstrate commitment through daily religious observance.

End Goals

Children will
- Discuss and compare a range of important values
- Summarise and give reasons for Sikh daily practice
- Reflect on personal values and make links with Sikh beliefs
- Identify and explain Sikh symbols, including the 5Ks
- Summarise and explain how Sikh teachings and stories influence Sikh practice.
- Weigh up different points of view about the Kirpan
- Identify and explain the main features of the Amrit ceremony
- Compare and contrast Sikh practices with other forms of commitment
- Identify and explain Sewa and make connections with other forms of service.
- Suggest reasons why the langar is an important part of the Gurdwara.
- Identify and explain key features of Sikh practice.
- Consider and discuss the impact of being a Sikh on daily life.
- Make links and applications to their own experiences and ideas