

Autumn Term – Year 5 Maths – Number and Place Value

<u>Previously learned Vocabulary</u>	
Thousand (y3)	Derive (y4)
Round (y4)	Negative (y4)
Roman numerals (y4)	
<u>New Vocabulary</u>	
million(s)	power(s)
linear sequence	equivalence

Identify 7 digit numbers and the place value of each digit



I	1	XXX	30
II	2	XL	40
III	3	L	50
IV	4	LX	60
V	5	LXX	70
VI	6	LXXX	80
VII	7	XC	90
VIII	8	C	100
IX	9	D	500
X	10	M	1,000
XX	20	MD	1,500

Read roman numerals to 1000 (M) and recognise years written in Roman numerals.

Counting in 100,000s to get to 1,000,000 (a million)



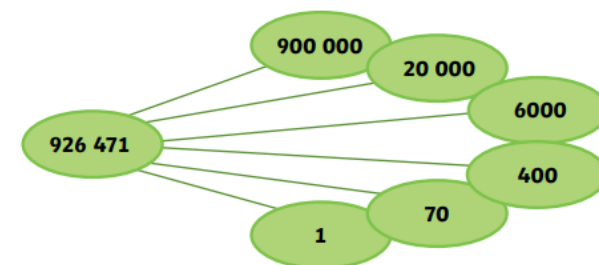
Order and compare 7 digit numbers

equals	greater than	less than
$26 + 38 = 8 \times 8$	$23\ 873 > 8256$	$901\ 198 < 1\ 091\ 098$
Both calculations have the value 64.	The number on the left has 2 ten thousands and the number on the right has 0 ten thousands.	The number on the right has 1 million and the number on the left has 0 millions.

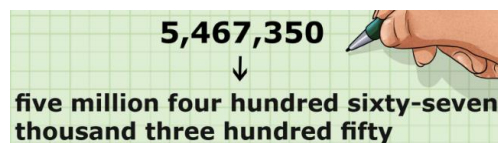
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000



Partition 7 digit numbers



Read and write numbers to at least 1 000 000



Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000

Example: $10^3 = 10 \times 10 \times 10 = 1,000$

- In words: 10^3 could be called "10 to the third power", "10 to the power 3"

Autumn term - Year 5 Maths – Addition and Subtraction

Previously learned Vocabulary

Thousands (Y4)

Operation (Y4)

Associative (Y4)

Derive (Y4)

Inverse (Y3)

New Vocabulary

million(s)

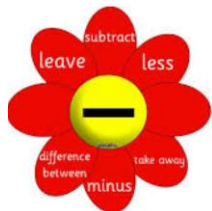
equivalence

Use inverse operations

$$143 + \underline{\quad} = 200$$

SO

$$200 - 143 = 57$$



Add numbers with more than 4 digits using formal written methods – column addition

4	5	8	6	4
+	2	3	4	9
6	9	3	6	1
	1	1	1	

Starting with the ones, add each column in turn. Regroup tens, hundreds, thousands, ten thousands as required.

Subtract numbers with more than 4 digits using formal written methods – column subtraction

3	4	6	5	3	-
4	5	2	7		
			6		

3	4	6	5	3	-
4	5	2	7		
3	0	1	2	6	

Starting with the ones, subtract each column in turn. Exchange tens, hundreds, thousands and/or ten thousands as required.

Use rounding to check answers to calculations with increasing accuracy

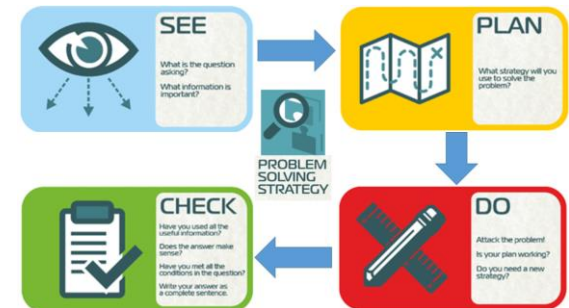
4	5	6	+	1	2	2
4	6	0	+	1	2	0
4	5	6				
+	1	2	2			
5	7	8				

Rounding Rules!

Find the number.
Look right next door.
5 or more?
Raise the score!
4 or less?
Let it rest!

Solve addition and subtraction multi-step problems, deciding which operations to use and why

- Step 1: Understand the problem.
Step 2: Devise a plan (translate).
Step 3: Carry out the plan (solve).
Step 4: Look back (check and interpret).



Add and subtract numbers mentally with increasingly large numbers

Use of rounding

$$2001 - 1999 =$$

$$2001 - 2000 = 1$$

$$1 + 1 = 2$$

Add the 1 back on as you took an extra 1 away

Partitioning

$$2500 + 1500 =$$

$$2500 + 1000 = 3500$$

$$3500 + 500 = 4000$$

Autumn Term – Year 5 Maths – Multiplication and Division A

<u>Previously learned vocabulary</u>	
Factor (y4)	factor pairs (y4)
array	Multiples (y3)
commutative (y2)	
<u>New Vocabulary</u>	
composite	
prime factor	
square(d) ²	
cube(d) ³	

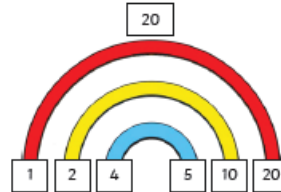
Establish prime numbers up to 100 and re-call prime numbers up to 19.

A prime number has only 1 and itself as factors: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43

A composite number has factors other than 1 and itself.

Identify all multiples and factors. Including factor pairs and common factors.

A factor is a number that divides into another number exactly, without leaving a remainder.



The factors of 20 are 1, 2, 4, 5, 10 and 20.

The factor pairs are:

- 1 and 20
- 2 and 10
- 4 and 5

A common factor
is a factor of 2
or more numbers.



Multiply and divide whole numbers by 10, 100 and 1000.

Three place value charts illustrating the multiplication of 302 by 10, 100, and 1000. Each chart has columns for thousands, hundreds, tens, and ones, with a decimal point between tens and ones.

- Chart 1 (x 10):** The digits 3, 0, and 2 shift one place to the left. The original ones digit (2) moves to the tens place, the original tens digit (0) moves to the ones place, and the original hundreds digit (3) moves to the thousands place. A zero is added in the new ones place.
- Chart 2 (x 100):** The digits 3, 0, and 2 shift two places to the left. The original ones digit (2) moves to the hundreds place, the original tens digit (0) moves to the tens place, and the original hundreds digit (3) moves to the thousands place. Two zeros are added in the new ones and tens places.
- Chart 3 (x 1000):** The digits 3, 0, and 2 shift three places to the left. The original ones digit (2) moves to the thousands place, the original tens digit (0) moves to the hundreds place, and the original hundreds digit (3) moves to the thousands place. Three zeros are added in the new ones, tens, and hundreds places.

The diagram illustrates the division of 3020.0 by 10, 100, and 1000 using place value charts. Each chart has columns for thousands, hundreds, tens, ones, tenths, and hundredths.

- Division by 10:** The dividend 3020.0 is shown in the top chart. An arrow labeled $\div 10$ points to the second chart, where the quotient is 302.0. The digits have shifted one place to the right.
- Division by 100:** An arrow labeled $\div 100$ points from the second chart to the third chart, where the quotient is 30.2. The digits have shifted two places to the right.
- Division by 1000:** An arrow labeled $\div 1000$ points from the third chart to the fourth chart, where the quotient is 3.02. The digits have shifted three places to the right.

Multiply by powers of 10

$8 \times 9 = 72$ $80 \times 9 = 720$	$9 \times 8 = 72$ $90 \times 8 = 720$
$72 \div 9 = 8$ $720 \div 9 = 80$	$72 \div 8 = 9$ $720 \div 8 = 90$

Square numbers result from a number being multiplied by itself (e.g. $5 \times 5 = 25$):

1, 4, 9, 16, 25, 36, 49, 64, 81, 100

Cube numbers result from a number being multiplied by itself twice ($2 \times 2 \times 2 = 8$):
1, 8, 27, 64, 125

Identify and calculate square and cube numbers.

1²

1

1x1=1

2²

1	2
3	4

2x2=4

3²

1	2	3
4	4	6
7	8	9

3x3=9

4²

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

4x4=16

5²

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

5x5=25

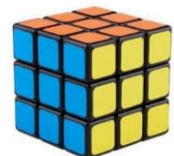
6²

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

6x6=36



$$2 \times 2 \times 2 = \underline{8}$$
$$2^3 = 8$$



$$3 \times 3 \times 3 = \underline{27}$$
$$3^3 = 27$$

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

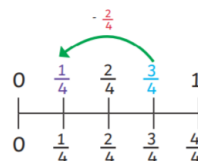
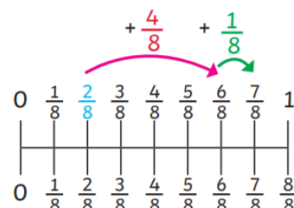
mixed number	thousandths
improper fraction	simplest form

Adding and subtracting fractions

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

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

$$\frac{8}{6} - \frac{5}{6} = \frac{3}{6}$$



Adding and subtracting fractions (when denominators are related multiples)

If the denominators are NOT the same (sometimes called unlike fractions) 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

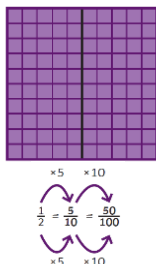
$$\frac{1}{3} + \frac{1}{6} = \frac{2}{6} + \frac{1}{6} = \frac{3}{6}$$

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



Order and compare fractions (when denominators are related multiples)

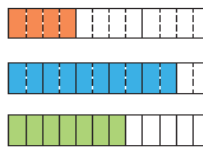
Similar to +/-

1. Make the denominators the same by converting
2. Compare or order the fractions
3. Write back as original fraction

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

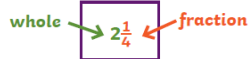
$$\frac{4}{12}, \frac{10}{12}, \frac{7}{12}$$

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



Mixed numbers and improper fractions

Mixed numbers – Contain a whole number and a 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

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

$$9 \div 4 = 2 \text{ r } 1$$

Divide the numerator by the denominator

This shows you the whole number and the fraction

$$2\frac{1}{4}$$

Autumn Term – Y6 Maths – Number and Place Value

Previously Learned Vocabulary

Millions (y5)	Round/ rounding (y4)
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Negative (y4)	Integers (y3)
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Equivalence (y5)	
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New Vocabulary

Ten million	Interval
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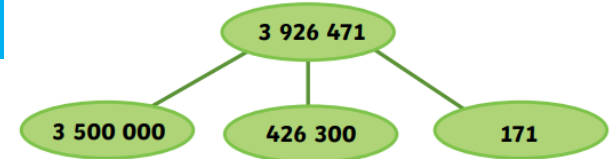
Read and write numbers up to ten million

3 926 471

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
3	9	2	6	4	7	1

3 926 471
3 926 000 471

three million, nine hundred and twenty-six thousand,
four hundred and seventy-one



Compare and order numbers up to ten million

equals

$$26 + 38 = 8 \times 8$$

Both calculations have
the value 64.

greater than

$$223\ 873 > 98\ 256$$

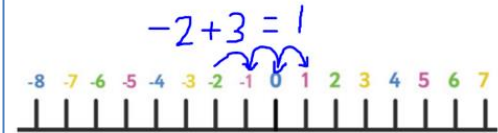
The number on the left has 2 hundred
thousands and the number on the right has
0 hundred thousands.

less than

$$901\ 198 < 1\ 091\ 098$$

The number on the right has 1
million and the number on the left
has 0 millions.

Negative numbers in context

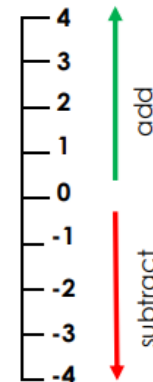


When we add a
positive number to a
negative number, we
count upwards towards
zero.

$$-2 + 5 = 3$$

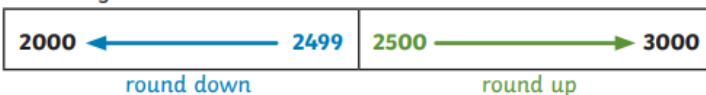
When we subtract a
positive number from a
negative, we count
down away from zero.

$$-1 - 3 = -4$$

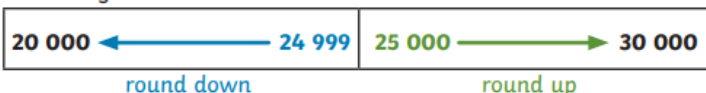


Round any whole number to a required degree of accuracy

Rounding to the nearest 1000



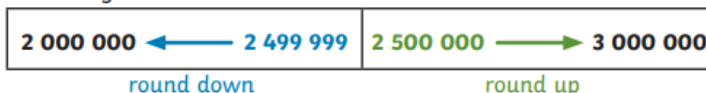
Rounding to the nearest 10 000



Rounding to the nearest 100 000



Rounding to the nearest 1 000 000



Autumn term - Year 6 Maths – Addition and Subtraction

Previously Learned Vocabulary

Millions (y5)	Round/ rounding (y4)
Equivalence (y5)	Integers (y3)

New Vocabulary

Reason from known facts

Use rounding to check answers to calculations with increasing accuracy

$$\begin{array}{r} 456 + 122 \\ 460 + 120 = 580 \\ \begin{array}{r} 456 \\ + 122 \\ \hline 578 \end{array} \end{array}$$

Rounding Rules!

Find the number.
Look right next door.
5 or more?
Raise the score!
4 or less?
Let it rest!

Solve addition and subtraction multi-step problems, deciding which operations to use and why

Step 1: Understand the problem.

Step 2: Devise a plan (translate).

Step 3: Carry out the plan (solve).

Step 4: Look back (check and interpret).

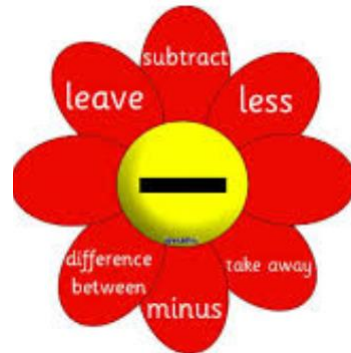


Use inverse operations

$$143 + \underline{\quad} = 200$$

SO

$$200 - 143 = 57$$



Add and subtract integers

Column Method

4	5	8	6	4
+	2	3	4	9
	6	9	3	6
		1	1	1

Starting with the ones, add each column in turn. Regroup tens, hundreds, thousands, ten thousands as required.

3	5	7	13	12
-		3	4	7
		3	2	2

Starting with the ones, subtract each column in turn. Exchange tens, hundreds, thousands and/or ten thousands as required.

Add and subtract numbers mentally with increasingly large numbers

Use of rounding

$$2001 - 1999 =$$

$$2001 - 2000 = 1$$

$$1 + 1 = 2$$

Add the 1 back on as you took an extra 1 away

Partitioning

$$2500 + 1500 =$$

$$2500 + 1000 = 3500$$

$$3500 + 500 = 4000$$

Autumn Term – Y6 Maths – Multiplication and Division A

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	
Common factors	Common multiples

Prime Numbers 1 to 100

2 3 5 7 11 13 17 19
23 29 31 37 41 43 47
53 59 61 67 71 73 79
83 89 97

Multiply and divide whole numbers by 10, 100 and 1000.

			3	.	0	2	
		3	0	.	2		← x 10
		3	.	0	2		
3	0	2	.				← x 100
		3	.	0	2		
3	0	2	0	.			← x 1000

			3	0	2	0	.	0	
÷ 10	→		3	0	2	.			
			3	0	2	0	.	0	
÷ 100	→		3	0	.	2			
			3	0	2	0	.	0	
÷ 1000	→				3	.	0	2	

Divisibility Rules

A number is divisible if it can be divided evenly with no remainder.

10	if	The number ends in a 0.
9	if	When you add all the digits this number can be divided by 9.
8	if	The last 3 digits form a number that can be divided by 8.
7	if	For 3 digit numbers, double the last digit and subtract it from the first two digits. The total can be divided by 7.
6	if	The last number can be divided by 2 and the total of the digits can be divided by 3.
5	if	The last digit is a 5 or a 0.
4	if	The last two digits are a number that is divisible by 4.
3	if	The sum of the digits can be divided by 3.
2	if	The final digit is an even number.

Common factors

Factors of 48

1 2 3 4 6 8 12 16 24 48

Factors of 30

1 2 3 5 6 10 15 30

Common factors: 1, 2, 3, 6

Primes

A prime number has only 1 and itself as factors: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43

A composite number has factors other than 1 and itself.

Common multiples

Multiples of 3

3 ... 18 21 24 ... 39 42

Multiples of 7

7 14 21 28 35 42

Common multiples: 21, 42...

Squares and Cubes

Square numbers result from a number being multiplied by itself (e.g. $5 \times 5 = 25$):

1, 4, 9, 16, 25, 36, 49, 64, 81, 100

Cube numbers result from a number being multiplied by itself twice ($2 \times 2 \times 2 = 8$): 1, 8, 27, 64, 125

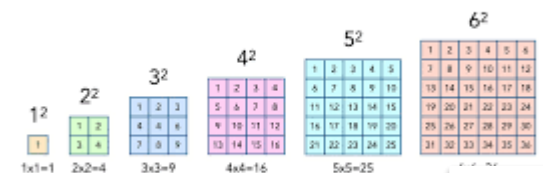
$1^3 = 1 \times 1 \times 1 = 1$

$2^3 = 2 \times 2 \times 2 = 8$

$3^3 = 3 \times 3 \times 3 = 27$

$4^3 = 4 \times 4 \times 4 = 64$

Square Numbers

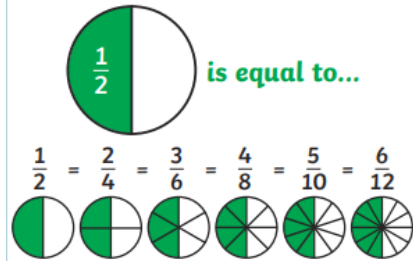


Autumn Term – Y6 Maths – Fractions A

Previously Learned Vocabulary

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

Equivalent fractions

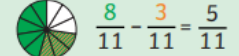
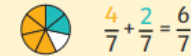


You can find equivalent fractions by multiplying or dividing the numerator and denominator by the same number

Adding and subtracting fractions

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

Same Denominators



Different Denominators

$$\frac{2}{7} + \frac{3}{5}$$

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

$$\frac{2}{7} = \frac{10}{35}, \frac{3}{5} = \frac{21}{35}$$

$$\frac{10}{35} + \frac{21}{35} = \frac{31}{35}$$

$$\frac{9}{10} - \frac{1}{4}$$

Multiples of 10: 10, **20**
 Multiples of 4: 4, 8, 12, 16, **20**

$$\frac{9}{10} = \frac{18}{20}, \frac{1}{4} = \frac{5}{20}$$

$$\frac{18}{20} - \frac{5}{20} = \frac{13}{20}$$

Add or subtract the whole numbers and fractions separately.

$$2\frac{2}{5} + 1\frac{3}{10}$$

$$2 + 1 = 3$$

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

$$3 + \frac{7}{10} = 3\frac{7}{10}$$

$$2\frac{1}{2} - 1\frac{1}{4}$$

$$2 - 1 = 1$$

$$\frac{1}{2} - \frac{1}{4} = \frac{2}{4} - \frac{1}{4} = \frac{1}{4}$$

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

Convert the mixed numbers to improper fractions.

$$2\frac{2}{5} + 1\frac{3}{10}$$

$$2\frac{1}{2} - 1\frac{1}{4}$$

$$2\frac{2}{5} = \frac{12}{5}$$

$$1\frac{3}{10} = \frac{13}{10}$$

$$2\frac{1}{2} = \frac{5}{2}$$

$$1\frac{1}{4} = \frac{5}{4}$$

$$\frac{12}{5} + \frac{13}{10} = \frac{24}{10} + \frac{13}{10} = \frac{37}{10}$$

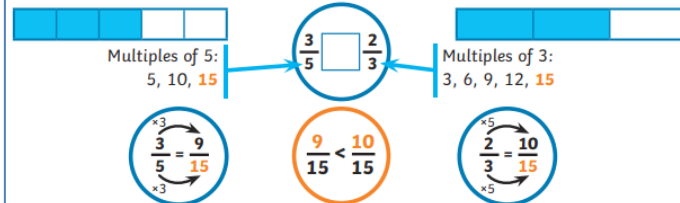
$$\frac{37}{10} = 3\frac{7}{10}$$

$$\frac{5}{2} - \frac{5}{4} = \frac{10}{4} - \frac{5}{4} = \frac{5}{4}$$

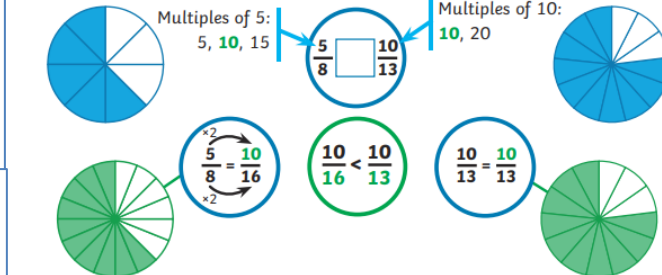
$$\frac{5}{4} = 1\frac{1}{4}$$

Order and compare fractions

Use the Common Denominator



Use the Common Numerator



Simplify fractions

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

Factors of 9:

1, 3, 9

Factors of 12:

1, 2, 3, 4, 6, 12

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

Proper fractions

A fraction is a part of a whole.



3 → numerator = number of parts referred to

5 → fractions bar = divided by / out of

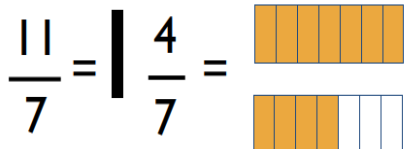
denominator = number of parts in whole

Fractions are divisions yet to be done...

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

Improper fractions and mixed numbers

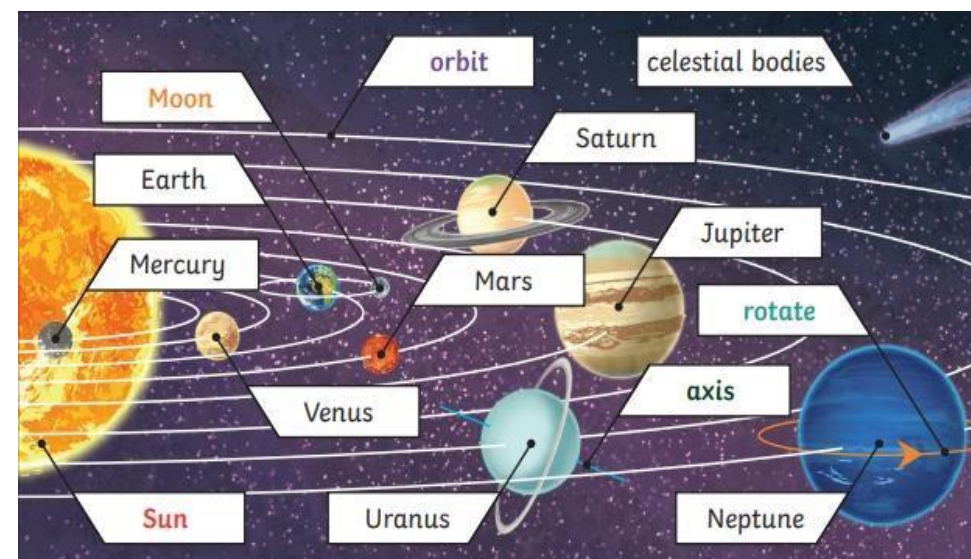
Improper fractions and mixed numbers show fractions more than a whole.



Key Vocabulary

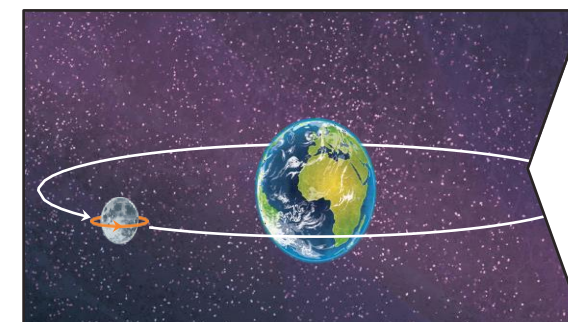
sun	A huge star that Earth and the other planets in our solar system orbit around
star	A giant ball of gas held together by it's own gravity
moon	A natural satellite that orbits earth and other planets.
sphere	A round 3D shape in the shape of a ball
spherical bodies	Astronomical objects shaped like spheres
satellite	Any object or body in space that orbits something else. For example: the moon is a satellite of Earth.
orbit	To move in a regular, repeating curved path around another object.
rotate	To spin. E.g. Earth rotates on it's own axis.
axis	An imaginary line that a body rotates around. E.g. the Earth's axis runs from the North Pole to the South Pole
geocentric model	A belief people used to have that other planets and the Sun orbited around Earth.
heliocentric model	The structure of the Solar System where the planets orbit the Sun.

Key Information I will learn...



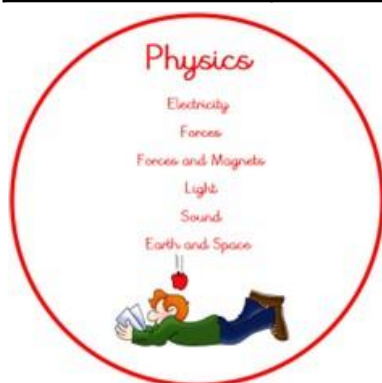
The Moon

- The moon orbits Earth while spinning on its axis.
- At various time in a month the moon appears to be different shapes.
- This is because the moon rotates round Earth, the sun lights up different parts of it.



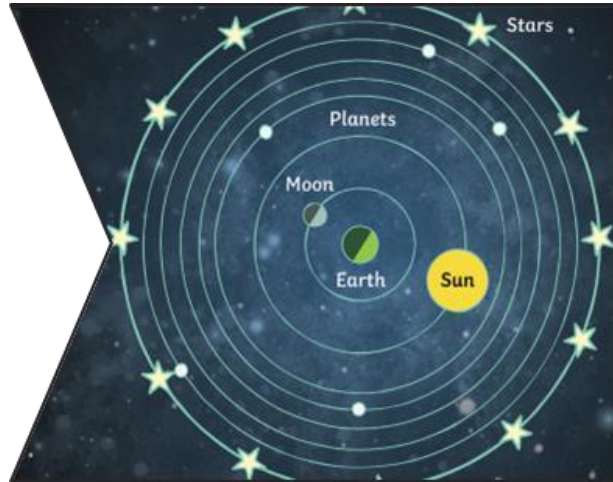
The planets

- Mercury, Venus, Earth and Mars are rocky planets. They are mostly made up of metal and rock.
- Jupiter, Saturn, Uranus and Neptune are mostly made up of gases (helium and hydrogen) although they do have cores made up of rock and metal.
- Pluto used to be a planet but was reclassified as a dwarf planet in 2006.



Geocentric model

- Geocentric model Years ago people believed that planets moved around the Earth.



Heliocentric model

- The work and ideas of many astronomers (such as Copernicus and Kepler) combined over many years before the idea of the heliocentric model was developed.
- Galileo's work on gravity allowed astronomers to understand how planets stayed in orbit.



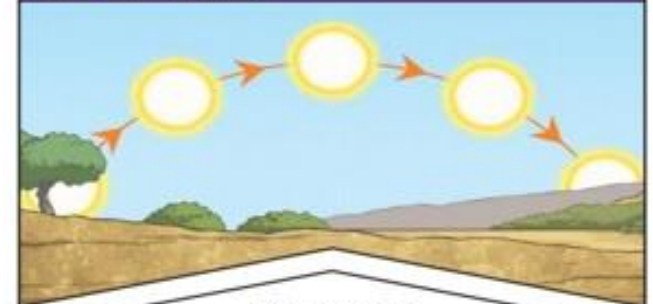
Day and Night

- Earth rotates (spins) on its axis.
- It does a full rotation once every 24 hours.
- At the same time that Earth is rotating, it is also orbiting (revolving) around the Sun.
- It takes a little more than 365 days to orbit the Sun. Daytime occurs when the side of Earth is facing towards the Sun. Night occurs when the side of Earth is facing away from the Sun.



Earth **rotates** (spins) on its **axis**. It does a full **rotation** once in every 24 hours. At the same time that Earth is **rotating**, it is also **orbiting** (revolving) around the **Sun**. It takes a little more than 365 days to **orbit** the **Sun**. Daytime occurs when the side of Earth is facing towards the **Sun**. Night occurs when the side of Earth is facing away from the **Sun**.

Key Knowledge



It appears to us that the **Sun** moves across the sky during the day but the **Sun** does not move at all. It seems to us that the **Sun** moves because of the movements of Earth.



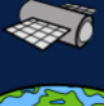
Must Knows Earth and space



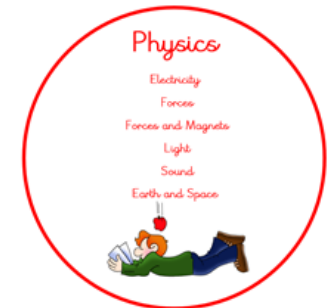
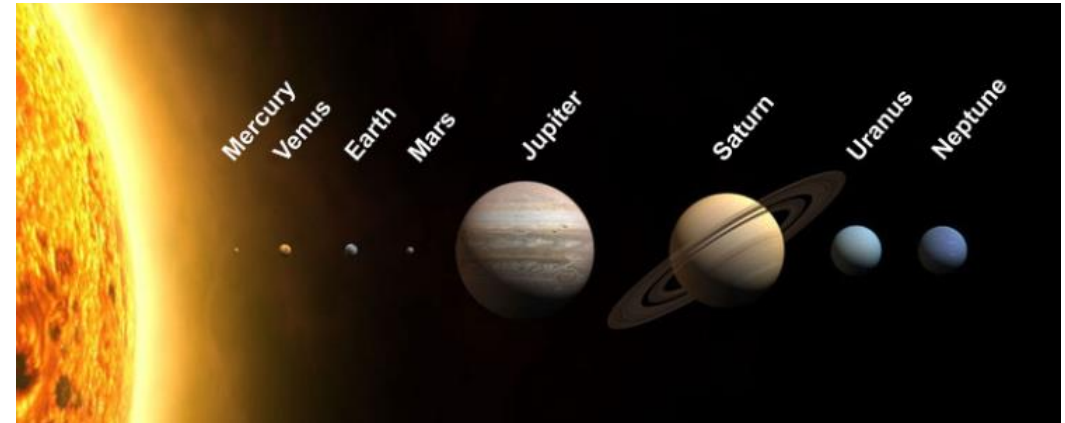
Key Facts:

- The geocentric model is a belief that the planets moved around Earth.
- The heliocentric model is a belief that planets move around the sun.
- Our solar system is in the Milky way.
- There are 8 planets in our solar system – Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.
- The moon orbits Earth.
- Earth rotates on its axis every 24 hours.
- We have day and night because Earth rotates and different parts face towards and away from the sun.
- The sun does not move across the sky – earth rotates on it's axis and orbits the sun
- Shadows are formed when an object blocks the light.
- Shadows get shorter when the object is nearer to the light source.
- It takes $365 \frac{1}{4}$ days for Earth to orbit the sun.
- There are eight phases of the Moon beginning with the new Moon, followed by waxing crescent, first quarter, waxing gibbous, full Moon, waning gibbous, third quarter and finally waning crescent. This cycle repeats once every 29.5 days.

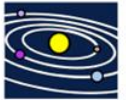


Vocabulary	Definition
sun 	A huge star at the centre of our solar system
star 	A giant ball of gas
moon 	A natural satellite that orbits earth
spherical 	A round 3D shape in the shape of a ball
satellite 	Any object or body in space that orbits something else.
orbit 	To move in a regular, repeating curved path around another object.
rotate 	To spin.
axis 	An imaginary line that a body rotates around.
Earth 	Our planet
planets 	A large object that orbits the star.
Solar System 	A solar system is a space where there is a sun and planets revolve around it.

Key Information I will learn...



The  planets,  moons and  stars are  spheres.

There are 8  planets in the  Solar System.

The  Sun is in the centre of the  Solar System.

Must Knows Earth and space



Key Facts:

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- There are eight phases of the Moon.



Key Vocabulary

Cold war	A state of political rivalry between countries characterised by threats, propaganda, and other measures short of open warfare.
Space Race	The competition between nations regarding achievements in space exploration.
Propaganda	A form of communication to provide information that is designed to make people feel a certain way or to believe a certain thing.
Bias	An opinion that favours one side over another.
Reliability	How trustworthy a source of information is.
Astronaut	A person who is trained by NASA to work in space.
Cosmonaut	A person who is trained by the Russian Space Agency to work in space.

Key Information I will learn...



Whilst experiencing racial discrimination in the 1960s, Katherine Johnson, Mary Jackson and Dorothy Vaughan worked for NASA cracking complex maths problems to make sure that astronauts could travel safely to Space.

Advances in technology through Space exploration have contributed to the invention of many modern day appliances. For example, prosthetic limbs, memory foam, freeze dried food and ear thermometers.

Timeline events

1957 - On the 4th October, Russia launched Sputnik, the first satellite into space. 'Sputnik' means 'satellite' in Russian. From this day on, the space age had begun!

1961 - Russian cosmonaut Yuri Gagarin became the first man in space.

1963 - Russian cosmonaut Valentina Tershkova is the first woman in space

Apollo 11 lunar mission 1969. Neil Armstrong, Michael Collins and Buzz Aldrin travel to the Moon. Neil Armstrong is the first man to walk on the Moon.



Facts

The United States of America (USA) and the Soviet Union (USSR) were involved in the Space Race during the Cold War.

This is a history topic. We will be working as historians





Substantive concepts		
concept	Definition	Linked vocabulary
War	A war is when there is a conflict or fight between armed troops. It is when there is hostility towards other parties issued officially by governments/states. It is any prolonged conflict between rival political groups by force of arms	Political unrest Conflict Allies Alliances
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
Trade	Trade is the. buying and selling (exchanging) of goods and services. Goods are objects that people grow or make—for example, food, clothes, and computers. Services are things that people do—for example, banking, communications, and health care. It can happen between countries, within countries and across the world.	Exchanging Global National International



Space History

Why have developments in Space had such a big impact?

Must know facts

Key Facts:

- The Soviet Union (USSR) and the United States (US) were involved in the Space Race.
- Propaganda posters were used by the USSR and the USA to influence the opinion of others.
- Russia sent the first man (Yuri Gagarin) and woman (Valentina Tershkova) into space.
- Cosmonauts work in Space and are trained by the Russian Space Agency.
- Astronauts work in Space and are trained by NASA.
- Apollo 11 was NASA's successful Lunar Mission in 1969.
- Neil Armstrong was the first man to walk on the moon.
- There are many conspiracy theories that question whether the Lunar Mission was successful.
- Advances in technology through Space exploration have contributed to the invention of modern day appliances such as memory foam and prosthetic limbs.
- Katherine Johnson, Dorothy Vaughan and Mary Jackson were the women who helped to build NASA despite both racial and gender discrimination.

Must Knows quiz score.....

Key Vocabulary

Cold war	The period after World War 2
Space Race	The competition between nations regarding space exploration.
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Must Knows quiz score.....

Art - Typography and Maps (drawing and sketchbooks) Oak Class – Heptonstall School

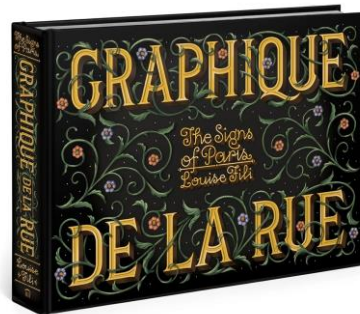


Key Vocabulary

Typography	The visual art of creating and arranging letters and words on a page to help communicate ideas or emotions.
Lettering	The letters written or printed on something
Graphics	Visual images produced by a computer
Purpose	An intention or aim
Typeface	A design of letters, numbers and other symbols to be used in printing or for electronic display
Pictorial map	A map using illustrations to represent information on a map

Key Information I will learn...

Focus Artist: Louise Fili



Louise Fili is a American graphic designer and artist known for her use of typography.

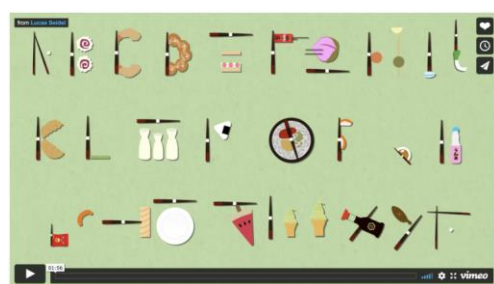
Born on April 12, 1951

Her work incorporates elements of modernism and European Art Deco, combining historical typography with contemporary design approaches.

Typography

Typography is the visual art of creating and arranging letters and words on a page to help communicate ideas or emotions.

Drawing and sketchbooks



Must know facts



Key Facts:

- When designers work with fonts and layout it is called typography.
- We can use the way words look to help us communicate ideas and emotions.
- We can create our own typography and combine it with other visual elements to make artwork about chosen themes.
- Graphics are visual images produced by a computer.
- Typography can be used to create visual maps.
- When mark making you can use lines, dots and dashes.
- When we reflect on our own work and the work of others, we think about what we are good at and what we might do differently next time.

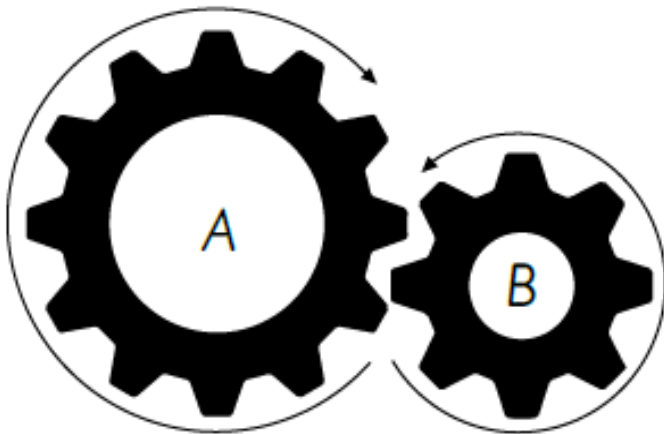


D&T - Gears and pulleys



Gears

- A **gear** is a wheel with teeth.
- A gear system is multiple gears working together to **transfer** force and motion from one part of a **mechanical system** to another.
- Gears are used to change the speed, direction or force of movement.



An **input** like pedalling a bike causes gear A to rotate.

The teeth of gear A and gear B mesh together. If gear A is turned, it causes gear B to turn.

Gear B causes an **output** like the wheels on a bike spinning.

- **Speed:** larger gears (A) turn more slowly than smaller gears (B).
- **Direction:** gears (A and B) turn in opposite directions.
- **Force:** a larger gear (A) turning a smaller gear (B) requires less force while a smaller gear (B) turning a larger gear (A) increases the force output.

A **problem statement** describes a problem in detail, including who is affected and why it is important to solve it.

The **class** wants to **make smoothies** without using **electricity**, which will **save energy**, promote **physical activity** and increase awareness of **sustainable** practices.



D&T - Gears and pulleys



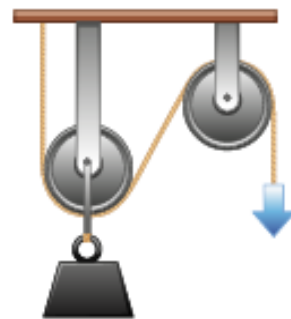
Pulleys

A **pulley** is a wheel with a groove and a rope or belt that fits into the groove.

A single pulley changes the direction of the input force, making lifting easier.



Multiple pulleys distribute effort over a longer distance, reducing the input force needed.



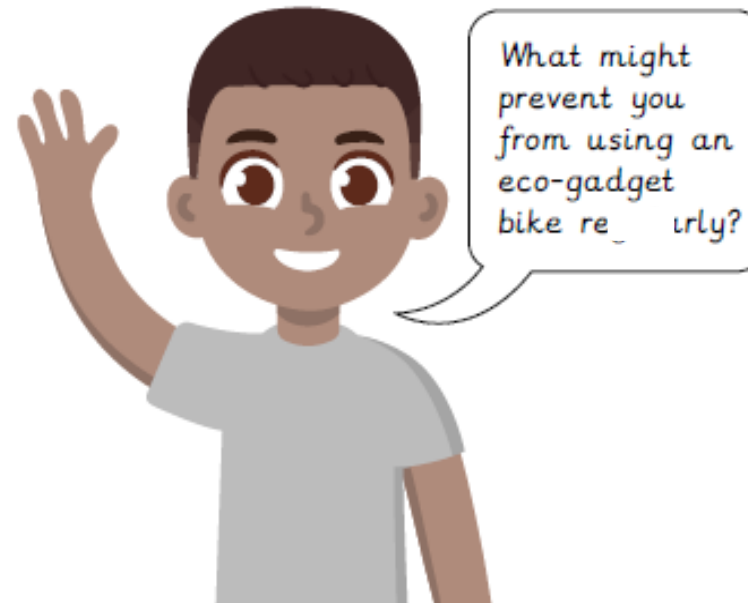
Examples

- Escalators.
- Theatre curtain systems.
- Cranes.
- Conveyor belts.
- Blinds.
- Treadmills.
- Sailboat rigging.

Market research gathers relevant **data** from potential users of the **product** to inform decision making during the **design** process.

Questions should be designed to find out about user likes, dislikes and needs.

Competitor research on the usability, aesthetics, innovation, cost and sustainability of existing products helps to differentiate the new product.



Must know facts



Key Facts:

- A gear is a wheel with teeth on it that fit into the teeth of another gear.
- Gears change the force, speed or direction of movement.
- Larger gears turn slower than smaller gears.
- 2 gears next to each other will turn in opposite directions.
- A pulley is a wheel with a groove and rope that fits into it.
- A single pulley changes the direction of the input force.
- Multiple pulleys distribute effort over a longer distance and reduce the input force needed.
- Pulleys make lifting and moving heavier objects easier.



Field hockey is a team sport that is played on grass or artificial turf. It involves two teams of 11 players, including a goalkeeper. Players must use a curved stick to dribble, pass and shoot the ball. Field hockey requires a combination of skills including speed, agility, hand-eye coordination, and teamwork.



Eva De Goede

National Team: Holland

Position: Midfield

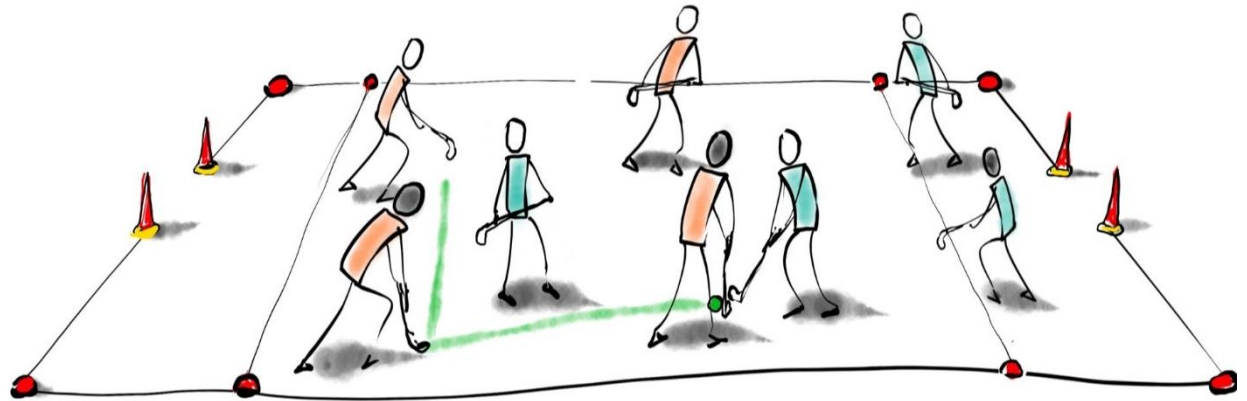
Fact: Known as the best player of all time, Eva De Goede has won 3 Olympic gold medals and 3 world gold medals.



dribbling turn shoot

control teamwork speed

push pass possession



STEPS TO SUCCESS

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

To play games understanding different positions and roles.

To use different passes whilst on the move.

To shoot with confidence and control.

To dribble a ball at speed whilst changing direction.

To decide the best way to defend in a game situation.

To decide the best way to attack in a game situation.

Rugby is a full-contact team sport, played with an oval-shaped ball, and requires power, speed and teamwork. Tag Rugby rules are similar to rugby, but without contact, players try to score by touching their ball down within their 'try zone' without the other players removing their tag.

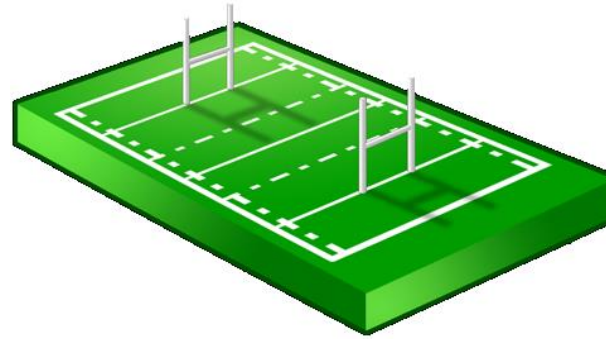


Alun Wyn Jones

Club: Lions, Wales & Ospreys

Position: Lock

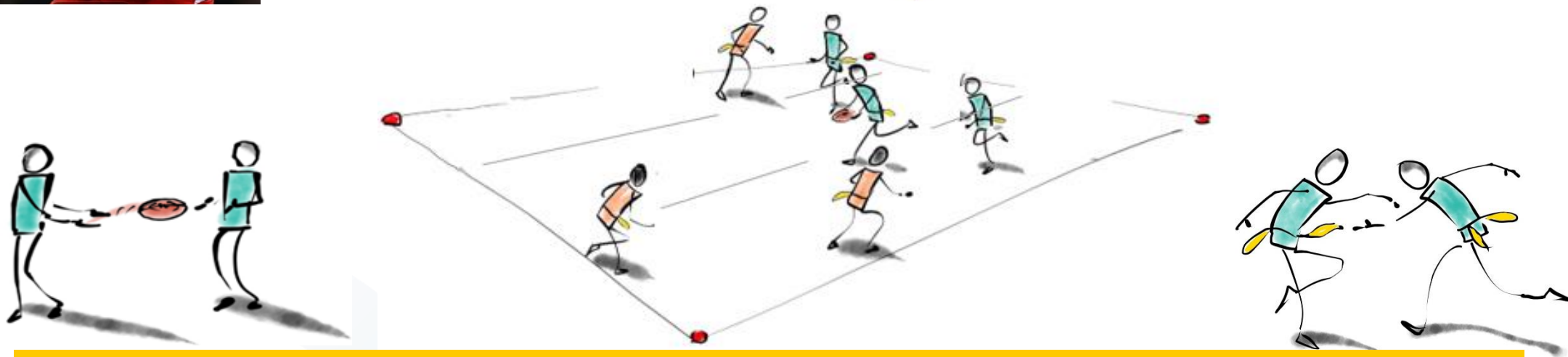
Fact: Alun Wyn Jones has been the captain of both the Wales team and the British Lions Team.



pass tag attack

defend mark

dummy share



STEPS TO SUCCESS

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

To travel at speed with the ball.

To dodge and fake passes when running with the ball.

To catch the ball whilst under pressure.

To watch and evaluate the professional game.

To decide on ways to attack when playing games.

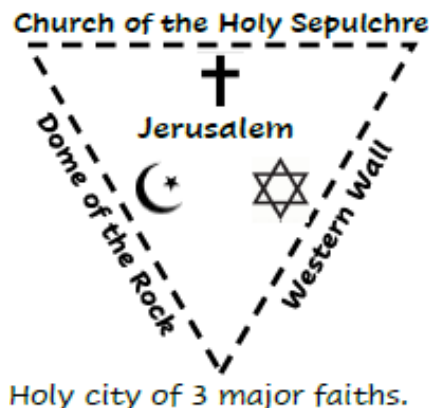
To decide on the best ways to defend in games.

RE Unit 5.1 Why are some journeys and places special? Oak Class – Heptonstall School

Key Vocabulary

Pilgrimage	A journey of spiritual/religious significance typically to a shrine or a location of importance
Makkah (Mecca)	Islam's holiest city and the birth place of Muhammad
Western Wall 	(wailing wall) is the ancient limestone wall of the second Jewish temple in Jerusalem
Golden Temple 	The Gurdwara, a spiritual site of Sikhism, is in the city of Amritsar in India.
Vatican City 	Home of the Pope who is the bishop of Rome and Head of the Catholic church. It is the world's smallest country
Dome of the Rock 	An Islamic shrine built over the foundation stone – the place where God created the world and the 1 st human
Sanctuary of Our Lady of Lourdes 	An area of land surrounding the Catholic shrine (Grotto) to our Lady of Lourdes in France. People are said to be healed by the water within the grotto

Key Information I will learn...



The Western Wall is considered a sacred site by Jews because it is the closest point to the Temple Mount, the most sacred site in Judaism



Makkah is a special place for Muslims. Muslims have the ambition to visit Makkah at least once in their lifetime.



Sikhs reflect continually on the way that they live their lives, and whether they have a 'oneness with God'.



Sikhs do not consider pilgrimage a necessity – daily meditation is more important and effective.





Year 5

Quizzing

Key Learning

- To explore different types of quizzes and identify their features, strengths, and weaknesses.
- To explore the features of 2Quiz and experiment with creating quiz questions.
- To explore additional features of quizzes, such as title screens and content pages.
- To apply knowledge of 2Quiz to design an educational quiz based on a chosen topic.
- To be able to refine, test and share completed quizzes.

Key Resources



2Quiz

Key Vocabulary

Quiz

A set of questions designed to test knowledge or understanding.

Interactive

Allowing active participation or engagement.

Features

A feature of something is an interesting or important part or characteristic of it.

Simple

Something that tends to be easily understood or done.

Advanced

A level that is beyond the basic, requiring a higher level of skill, knowledge, or understanding.

Debug

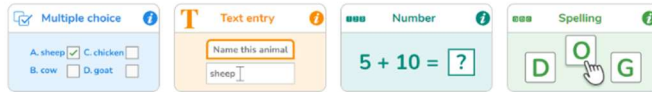
To identify and fix errors in a program or application.



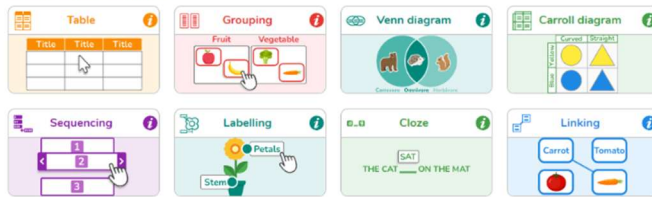
Year 5 Quizzing

Key Images

Simple question types



Advanced question types



Question Types



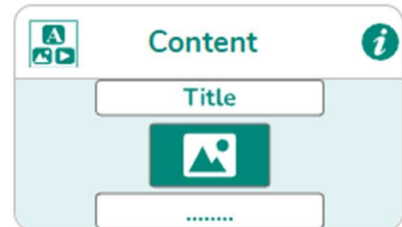
Introduction/Title
Page



Settings



Help Videos



Content Screens



Key Questions

What are the key features that make a quiz engaging and effective?

A quiz is engaging and effective when it includes clear and varied question types, a logical layout, appropriate feedback for answers, and additional features like a title screen and content pages. These features ensure a quiz is fun, informative, and easy to follow.

How does adding content screens improve a quiz for users?

These pages can be used to split your quiz into sections, give additional information, play a video, draw attention to a particular image or even encourage users to have a quick break. They are added in the same way that you would add a quiz question and are a quick and easy way to enhance your quiz even further.

Why is debugging important when creating a quiz?

Debugging is essential to identify and fix errors in a quiz, ensuring it works as intended. It helps improve the quality of the quiz by making it functional, user-friendly, and free of mistakes that could confuse or even frustrate users.

Key Language in Context: Questions and Answers

Comment t'appelles-tu ? What's your name?	Je m'appelle Elise. I'm called Elise.
Où habites-tu ? Where do you live?	J'habite à Paris. I live in Paris.
As-tu des animaux à la maison ? Have you got any pets at home?	Oui, j'ai deux chats et un chien. Yes, I have two cats and a dog.
Comment vas-tu à l'école ? How do you go to school?	Je vais à l'école à vélo. I go to school by bike.
Quels sports aimes-tu ? What sports do you like?	J'aime le golf mais je déteste la natation. I like golf but I hate swimming.
Que portes-tu ? What are you wearing?	Je porte un manteau. I'm wearing a coat.
C'est de quelle couleur ? What colour is it?	C'est bleu. It's blue.
C'est quel jour aujourd'hui ? What day is it today?	Aujourd'hui, c'est lundi. Today, it's Monday.

Quand je serai grande, je serai monitrice de ski.
When I grow up, I will be a ski instructor.



Quand je serai grand, je serai coureur automobile.
When I grow up, I will be a racing driver.



Key Vocabulary – Jobs

f = feminine m = masculine		Je suis... I am Je serai... I will be	
professeur (m) professeure (f) 	médecin (m/f) 	coiffeur (m) coiffeuse (f) 	fermier (m) fermière (f) 
aviateur (m) aviatrice (f) 	moniteur de ski (m) monitrice de ski (f) 	artiste (m/f) 	pompier (m/f) 
soldat (m/f) 	coureur automobile (m) coureuse automobile (f) 	dentiste (m/f) 	les métiers jobs

Key Knowledge and Grammar

Jobs in French need to **agree in gender and number** with the person they are describing. Also, in French there is no determiner before the job name.

- **Je suis dentiste** (I am a dentist.)
- **Je serai pompier.** (I will be a firefighter.)

Getting to Know You

Key Knowledge and Grammar – Alphabet and Pronunciation

The French alphabet has 26 letters, the same as in English. These sound groups should help you with pronouncing the French letters. Remember that accents generally change the way a letter is pronounced.

ey sound	eh sound	ah sound	
b c d g p t v w	f l m n r s z	a k h	
ee sound	oo sound	Halfway between 'box' and 'though'	Halfway between 'up' and 'hurt'
i j x y	q u	o	e



accent aigu



accent grave



accent circonflexe



tréma



cédille

Je m'appelle Jérôme.

My name is Jérôme.

Comment ça s'écrit ?

How do you spell it?

Ça s'écrit: j-majuscule, e-accent aigu, r, o-accent circonflexe, m, e.

It's spelt: capital j, e with an acute accent, r, o with a circumflex, m, e.

Comment ça s'écrit ?

How do you spell/write it?

Ça s'écrit...

It's spelt...

majuscule (f)

capital letter

minuscule (f)

lowercase letter

Key Vocabulary – Feelings

Comment ça va ? How are you?

Je suis... I am...

agacé (m)

heureux (m)

impatient (m)

anxieux (m)

agacée (f)

heureuse (f)

impatiente (f)

anxieuse (f)

étonné (m)

content (m)

fâché (m)

triste (m/f)

étonnée (f)

contente (f)

fâchée (f)

gêné (m)

effrayé (m)

fier (m)

fatigué (m)

gênée (f)

effrayée (f)

fière (f)

fatiguée (f)