Y5 Curriculum Overview

Autumn 2

Reading

To access our curriculum, it is essential children can read. Please ensure you child reads daily and complete their reading record. Thank you for your support.

Writing

This term we will be learning to write Adventure Stories and Explanation Texts. To support your child's learning, please find the Knowledge Organiser attached for English.

Maths

This term we will be learning about Multiplication & Division and Fractions. To support your child's learning, please find the Knowledge Organiser attached for these units.

Science

This term we will be learning about Earth and Space. To support your child's learning, please find the Knowledge Organiser attached for this unit.

Geography

This term we will be learning about the The Amazon. To support your child's learning, please find the Knowledge Organiser attached for this unit.

DT

This term we will be learning about Structures. To support your child's learning, please find the Knowledge Organiser attached for this unit.

PSHCE

This term we will be learning about TEAMwork!. To support your child's learning, please find the Knowledge Organiser attached for this unit.

Computing

This term we will be learning about Digital Literacy. To support your child's learning, please find the Knowledge Organiser attached for this unit.

RE

This term we will be learning about Why is the Torah so important to Jewish people? To support your child's learning, please find the Knowledge Organiser attached for this unit.

Thank you for your continued support. More information can be found on the school website.

If you would like any extra support, please speak to your child's teacher.

Believe – Achieve - Succeed

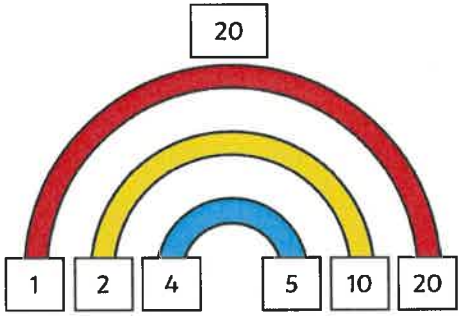
Multiplication and Division — Knowledge Organiser

Key Vocabulary

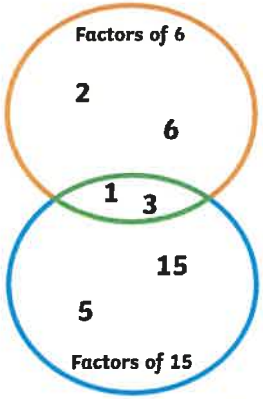
- multiply
- groups of
- lots of
- times
- divide
- share
- remainder
- factor
- multiple
- product

Factors

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



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



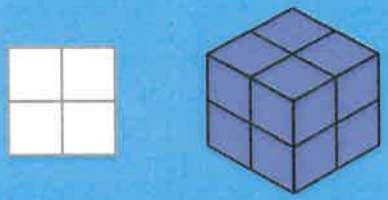
The factors of 20 are 1, 2, 4, 5, 10 and 20.

The factor pairs are:
1 and 20
2 and 10
4 and 5

Prime Numbers

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	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Squared[2] and Cubed[3] Numbers

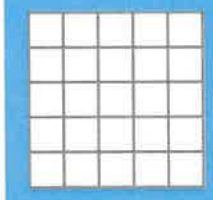


$2^2 = 4$

$2 \times 2 = 4$

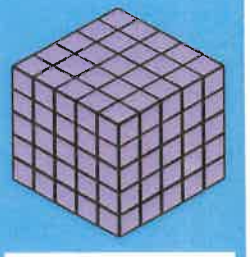
$2^3 = 8$

$2 \times 2 \times 2 = 8$



$5^2 = 25$

$5 \times 5 = 25$



$5^3 = 125$

$5 \times 5 \times 5 = 125$

Related Calculations

$8 \times 9 = 72$

$80 \times 9 = 720$

$9 \times 8 = 72$

$90 \times 8 = 720$

$72 \div 9 = 8$

$720 \div 9 = 80$

$72 \div 8 = 9$

$720 \div 8 = 90$

Multiplication and Division

Knowledge Organiser

Short Multiplication

$2543 \times 7 = 17\,801$

	2	5	4	3
×				7
1	**7**	**8**	**0**	**1**
1	3	3	(2)	

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

Long Multiplication

$2543 \times 67 = 170\,381$

		2	5	4	3
	×			6	7
	1 1	7 3	8 3	0 2	1
1 1	5 3	2 2	5 1	8	(0)
1	**7**	**0**	**3**	**8**	**1**
	1	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).

Division

$136 \div 4 = 34$

		3	4	
4	1	3	6	
–	1	2	0	→ 30 × 4
		1	6	
	–	1	6	→ 4 × 4
			0	

Short Division

		3	8
4	1	$^{1}5$	(3)2

15 ÷ 4 = 3 remainder 3

Remember to regroup any remainders and move them into the next column.

		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**.

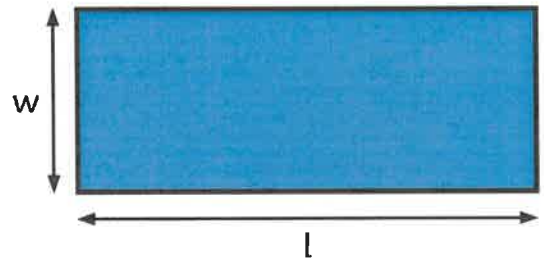
Perimeter and Area — Knowledge Organiser

Key Vocabulary

- metre
- kilometre
- perimeter
- length
- width
- rectangle
- rectilinear
- dimensions

Measure Perimeter

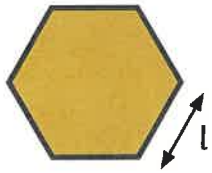
Measure the perimeter of a rectangle:



Measure the length (l) and width (w).

Perimeter = l + w + l + w or (l + w) × 2

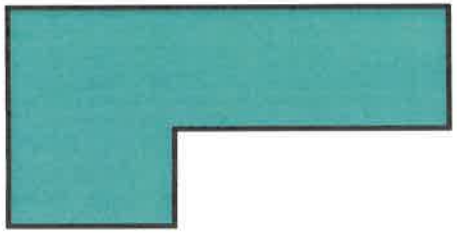
Measure the perimeter of regular shapes:



Measure the length (l) and count the number of sides (s) on the shape.

Perimeter = l × s

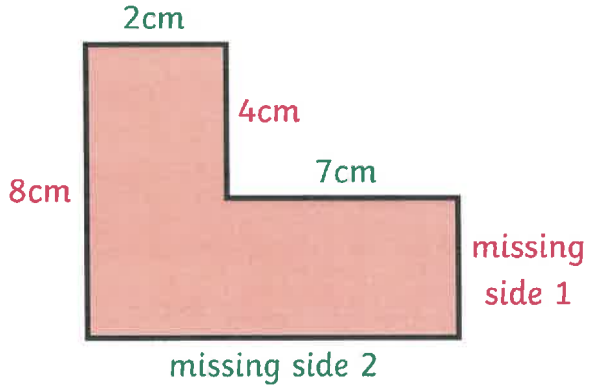
Measure the perimeter of irregular shapes:



Measure the length of each side and add them together.

Calculate Perimeter

Calculate the missing sides of this rectilinear shape to find the perimeter:



** This shape is not drawn to the dimensions specified.*

Missing side 1 + 4cm = 8cm,
so missing side 1 = 4cm.

Missing side 2 = 2cm + 7cm = 9cm

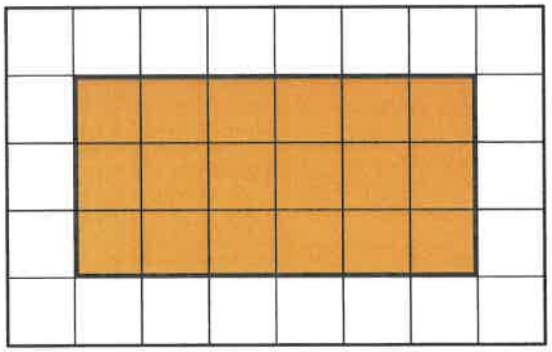
Perimeter = sum of all sides =
2cm + 4cm + 7cm + 4cm + 9cm + 8cm = 34cm

Length and Perimeter

Knowledge Organiser

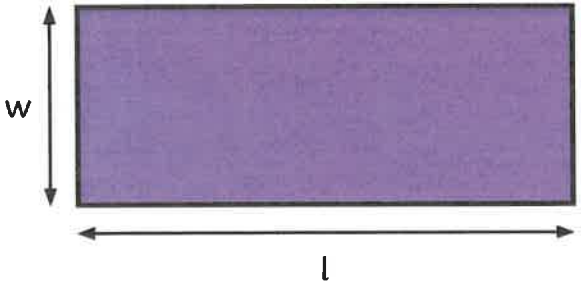
Area of Rectangles

The area of a rectangle on a grid:



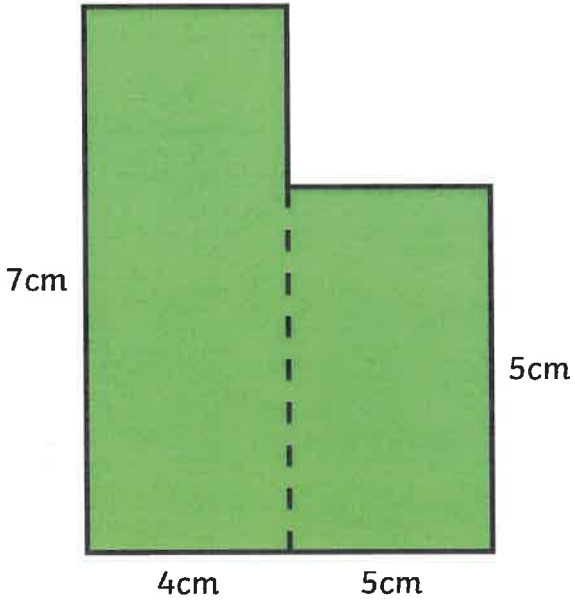
Multiply the length × width
= 6 × 3 = 18 squares.

The area of a rectangle = length (l) × width (w).



Area of Compound Shapes

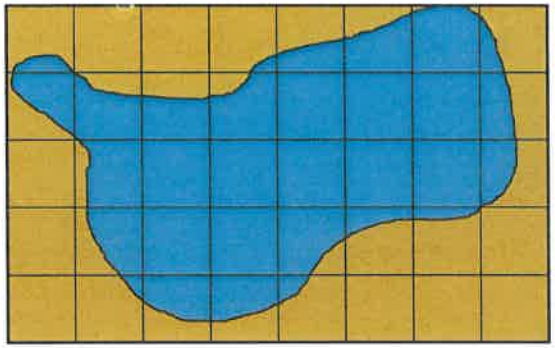
To find the area of a compound shape, divide the shape into rectangles with known dimensions:



Area = 7cm × 4cm + 5cm × 5cm
= 28cm² + 25cm²
= 53cm²

Area of Irregular Shapes

To find the area of an irregular shape, find the number of whole squares and part squares.



Whole squares = 10
Part squares = 22

Estimate of area = whole squares + half part squares

= 10cm² + 11cm² = 21cm²

*There are other ways to estimate the area of irregular shapes.

Year 5: Science Knowledge Organiser - Earth and Space (Physics)

Sticky Knowledge

- ✓ There are 8 planets that orbit our sun. Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
- ✓ Pluto has been designated as a dwarf planet and is no longer included as a planet in the solar system.
- ✓ The Earth rotates once every 24 hours which creates day and night.
- ✓ There are different time zones across the world because of the rotation of the Earth.
- ✓ The moon orbits our Earth every 28 days, and this is called the lunar cycle.
- ✓ The changing appearance of the Moon when viewed from Earth is due to its position in relation to the Earth and Sun.

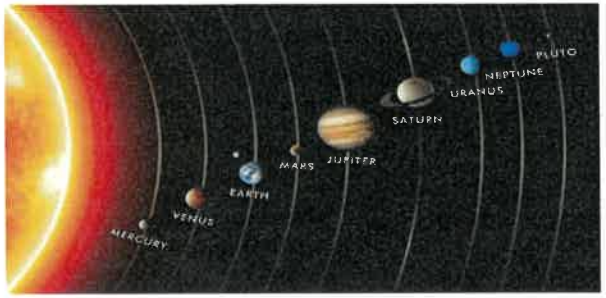
Learning Components

- ✓ I know the names of the planets in our Solar System.
- ✓ I know that the Earth is a planet and that it orbits the Sun following an elliptical path that it takes 365.25 days (one year) to complete.
- ✓ I know how to moon moves.
- ✓ I know how the appearance of the Moon (phases) changes, due to its position between the Sun and Earth.
- ✓ I know that the Earth rotates on its axis, causing day and night and that the Earth has different time zones.
- ✓ I know that Galileo Galilei was a famous astronomer.

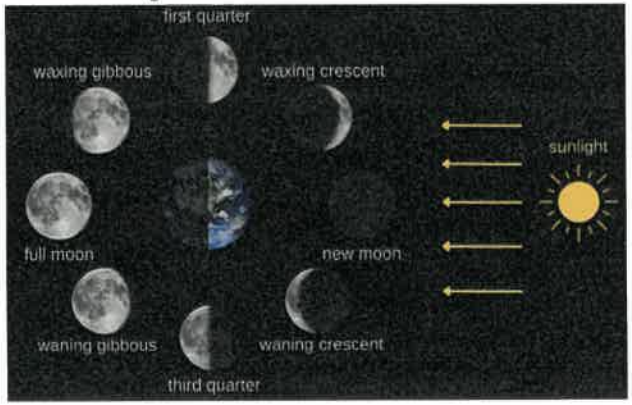
Big Idea

The Earth is a rocky planet in space, which forms part of the Solar System. Being one of eight planets that orbit the Sun (a star), it has a Moon, whose appearance from Earth changes on a 28 day cycle. Human knowledge of the Solar System has developed through the discoveries of famous astronomers, including Copernicus and Galileo Galilei.

Our Solar System



Phases of the Moon



Vocabulary

Phases of the Moon: The changing appearance of the Moon when viewed from Earth due to its position in relation to the Earth and Sun.
Rotation: The act of turning on or around an axis.
Orbit: An orbit is a repeating elliptical path that one celestial body takes around another.
Planets: There are eight planets in our solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
Star: A giant ball of super-heated gases (hydrogen and helium), around which planets orbit. Our Sun is a star.
Hemisphere: Either of two halves of the Earth.
Moon: The Earth's natural satellite.
Poles: Either end of a planet's, moon's, or star's axis.
Space: A vast vacuum, which contains the entire material universe and its events.
Solar System: The solar system is made of the eight planets that orbit our sun. It is also made of asteroids, moons, comets and dwarf planets.

Galileo Galilei (1564-1642)

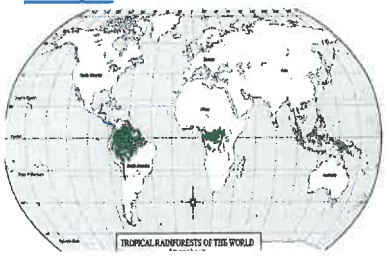
- ✓ Italian astronomer, who proved Copernicus' heliocentric (Sun-centred) model of the Solar System.
- ✓ He mapped the Moon and discovered the four largest (Galilean) moons of Jupiter.
- ✓ First observed Saturn's rings after perfecting the modern telescope.

Year 5: Regional Study: the Amazon, a Tropical Rainforest Biome

Key Knowledge

✓Tropical rainforests are all located near the equator in Africa, Asia, Australia and Central and South America.
✓The most famous is the Amazon Rainforest.
✓There are four layers to the rainforest: emergent, canopy, understory and forest floor.
✓Deforestation of the tropical rainforest is having many short and long-term consequences.
✓There are many endangered species in the rainforest. Many species of tropical rainforest animals and plants have become extinct: meaning there are no more living members of the species.
✓Many ingredients found in medicines come from the plants found in the rainforests.
✓Many tribes live in the rainforests; they are known as indigenous people. This means that they belong to the country, in which they are located.

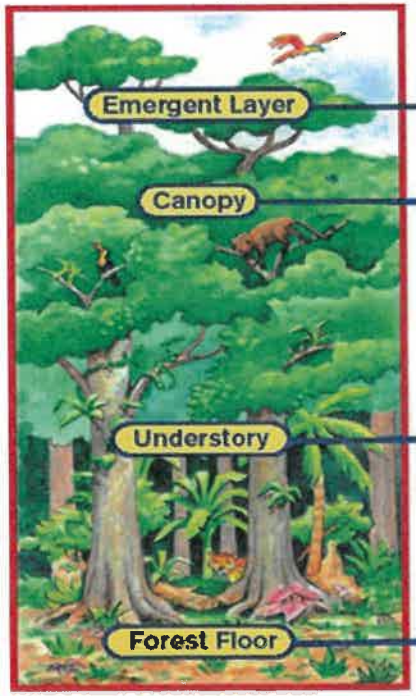
Maps



Big Idea

Tropical rainforests are frequently referred to as the 'Lungs of the Earth', due to their ability to absorb vast quantities of carbon dioxide (a 'Greenhouse gas') and produce significant quantities of oxygen into the Earth's atmosphere. Tropical rainforests help to stabilise the global climate. Furthermore, the world's tropical rainforests are havens of biodiversity and are the most complex of the world's biomes, home to a plethora of animals and plants that are interconnected in many complex environments.

Key Studies



Birds, bats, and butterflies live in the tops of the tallest trees. That is called the emergent layer.

In the tops of the shorter trees, or canopy, you can find animals such as toucans and monkeys.

Snakes, red-eyed tree frogs, and other animals live in the understory, or lower branches.

Animals such as jaguars can be found on the dark forest floor.

Concepts

Place | Scale | Environment | Human and Physical Processes | Sustainability

Vocabulary

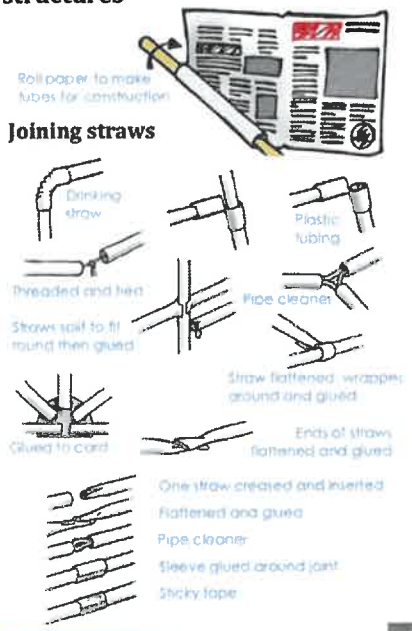
Biome: an area of the world that has a specific climate, flora and fauna.
tropical rainforests: grow in areas of high precipitation between the Tropics of Cancer and Capricorn.
Biodiversity: the variety of animals and plants that live in a particular environment.
Emergent Layer: name given to the tallest trees.
Canopy Layer: may be over 30 metres high, is composed of the overlapping branches and leaves of the trees.
the Understorey: layer comprised of younger trees: it is a dense, low-light and humid place.
the Forest Floor: is dark and humid place, home to many of the tropical rainforests insects and mammals, for example, Jaguars.
deforestation: is when the trees are felled and the space is permanently changed for an alternative use.
endangered: a species very likely to become extinct.
Sustainable Development: the use of natural resources that do not negatively impact on the environment.

'You can travel the seas, poles and deserts and see nothing. To really understand the world, you need to get under the skin of the people and places. In other words, learn about geography.' Michael Palin.

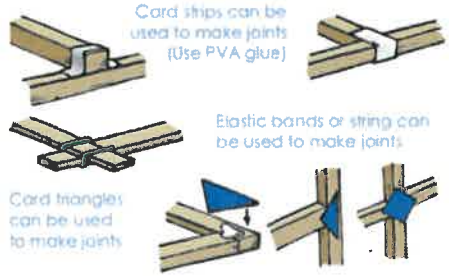
Structures Knowledge Organiser – Year 5

Frame Structures

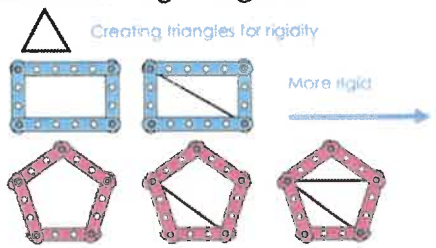
Techniques for building frame structures



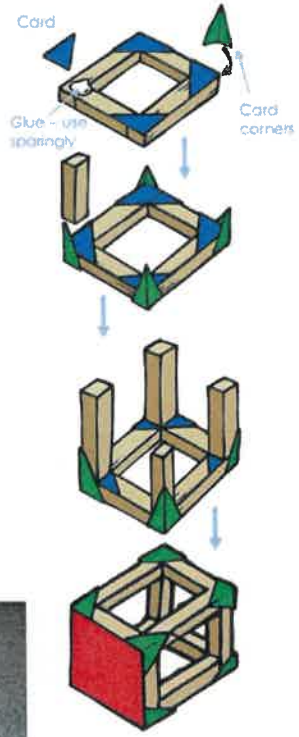
Joining thin sectioned pieces of wood



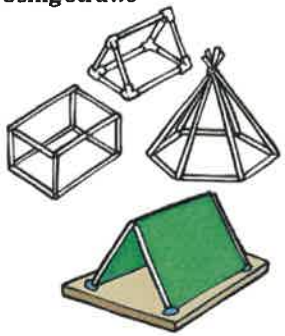
Understanding triangulation



Using square section wood



Using straws



Engineer Study

Peter Rice

- ✓ Peter Rice was born in Dublin on 16th June 1935.
- ✓ Rice acted as Structural Engineer on three of the most important architectural works of the 20th century: the Sydney Opera House, Pompidou Centre and the Lloyd's Building.
- ✓ Rice was renowned for his innate ability to act as both engineer and designer.
- ✓ In 1992, he was the second engineer to be awarded the Royal Gold Medal for Architecture by the Royal Institute of British Architects.

Vocabulary

Frame structure: a structure made from thin components e.g. tent frame.

Triangulation: the use of triangular shapes to strengthen a structure.

Rigidity: The state of being fixed or difficult to change shape

Join: a place or line where two materials are fastened together.

Reinforce: strengthen or support an object with additional material.

Compression: the application of pressure to squeeze an object.

Strut: a part of a structure under compression.

Tension: a force pulling on a material or structure.

'Good buildings come from good people, and all problems are solved by good design.' Stephen Gardiner

TEAM– Year 5

Sticky Knowledge

•Together everyone achieves more.

•I understand that my actions affects myself as well as others.

•I can face new challenges positively and may have to resolve disputes through negotiation and appropriate compromise.

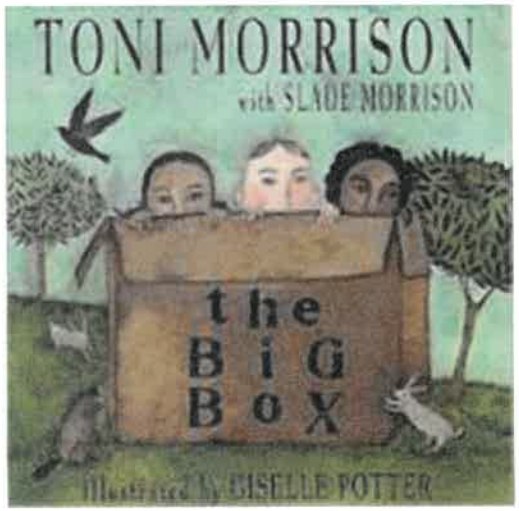
Key Questions

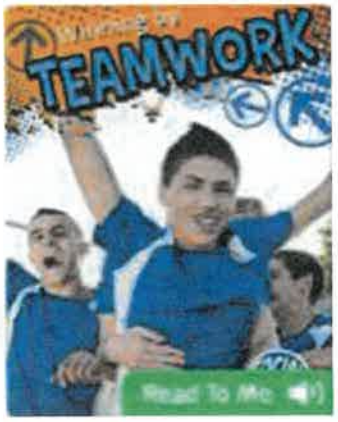
What is successful teamwork?

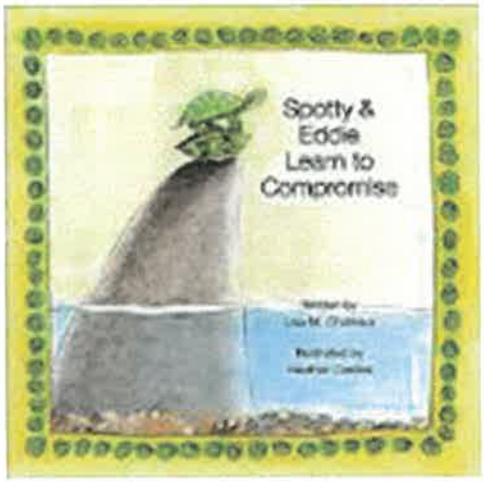
Have you ever had to compromise?

Why do we have rules in school?

Exciting Books







Vocabulary

Collaborative working- 2 or more people working together for a particular purpose.

Compromise agreement or settlement of a dispute that is reached by each side making allowances.

Successful Accomplishing a desired aim or result.

Empathy- The ability to understand and share feelings of another.

Attributes- A quality or characteristic given to a person, group or some other thing.

Opinion- A view or judgment formed about something, not necessarily based on fact or knowledge.

Year 5 – Digital Literacy

Sticky Knowledge:

- ✓ I can select appropriate tools to add emphasis and effect to my work.
- ✓ I can explain why I have chosen my layout and formatting.
- ✓ I can review and edit my work and talk about the changes I made.
- ✓ I can explain why my work is suitable for the audience.
- ✓ I can create a database structure of my own and enter the data.
- ✓ I can prepare a data collection form and collect quality information.
- ✓ I can use databases to create a graph.
- ✓ I can select the most appropriate form of graph for a data set giving reasons for my choice.
- ✓ I can interpret graphs of data collected from a variety of sources.

Big Idea:

I can select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Databases

Databases are used in many different places. Your school might use a database to store information about attendance or to store pupils and teachers' contact information.

Using a database

We can filter data within a database, for example we may wish to see only countries in Europe.

We can sort data within a database, for example this data has been sorted by population from smallest to largest.

Country	Continent	Capital City	Population	Coastline	Area (sq km)
China	Asia	Beijing	1,442,965,000	Y	9,600,000
USA	North America	Washington DC	332,278,200	Y	9,160,000
France	Europe	Paris	67,413,000	Y	547,557
England	Europe	London	56,489,800	Y	130,373
Spain	Europe	Madrid	48,196,693	Y	504,782
Australia	Oceania	Canberra	26,538,800	Y	7,680,000

Vocabulary

Database:
A computerised system that makes it easy to search, select and store information.

Sort:
To organise data, for example by date, number or alphabetical order.

Filter:
To pick out data that matches a particular circumstance.

Record:
Contains all the information needed about a particular object.

Field:
Each record contains fields – a single piece of information about an object.

Abstraction:
Sorting through information to decide what is relevant and what is irrelevant.

Unit U2.9 Why is the Torah so important to Jewish people? (God/Torah)

Sticky Knowledge

- ✓ The commandments impact on Jews day to day lives.
- ✓ Not all Jews follow the same rules.
- ✓ The commandments are historic but still impact on Jews daily lives.

Big Idea

People can be a member of the same faith but still believe in some things differently.

Vocabulary

Diverse: A **diverse** group is made up of people or things that are very different from each other.
Community:a social unit with commonality such as norms, religion, values, customs, or identity.
Worship: deep respect toward God, a god, or a sacred object
Ritual:a ceremony or series of acts that is always performed the same way.

Important facts to know by the end of this topic:

- ➢ The Jewish community is diverse.
- ➢ Jews believe in one God.
- ➢ Jews believe one should worship God with all one's heart.
- ➢ The Torah is treated with respect and ritual.
- ➢ The Torah has 613 rules that Jews should follow including what they can and cannot eat.