Spring Term Knowledge Organisers
Year 3

What are these?

The following knowledge organisers are developed based on the progression documents for the subjects.

Every effort has been made to provide the learners with support for learning and understanding the essential skills in each aspect of the subject.

Children should learn to and understand the key vocabulary and should be utilising this in varying contexts.

The children should use opportunities to link these facts to other areas of learning and other areas of the curriculum.

Simply providing the children with these organisers will not support them in their learning. Their use will be specifically taught in school and the children must see these as a learning aid.

The knowledge organisers are developed to be double sided with each child having their own copy, which they annotate to help support them further and or use to track their progress.

Why use them?

Working memory - This is where thinking actually happens. It has a very finite capacity; it can only hold and process about four different items at a time. If it receives too much it fails.

Long-term memory - Long-term memory has huge – almost infinite – capacity. It is here that we store our knowledge of facts and procedures. The goal is to stock our long-term memories with knowledge in a well organised, easily retrievable way and make recall of key aspects automatic. This frees up the working memory for new information.

Cognitive load - This is the term used in cognitive science to describe how much capacity something takes up in the working memory. Cognitive overload is what happens if too many demands are placed on working memory at once.

The aim of the knowledge organisers is to improve the speed with which information is stored in the long term memory, thus improving the learners ability to develop deep learning in more areas of the curriculum.

How can these be used at home?

There are several ways that you can use knowledge organisers with children.

1. Look at the previous knowledge organiser to see how their learning is growing and se where there are links to what has already been learned.
2. Use it to look at what your child will be learning and share what you know about that topic.
3. Have the knowledge organisers on the fridge/appropriate place at home and use it to prompt discussion around the topic at home.
4. Help your child to research the topic and bring information in to school to share with their class.
5. Areas of the knowledge organisers are purposely blank so children can add information to support them further eg starring any aspects that they find tricky, adding any key sentences which they struggle with.
6. Vocabulary prompts – use the vocabulary bank to support children in utilising the correct topic related vocabulary.
7. Parents can challenge children to recall the appropriate information and explain what it means – but should be aware that the children will not know this from the start of the term.

How are they not to be used?

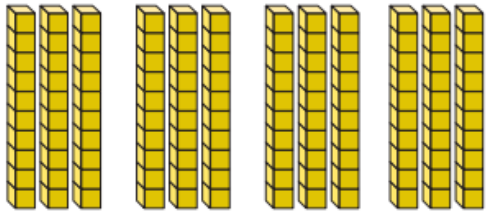
These provide a brief overview of what the children should securely know by the end of that year group. They should NOT be utilised as an end point assessment and links must be made to other areas of learning.

These knowledge organisers, are a starting point and will need to be adapted over time in response to the needs of the children.

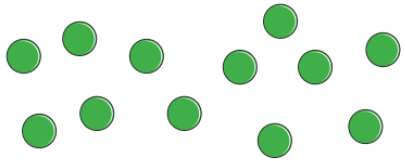
Year 3 – Spring- Length and Perimeter

$3 \times 4 = 12$

$30 \times 4 = 120$

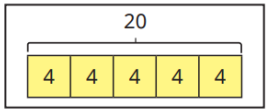


How many different arrays can you make with 12 counters?

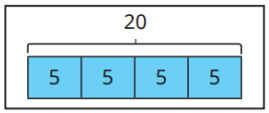


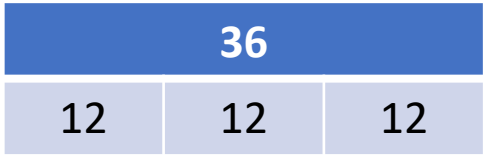
1 × 12
12 × 1
2 × 6
6 × 2
3 × 4
4 × 3

20 pencils are shared equally between 5 people.



20 pencils are grouped into packs of 5





36 ÷ 12 = 3

Tiny uses the place value chart to work out 54 ÷ 3

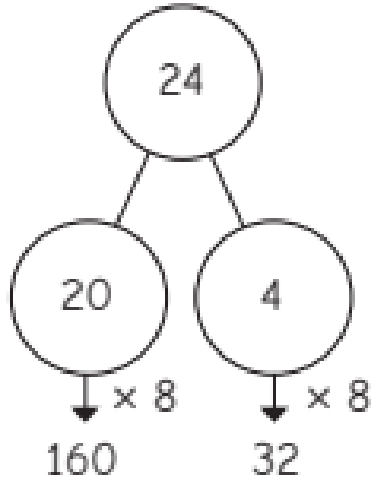
Tens	Ones
10 10	1 1
10 10	1
10	1

Vocabulary

represents	equal
equivalent	altogether
multiple	group
greater	array
sharing	columns
total	divided
partition	rows
product	times

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

Mo uses a part-whole model to work out 24 × 8



160 + 32 = 192

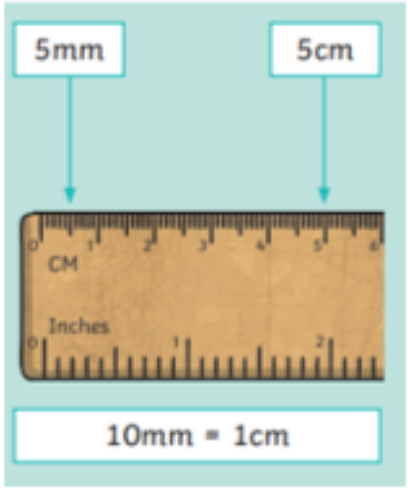
24 × 8 = 192

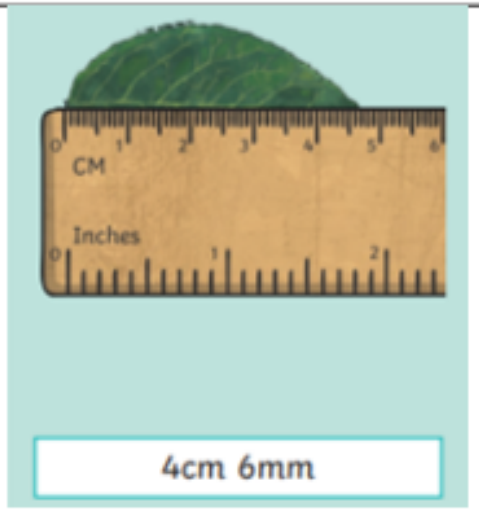
How do you know this?

I think this because …
The strategy I used was …
I agree with the answer because …
I disagree with the answer because …

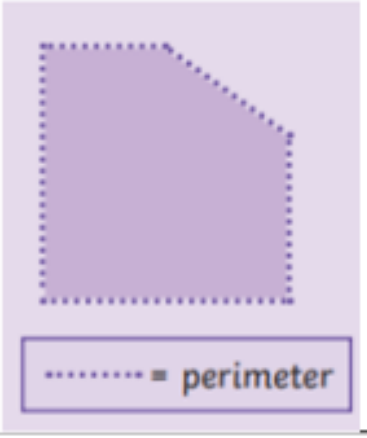
___ has been shared equally into ___ equal groups
The question is sharing/grouping because…

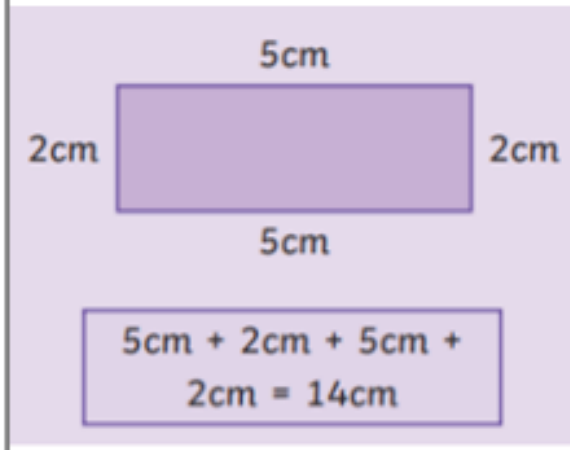
Year 3 – Spring- Length and Perimeter





Perimeter





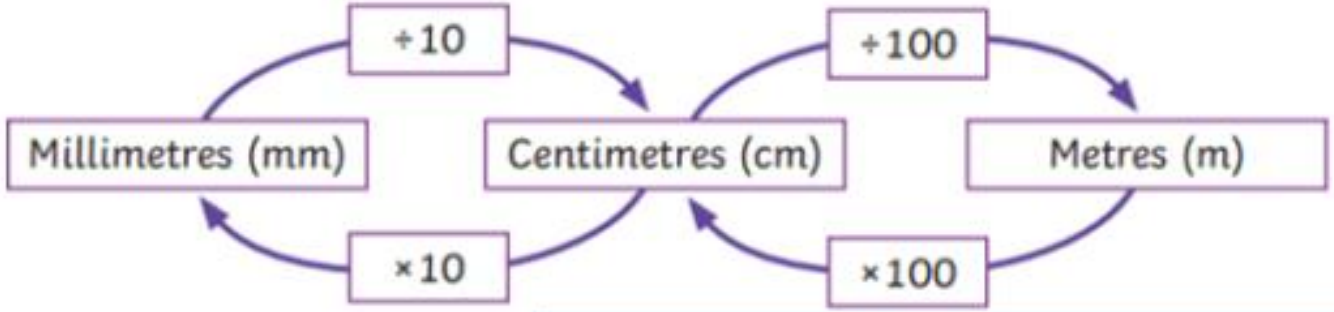
Vocabulary

numerator	equal
denominator	measure
equivalent	calculate
millimetres	centimetres
horizontal	vertical
interval	share
lengths	units
compare	comparisons

Equivalent Length

100 centimetres = 1 metre

10 millimetres = 1 centimetre



317cm	
300cm	17cm
3m	17cm
3m 17cm	

Add and Subtract Lengths

14cm + 19cm = 33cm
8cm 2mm + 16mm =
98mm or 9cm 8mm

?	
8cm 2mm	16mm
82mm	16mm

6m – 2m 28cm
6m – 2m = 4m
4m – 28cm = 3m 72cm

6m	
2m 28cm	?

How do you know this?

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The strategy I used was …
I agree with the answer because …
I disagree with the answer because …

___ has been shared equally into ___ equal groups
The question is sharing/grouping because…

Year 3 – Fractions

$\frac{3}{8}$

Numerator
How many equal parts of the whole are needed?

Denominator
How many equal parts are in the whole?

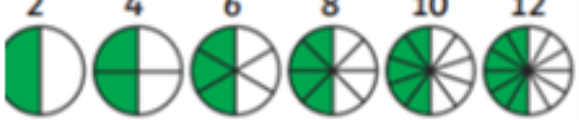
$\frac{1}{3} < \frac{2}{3}$ (Less than)

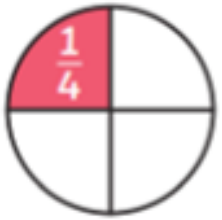
$\frac{4}{5} > \frac{3}{5}$ (Greater than)

Equivalent Fractions

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

$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10} = \frac{6}{12}$



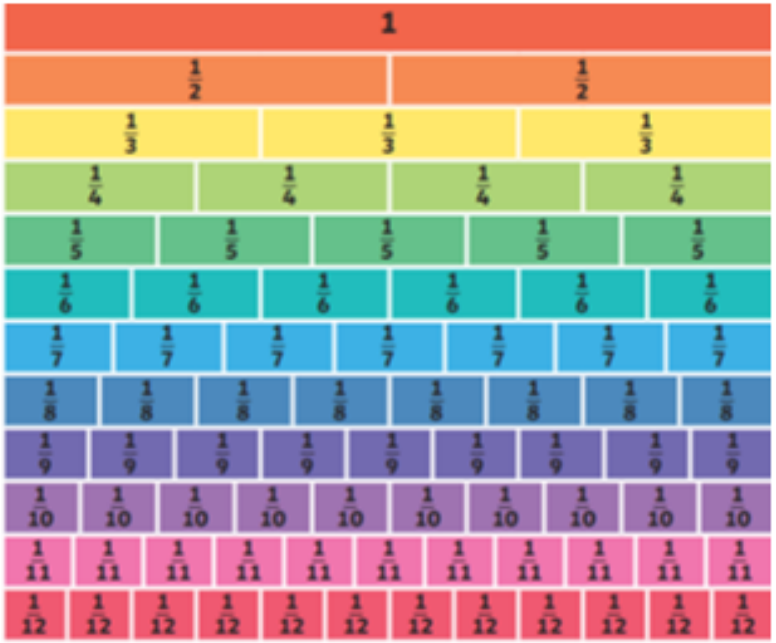


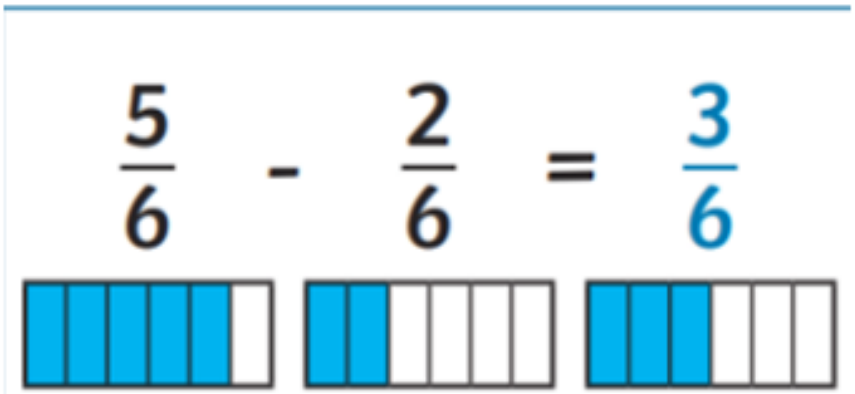
$\frac{1}{4}$ is equal to...

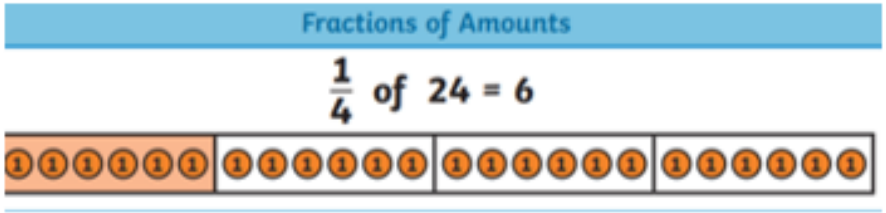
$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16} = \frac{5}{20}$

Vocabulary

numerator	denominator
equivalent	unit
Non-unit	scales
order	equal
ascending	descending
quarters	halves
diagram	diagonal







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I disagree with the answer because …

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Year 3 – Spring- Mass and capacity

Scales can be used to measure grams.

A gram is a unit of measurement that is used to measure the mass of something.

Grams can be written as **g**.

1000g = 1kg

1000ml = 1l

Capacity is the amount of liquid a container can hold.

Volume is how much liquid is in the container.

To compare capacities, we can use the word 'full'.

Vocabulary

equal	equivalent
measure	mass
volume	compare
capacity	volume
value	interval
comparison	kilograms
grams	group

Add and Subtract Mass

600g + 500g = 1100g = **1kg 100g**

1kg - 300g = 1000g - 300g = **700g**

A kilogram is a unit of measurement that is greater than a gram. It is also used to measure the mass of something.

Kilograms can be written as **kg**.

Add and Subtract Capacities

800ml + 400ml = 1200ml = **1l 200ml**

1l 300ml – 200ml = **1l 100ml**

How do you know this?

I think this because …
The strategy I used was …
I agree with the answer because …
I disagree with the answer because …

___ has been shared equally into ___ equal groups
The question is sharing/grouping because…

Year 3 – Why do we have cities?

Name of the City	Number of people living in the city
London	7.2 Million
Birmingham	992, 000
Glasgow	560, 000
Newcastle upon Tyne	259, 000
Plymouth	240, 000
York	182, 000
Durham	8,7000
St David's	2, 000

settlement	city	factory	office	function
urban	population	land use	rural	environment
Satellite image	OS map	symbol	inhabitant	environmental

Name of the city	What happens in this city?
London	London is the capital city of the UK and is located on the River Thames. It was founded by the Ancient Romans who wanted a port. London is where the UK Parliament is located and where the offices of the Government can be found. It is also where the Queen has her home. London is the world's most-visited city. London has more banks than anywhere else in the world as well as many offices and shops.
Birmingham	Birmingham began as a camp for Roman soldiers and then is grew into a market town. Birmingham became a city because it was a very important place for making things from iron and steel. Birmingham was famous as the place where many cars and Cadbury's chocolate was made. Today it is a busy city with many restaurants and offices.
Glasgow	Glasgow used to be a port where many goods left or came into the UK. It is located on the River Clyde. It was theplace where hundreds of ships were built and repaired each year. Now it is well known for its music, art and science.
Newcastle upon Tyne	Newcastle-upon-Tyne began its history as a Roman fort defending Hadrian's Wall. It is located on the River Tyne. Newcastle is now a University City. It is a very important city for making computer software and renewable energy. It used to be an important port and place where ships were made.
Plymouth	Plymouth began as a Bronze Age settlement. It is located on the River Tamar and the River Plym. It has a busy port and the Royal Navy has many ships in the docks in Plymouth.
York	York was first settled by the Ancient Romans in 71AD as a place for the army to have a fort. It is located on the River Ouse. It has a famous church called the Minster and a big University. It is a very popular place for tourists to visit and has many offices and shops.
Durham	Durham was first settled by the Anglo Saxons for farming. It is located on the River Wear. It has a world famous Cathedral and University. It used to be a place for pilgrims to visit and was an important market town. Today it is important for science and learning and is popular with tourists.
St David's	St David's is the UK's smallest city. It is located on the River Alun. It has a famous cathedral and used to be a place that pilgrims visited. Today is popular with tourists.

Knowledge Organiser – Three Little Birds – Year 3, Unit 3

charanga MUSICAL SCHOOL

1 – Listen & Appraise: Three Little Birds (Reggae)

Structure: Introduction, chorus, verse, chorus, verse, chorus, chorus, chorus.

Instruments/voices you can hear: Bass, drums, electric guitar, keyboard, organ, male and backing vocals.

Find the pulse as you are listening: Dance, clap, sway, march, be an animal or a pop star.

2 – Musical Activities using glocks and/or recorders

Warm-up games play and copy back using up to 2 notes – C + D.
Bronze: no notes | Silver: C, sometimes D | Gold: C + D challenge.
Which challenge did you get to?

Singing in unison.

Play instrumental parts with the song by ear and/or from notation using the easy or medium part. You will be using up to 3 notes – C, D + E. *Which part did you play?*

Improvise using up to 3 notes – C, D + E.
Bronze: C | Silver: C + D | Gold: C, D + E challenge.
Which challenge did you get to?

Compose a simple melody using simple rhythms choosing from the notes C, D + E or C, D, E, F + G.

3 — Perform & Share

Decide how your class will introduce the performance. Perhaps add some choreography? Tell your audience how you learnt this song and why. Record the performance and talk about it afterwards.

The performance will include one or more of the following:
Improvisations • Instrumental performances • Compositions

About this Unit

Themes: Reggae, happiness and animals.

Facts/info: Bob Marley is one of the most famous performers of Roots Reggae music. He has helped spread both Jamaican music and the Rastafari movement worldwide.

Listen to 5 other reggae songs:

- Jamming by Bob Marley
- Small People by Ziggy Marley
- 54-46 Was My Number by Toots and The Maytals
- Ram Goat Liver by Pluto Shervington
- Our Day Will Come by Amy Winehouse

Vocabulary: Introduction, verse, chorus, bass, drums, electric guitar, keyboard, organ, backing vocals, pulse, rhythm, pitch, tempo, dynamics, texture structure, compose, improvise, hook, riff, melody, reggae

Reflection

What did you like best about this Unit? Why? Was there anything you didn't enjoy about it? Why?

Did you have any strong feelings about it? Were you proud of yourself, happy or annoyed?

What are the 'style indicators' of Reggae music?
How do you know this is Reggae music?

COMPUTING: CREATING MEDIA

Year 3 Spring

KNOWLEDGE ORGANISER

Overview




Animation

-Animation is a technique used to make objects and drawings appear as if they are moving.

-Stop-frame animation is a technique in which many photographs are taken of objects, with small movements in between.

-When the images are quickly shown together, the objects appear to move! (They are animated).

-There are many stop-frame animation apps and programs, for example iMotion, Stop Motion Studio and Clayframes.

Introduction to Animation

Animation is a technique used to make objects and drawings appear to move.



Animations have been around for many years – even before computers! Stop-frame animations work in the following way:

-A number of pictures are drawn or taken of an object or picture.

-In each drawing or picture, the object has been moved slightly. Each picture is called a frame.

-When the frames are shown in a sequence, an illusion is created where it looks as though the object is moving!

Lots of movies and TV programmes are animated. These include cartoons, and films like *Wallace and Grommit* and *Chicken Run*.

-In recent years, lots of stop-frame apps and programs have been released, which can be used to make homemade animations!

Creating a Basic Animation

iMotion is one of many apps that you can use to create animation. You can create a new animation by selecting the 'new movie' option.

Setting Up

-Select 'manual.' Type in the movie title.

-Tap 'Start'. Turn on 'onion skinning'

-Make sure that your object/ drawing is in the frame (can be seen by the camera).


Creating the Animation

-Take a picture of your object/ drawing (press 'capture').

-Change the object/drawing very slightly. If drawing, keep a faint line of the original drawing to show you where to go next (onion skinning). Capture again.

-Repeat the process lots of times.

Playback and Saving: When you are finished, press 'stop' and then 'stop' again. Your animation will begin playing. You can change the speed (frames per second). Press 'export' to save your animation.

More Complex Animations

Storyboards can be used to plan animations. They help you to plan your different frames.

-Consistency is important. In each frame, we need to think about which things stay the same (e.g. background), and which things change.

-Add music by tapping 'audio.' You can add in soundtracks, your own music, or sound effects. Tap + to select the track that you want. Carefully choose when the audio starts/ stops.

-You can also add text into your animation. Tap on the frame that you want to enter text into. Tap T for text. You can choose different fonts, and select where you want the text to appear.

Important Vocabulary

Animation	Frame	Illusion	Sequence	Onion Skinning	Playback	Storyboard	Audio	Consistency	Text

COMPUTING: CREATING MEDIA

Year 3 Spring

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Year 3 Science Knowledge Organiser
Chemistry – Rocks

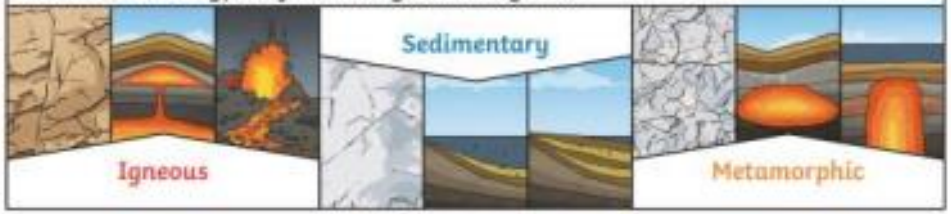
What should I already know?

- The role of Mary Anning in **palaeontology** and the discovery of **fossils**.
- **Soil** contains **nutrients** and these help plants to grow.
- The meaning of the word **absorb**.
- That **magma** is **molten** rock that is formed in very hot conditions inside the earth.
- Why some materials are used for certain purposes because of their **properties**

Key Vocabulary	
igneous rock	Rock that has been formed from magma or lava.
sedimentary rock	Rock that has been formed by layers of sediment being pressed down hard and sticking together. You can see the layers of sediment in the rock.
metamorphic rock	Rock that started out as igneous or sedimentary rock but changed due to being exposed to extreme heat or pressure.
magma	Molten rock that remains underground.
lava	Molten rock that comes out of the ground is called lava.
sediment	Natural solid material that is moved and dropped off in a new place by water or wind, e.g. sand.
permeable	Allows liquids to pass through it.
impermeable	Does not allow liquids to pass through it.

Key Knowledge

There are three types of naturally occurring rock.



Natural Rocks			Human-Made Rocks
Igneous	Sedimentary	Metamorphic	
Obsidian	Chalk	Marble	Brick
Granite	Sandstone	Quartzite	Concrete
Basalt	Limestone	Slate	Coade Stone

Some words you might use to discuss the properties of a rock:

hard, soft, permeable, impermeable, durable (meaning resistant to weathering), high density, low density. Density measures how 'bulky' the rock is (how tightly packed the molecules are).

Key Vocabulary

fossilisation	The process by which fossils are made.
palaeontology	The study of fossils.
erosion	When water, wind or ice wears away land.

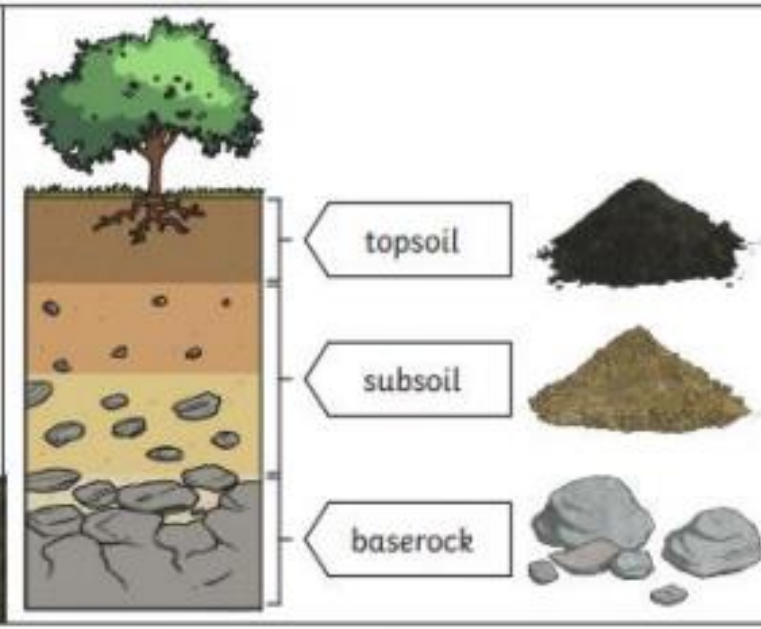
Caves are formed when water permeates through the base rock and erodes some of the rock away. Over thousands of years these caves can become very large.

Key Knowledge

Soil

Soil is the uppermost layer of the Earth. It is a mixture of different things:

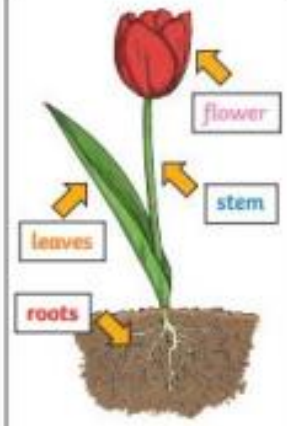
- minerals (the minerals in soil come from finely broken-down rock);
- air;
- water;
- organic matter (including living and dead plants and animals).



Fossilisation

An animal dies. It gets covered with sediments which eventually become rock.	More layers of rock cover it. Only hard parts of the creature remain, e.g. bones, shells and teeth.	Over thousands of years, sediment might enter the mould to make a **cast fossil**. Bones may change to mineral but will stay the same shape.	Changes in sea level take place over a long period.	As erosion and weathering take place, eventually the fossil becomes exposed.
				

Year 3 Science Knowledge Organiser
Biology – Plants

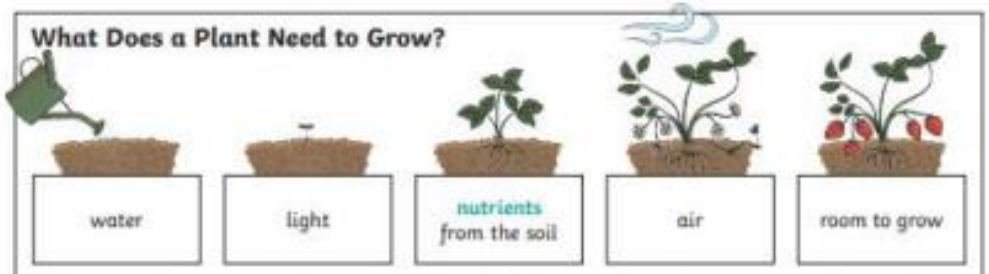


How Water Moves through a Plant

1. The **roots** absorb water from the soil.
2. The **stem** transports water to the **leaves**.
3. Water **evaporates** from the **leaves**.
4. This **evaporation** causes more water to be sucked up the **stem**.

The water is sucked up the **stem** like water being sucked up through a straw.

What Does a Plant Need to Grow?



Different plants vary in how much of these things they need. For example, cacti can survive in areas with little water, whereas water lilies need to live in water.

What should I already know?

- Which things are living and which are not.
- A variety of **common wild** and **garden plants**, including **deciduous** and **evergreen trees** and how to identify them.
- The **structure** of **common flowering plants**, including **trees** (including **leaves, flowers, fruits, roots, bulbs, seeds, stem, trunks** and **branches**)
- **Seeds** and **bulbs** grow into **mature** plants
- **Plants** need water, light and a suitable **temperature** to grow and stay **healthy**.
- Different **vegetation** belts and **climate zones** around the world
- **Plants** and animals depend on each other to survive.

Key Vocabulary	
roots	These anchor the plant into the ground and absorb water and nutrients from the soil.
stem	This holds the plant up and carries water and nutrients from the soil to the leaves. A trunk is the stem of a tree.
leaves	These make food for the plant using sunlight and carbon dioxide from the air.
flowers	These make seeds to grow into new plants. Their petals attract pollinators to the plant.
nutrients	These substances are needed by a living things to grow and survive. Plants get nutrients from the soil and also make their own food in their leaves.
evaporation	When a liquid turns into a gas.

Key Vocabulary	
fertilisation	When the male and female parts of the flower have mixed in order to make seeds for new plants.
petal	The brightly coloured part of the flower that attracts insects to pollinate the plant.
stamen	The male parts of the flower. The stamen is made up of the anther and the filament. The filament's job is to hold up the anther. The job of the anther is to make the pollen.
carpel (pistil)	The female parts of the flower. Made up of the stigma, style and ovary. The job of the style is to hold up the stigma. The stigma collects the pollen when a pollinator brushes by it. The ovary contains the ovules, which are the part of the flower that gets fertilised and eventually becomes the new seed.
sepal	Leaf-like structures that protect the flower and petals before they open out.
pollination	When pollen (a fine powdery substance produced by a flowering plant) is moved from the male anther of a flower to the female stigma.
pollinator	Animals or insects which carry pollen between plants. Examples include birds, bees and bats.
germination	When a seed starts to grow.
seed dispersal	A method of moving the seeds away from the parent plant so that the seeds have the best chance of survival.

The flower's job is to create seeds so that new plants can be grown.

Life Cycle of a Flowering Plant

Germination
The seed starts to grow.

Growing and Flowering
The plant grows bigger and forms a flower.

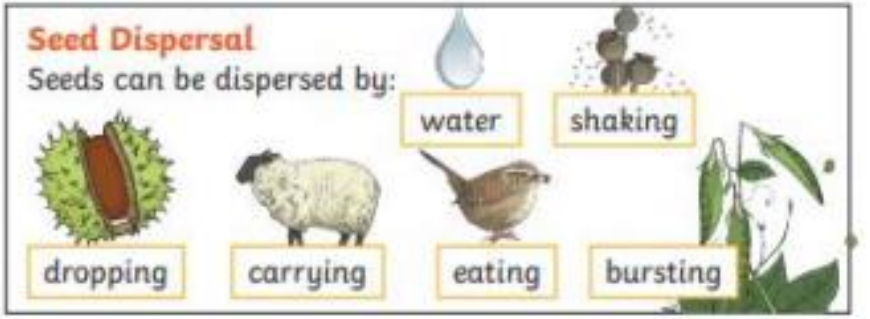
Pollination
Pollen from the anther lands on the stigma and travels down the style.

Fertilisation and Seed Formation
The pollen joins with an ovule and a seed starts to form.

Seed Dispersal
The fully formed seeds are moved away from the parent plant.

Seed Dispersal

Seeds can be dispersed by:



PSHCE Knowledge Organiser

Vocabulary	
Bullying	To cause repeated physical or emotional pain to someone
Cyberbullying	Bullying that happens online
Communicate	To interact with other people through words or body language. This can be in person or online
Trust	Relying on someone to do something, such as keeping us safe
Adapted	Changed
Inappropriate	Not suitable
Fake	Something that is not real

Cyberbullying

Bullying that happens online.

It is important to be kind online as well as face to face.

Friendships have ups and downs but these can be overcome. Violence is not an answer to friendship problems.

Bullying can be physical or emotional and is repeated. Bullying can happen online as well as face to face.

Getting help

In an emergency, call 111 or 999.

If you are worried about something, talk to an adult you trust at home or at school.

Contact: Childline

www.childline.org | 0800 1111 | Calls DO NOT show on the phone bill.

THINK U KNOW

Some emails are fake and we should not reply or click on links if we do not know who they are from.

Safety tips

If you receive a suspicious email, mark it as spam, delete it or report it to an adult.

If you are not sure about a decision, talk it over with someone you trust.

Collingley Primary School – Working Together

Year 3 – spring term

Charity	An organisation that raises money for those in need.
Community	A group of people living in the same area.
Consequence	The result of an action, usually one that is negative or involves punishment.
Council	A group of people who manage a city, county or organisation.
Councillor	A member of a council.
Democracy	A system of government where everyone can vote for who they want to represent them.
Environment	The local surroundings or place a person lives or works in.
Law	Rules enforced by government that define what we can and cannot do.
Recycling	Converting waste into reusable materials.
Responsibility	Being in charge of our own actions.
Rights	A set of actions and principles that are entitled to someone.
Un/United Nations	An international organisation founded in 1945 after World War 2 which aims to maintain international peace and security, human rights and better standards of living.

The United Nations has created a set of rights for children in those countries who have agreed to sign up to them

The rights of the child cannot be taken away and adults have a responsibility to make sure children enjoy their rights

The council look after the local area and make decisions

People vote for the people they want to be on the council during an election

If people decide to break rules there are likely to be consequences

There are buildings in our community which are used by different groups for example places of worship, libraries and schools