



## Year 2 Maths Knowledge Organiser

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

## Place Value



## Number Words

1	one	11	eleven
2	two	12	twelve
3	three	13	thirteen
4	four	14	fourteen
5	five	15	fifteen
6	six	16	sixteen
7	seven	17	seventeen
8	eight	18	eighteen
9	nine	19	nineteen
10	ten	20	twenty

2 4 6 8 10 12 14 16 18 20

5 10 15 20 25 30 35 40 45 50

10 20 30 40 50 60 70 80 90 100

## Tally charts and Pictograms

Colour	Tally	Fruits
Red		Apple
Green		Banana
Purple		Grape
Orange		Orange

## Subtraction



minus  
decrease  
subtract  
take away  
fewer  
less  
difference

## Addition



sum of  
increase  
add  
enlarge  
plus  
and  
more  
raise  
altogether

## Multiplication



lots of  
groups  
sets of  
times  
multiply  
product

## Division



divide  
share  
goes in to  
split between  
distribute



## Commutative Law

The commutative law means numbers can be added or multiplied in any order without affecting the answer.

For example:  $2 \times 4 \times 5$  is the same as  $5 \times 4 \times 2$

OR When adding  $26 + 30 + 4$ , the commutative law lets you rearrange the 30 and the 4 to get  $26 + 4 + 30$  so that we can add the 26 and 4 first.

Example:

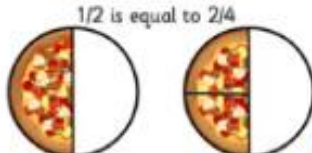
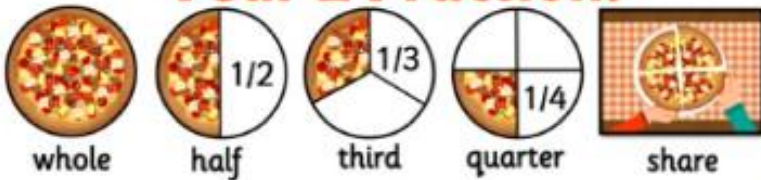
$$6 + 3 = 3 + 6$$

Subtraction and division are not commutative

Example:

$$2 \times 4 \neq 4 \times 2$$

# Year 2 Fractions



Simple Fractions	Simple Fractions
1/2 of 2 = 1	1/4 of 4 = 1
1/2 of 4 = 2	1/4 of 8 = 2
1/2 of 6 = 3	1/4 of 12 = 3
1/2 of 8 = 4	1/4 of 16 = 4
1/2 of 10 = 5	1/4 of 20 = 5
1/2 of 12 = 6	1/4 of 24 = 6
1/2 of 14 = 7	1/4 of 28 = 7
1/2 of 16 = 8	1/4 of 32 = 8
1/2 of 18 = 9	1/4 of 36 = 9
1/2 of 20 = 10	1/4 of 40 = 10

# Length

\* There are 10 millimeters (mm) in 1 centimeter (cm).

\* There are 100 centimeters (cm) in 1 meter (m).

\* There are 1000 meters (m) in 1 kilometer (km).



# Measurement Weight/Mass

gram      kilogram



light      heavy  
mass      weigh

# Clockwise and Anticlockwise

These arrows show clockwise direction.



Clockwise is the same direction the hands of a clock move.

These arrows show anticlockwise direction.



Anticlockwise is the opposite direction the hands of a clock move.

Position and direction

Whole turn

Half turn

Quarter turn

Three quarter turn

# Left and Right

The hand that makes an 'L' shape is your left hand.



How to solve problems

Read the problem carefully.

Underline key words and numbers.

Cross out what you don't need.

Choose the right operation(s).

Solve the problem. Write out the sum and do the calculation.

Answer the question. Show your working out.

Check your work. Use the inverse operation(s).

# Measuring Capacity

## Millilitres

We can use a measuring cylinder to measure very small capacities.



We measure these in millilitres. We write this as ml.

1000ml = 1l

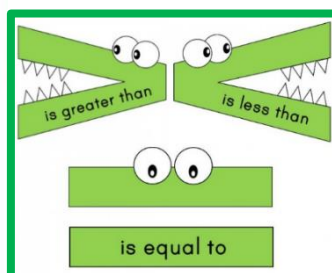
## Litres

We can use a jug to measure larger capacities.



We measure these in litres. We write this as l.

1000ml = 1l



# Time

60 seconds = 1 minute

60 minutes = 1 hour

24 hours = 1 day

7 days = 1 week

365 days = 1 year

52 weeks = 1 year

# Year 2 English Knowledge Organiser

## Writing

**Handwriting** must use the correct formation, should be cursive and correctly spaced.

The quick brown fox jumps over the lazy dog. Baa baa black sheep, have you any wool? Yes sir, yes sir, three bags full.

### Writing an Informal Letter

- Informal letters use familiar language and may be for example a thank you letter or a postcard from holiday
- Sender's address is written at the top right corner
- Date is added at the start
- The letter starts with Dear...
- The letter ends with from... or love from...

### Narrative Writing

- Interesting opening
- Exciting vocabulary
- Accurate punctuation
- Characters included and described
- Setting included and described
- Events and actions are described
- Story is written in sequence
- Story ends clearly



### Writing Instructions

- Title is clear- How to...
- List of ingredients or equipment
- Instructions are numbered
- Instructions are short and clear
- Imperative ('bossy') verbs
- Diagrams can be used

Chop	Use "Bossy" Verbs	Add
Push	Make	Wash Weigh
Run	Turn	Brush Dry
Cut	Pull	Rinse Flip
Measure	Blend	Measure
Mix	Heat	Put Peel
Take	Cool	Sit Knead
Cook	Clean	Stand Wait
Stir		Pour
Slice	Rest Bake Lift Open	Sprinkle
Spread	Close Melt Divide	
	Grease Place Eat Grill	
	Toast	



Little Miss Bossy

### Information Writing

- Clear title
- Opening paragraph gives overview of topic
- Subheadings or paragraphs are used
- Information is clear and comes from different sources
- May include pictures and diagrams

### Guy Fawkes

#### Who was Guy Fawkes?

Guy Fawkes was born in 1570 in York, England.

He joined a group that wanted to use gunpowder to blow up the Houses of Parliament in London, killing King James I and his government.

'The Gunpowder Plot' group was led by Robert Catesby.

They were found out on 5th November, 1605.

#### What was the need for 'The Gunpowder Plot'?

King James had different religious beliefs to Guy Fawkes and his group. They felt that the King was treating them unfairly.

#### Creating Bonfire Night

- King James wanted to celebrate because he survived the planned attack.
- He officially made the 5th of November Bonfire Night in Britain.
- Straw dummies were burned to show that no one could get away with hurting the king.

#### What happened to Guy Fawkes and the other plotters?

Guy Fawkes was the expert and was found in charge of the gunpowder. He was questioned and tortured, then confessed.

All the men involved were imprisoned and were going to be killed for treason - plotting to kill the king.

Before Guy Fawkes could be hanged, he broke his neck and died in 1606.



### Writing a Recount

- Introduction giving overview
- Past tense
- Written in time order
- Use time connectives
- First or third person
- Include interesting detail

- Finally
- Later
- Meanwhile
- Next
- Firstly
- Then
- Eventually

# Year 2 English Knowledge Organiser

## Spelling Grammar and Punctuation

A **SENTENCE** must make sense. It can be written as a statement, a question or an exclamation.

### Statement

A statement is a sentence that states a fact.



This is a key.

### Question

A question is a sentence that asks for information. Questions often begin with who, where, what, why and when.



What is this?

### Exclamation

An exclamation expresses strong feeling, such as excitement or anger.



Look – my key!

### Command

A command is an order. It tells somebody to do something.



Give me the key.

If you want to write exciting sentences which grip the reader you will need to use these types of **WORDS**

### Verb

A verb can describe what somebody or something is doing. Verbs can also describe feelings such as worry or need.



### Adverb

Adverbs can be used to modify (change) a verb, adjective or other adverb. They answer questions such as 'when?', 'where?', 'in what way?' and 'how much?'.



He ran away quickly.

### Noun

A noun can be a name of something such as:

a place: The school is in MANCHESTER  
a person: This is a TEACHER  
or a thing: Here is a PAINTBRUSH



Nouns can also be a feeling such as happiness or a quality such as goodness.

### Adjective

Adjectives are describing words such as happy, shiny or bouncy. They give more information about a noun.



A sad boy

### Noun phrase

A noun phrase is a group of two or more words that contains a noun but no verb.



the flowers

Sentences and words must be **PUNCTUATED** correctly.



Commas to separate items in a list



Apostrophes to mark where letters are missing and to mark singular possession in nouns



Full stop, exclamation mark, question mark and capital letter to demarcate sentences

### Apostrophe

Apostrophes have two different uses.

To show the place of missing letters:

He's jumping



To show ownership:

Ravi's hat

Sentences can be made more interesting by using these **CONJUNCTIONS**

### Subordination

when if because that



We can play out when we've finished.

### Co-ordination

and or but



I like strawberries but I don't like oranges.

## SPELLINGS to learn. Some are tricky words and some have suffixes

ly	ment	less	ness	ful
lonely	excitement	useless	shyness	cheerful
angrily	refreshment	pointless	quietness	spiteful
quickly	disappointment	endless	fatness	painful
sadly	movement	baseless	closeness	watchful
strangely	development	fearless	kindness	helpful
boldly	environment	jobless	forgiveness	mouthful
firstly	amazement	thankless	rudeness	fearful
brightly	replacement	selfless	sadness	stressful
softly	punishment	hopeless	happiness	hopeful
quietly	entertainment	homeless	boldness	delightful
sweetly	enjoyment	careless	greatness	joyful
bravely	assessment	Tasteless	darkness	thankful

after	child	every	half	move	plant	whole
again	children	everybody	hold	Mr	poor	who
any	Christmas	eye	hour	Mrs	pretty	wild
bath	class	fast	improve	old	prove	would
beautiful	climb	father	kind	only	should	
because	clothes	find	last	parents	steak	
behind	could	floor	many	pass	sugar	
both	cold	gold	mind	past	sure	
break	door	grass	money	path	told	
busy	even	great	most	people	water	

A Poem to Learn

**The Owl and the Pussy-Cat**

By Edward Lear

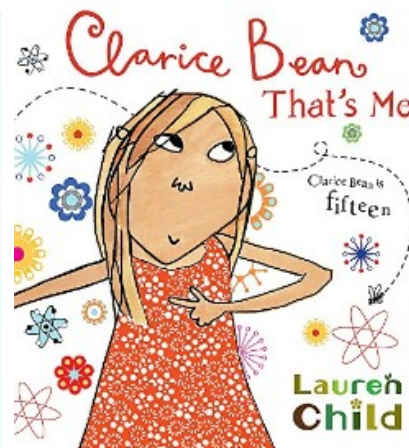
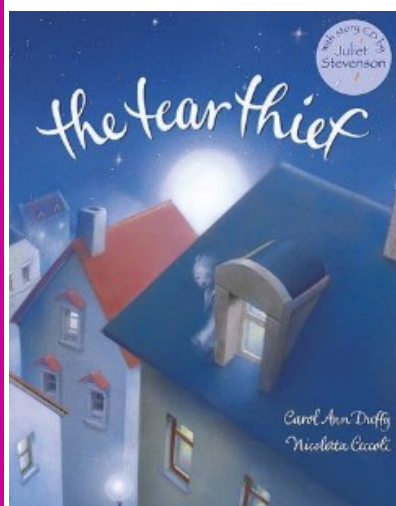
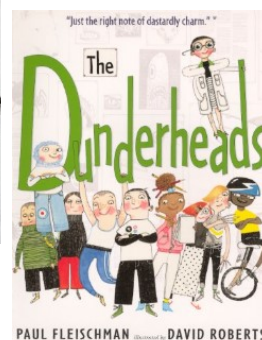
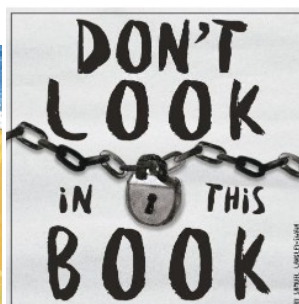
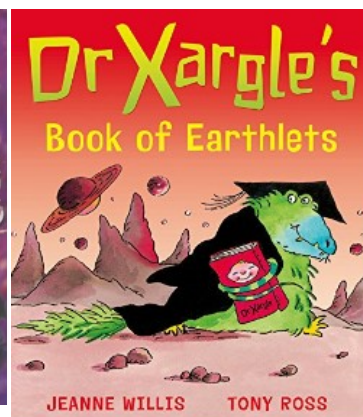
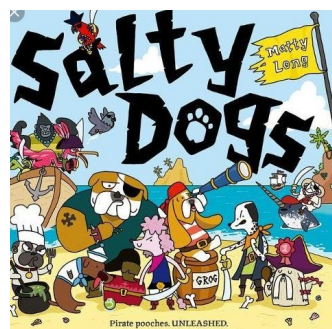
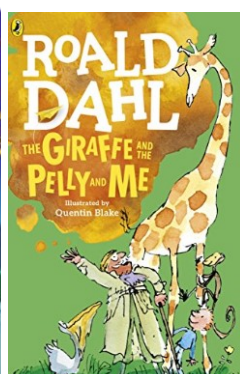
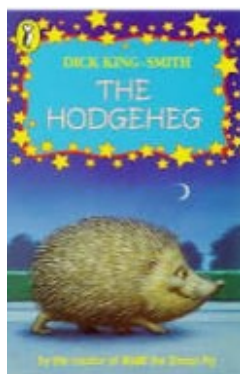
The Owl and the Pussy-cat went to sea  
In a beautiful pea-green boat,  
They took some honey, and plenty of money,  
Wrapped up in a five-pound note.  
The Owl looked up to the stars above,  
And sang to a small guitar,  
"O lovely Pussy! O Pussy, my love,  
What a beautiful Pussy you are,  
You are,  
You are!  
What a beautiful Pussy you are!"

Pussy said to the Owl, "You elegant fowl!  
How charmingly sweet you sing!  
O let us be married! too long we have tarried:  
But what shall we do for a ring?"  
They sailed away, for a year and a day,  
To the land where the Bong-Tree grows  
And there in a wood a Piggy-wig stood  
With a ring at the end of his nose,  
His nose,  
His nose,  
With a ring at the end of his nose.

"Dear Pig, are you willing to sell for one shil-  
ling  
Your ring?" Said the Piggy, "I will."  
So they took it away, and were married next day  
By the Turkey who lives on the hill.  
They dined on mince, and slices of quince,  
Which they ate with a runcible spoon;  
And hand in hand, on the edge of the sand,  
They danced by the light of the moon,  
The moon,  
The moon,  
They danced by the light of the moon.



Some Books to Read



### Key Vocabulary

Habitat	A place where a living organism makes its home.
Micro-habitat	A small area which different in some ways from the surrounding habitat.
Food chain	A sequence describing how different animals eat each other, showing the order in
Producer	Something that has the ability to make its own food or energy.
Consumer	Living things that have to hunt, gather and eat their food.
Dependency	The reliance of one thing on another.

### What should I already know?

- Animals can be grouped in a variety of ways based on their similarities such as what they eat or what they look like.
- A life cycle describes the different stages a living thing goes through as it grows and becomes an adult.
- Animals are carnivores, herbivores or omnivores.

### In this unit, I will...

- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other;
- identify and name a variety of plants and animals in their habitats, including microhabitats;
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

### Key Learning: Habitats

Habitats are more than just homes for animals. They provide all the things they need to survive and succeed.

Some examples are:

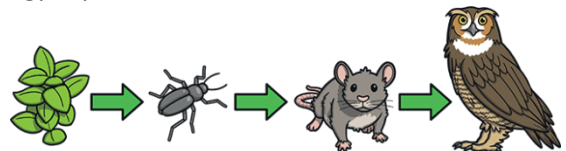


Animals are **adapted** to their habitats. This means that their bodies work in special ways to help them survive.

For example, camels which live in hot, dry sandy deserts have large humps on their backs to store fat and water. They have long eyelashes to keep the sand out of their eyes and large feet to stop them sinking into the sand.

### Key Learning: Food chains

All living things need energy. They get this energy from food. A food chain shows how energy is passed between plants and animals. The arrows on a food chain show how the energy is passed on.



All food chains begin with a **producer**. This is something that has the ability to make its own food, usually a plant.

In turn, the plant is eaten by a living creature. In the food chain, it's called a **consumer**, like the beetle.

Animals that only eat other creatures are called carnivores and these animals are found at the top of the food chain. They are **predators** or hunters like foxes or owls. The mouse is the owl's **prey**. This means it is hunted and eaten by another animal.

Humans are part of a food chain too. Luckily we are at the top of the food chain as there aren't many animals that want to eat us.



## History – Our Patch, Reading Abbey

### Key Vocabulary

Abbey	An <b>abbey</b> is a church with buildings attached to it in which monks or nuns live or used to live.
Ruins	The parts of something that remain after it has been severely damaged or weakened.
Monk	A <b>monk</b> is a member of a male religious community that is usually separated from the outside world.
Praying	Speaking to a god
Manu- scripts	A <b>manuscript</b> is a piece of writing, usually a book
Spiritual	Relates to people's thoughts and beliefs, rather than their bodies or physical surroundings
Trade	Buying or selling goods

### Key Learning

We will learn that the abbey is a religious building which was lived in by monks.

We will be able to locate the abbey in Reading, England near our current town centre.

We'll learn about when the abbey was built and who was involved.

Why Reading Abbey is an important part of Reading history and what it can tell us about life between 1121 – 1539.

The historic significance of the abbey. For example, for what important historical events the abbey was used for.

Describe the daily activities and lifestyle of the monks who lived in the abbey.

We will learn about how the abbey changed the town of Reading.

How Reading abbey declined and became a ruin.



### In this unit, I will...

Locate Reading Abbey on a map and discover what it was like for the monks who lived there. I will explore the manuscripts written by monks and how the work and other activities they did in the Abbey. I will find out how the abbey changed and became a ruin. I will be able to explain how the abbey is used today.

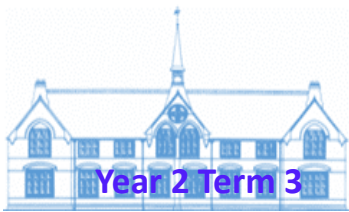
### What should I already know?

We should already know that Reading is in England and that England is ruled by the monarchy. We should know how to make a simple, chronological timeline of events in our own lives and know how to sequence historical events.



King Henry I of England.





## Geography – Hot and Cold

Key Vocabulary	
weather	Weather includes temperature, wind, humidity, rain and cloud cover.
climate	Climate is the average weather conditions for a particular location over a long period of time, ranging from months to thousands of years.
equator	An imaginary line around the middle of planet Earth.
poles	Earth's North and South <b>poles are the two opposite ends of its axis and its most northern and southern points.</b>
Physical features	These are the things we can see in a place, like mountains, oceans, and deserts.
Human features	These are the things people create or do in a place, like houses, cities, or activities.
adaptations	Special features or behaviours animals have which help them live in their specific habitats

### In this unit, I will...

compare geographical features of Scotland and India. We will discuss how the position of the country in relation to the equator affects the climate and weather. We'll discuss with the class the physical features they might find in hot places like India such as deserts, beaches or tropical forests. For Scotland, a much colder environment, we'll be discussing features like snowy mountains and arctic tundra landscapes.

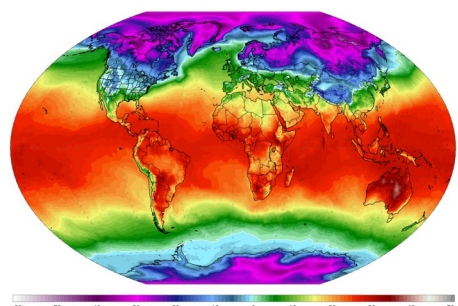
### What should I already know?

- To Identify seasonal and daily weather patterns in the United Kingdom
- Seasonal weather and daily weather patterns.
- Seasonal changes within our local area and how the weather changes throughout the year.
- Simple compass directions of North, South, East and West.
- That Scotland is a country that is part of the United Kingdom.
- What physical and Human features are.

### Key Learning



### Climate



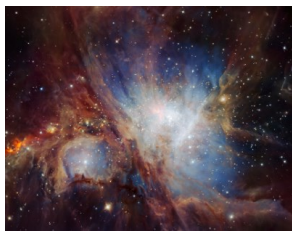
			
Gobi Desert, China and Mongolia	Greenland	Honolulu, Hawaii	Antarctica



### Year 2 Terms 3 & 4



#### God



In Sikhism, the followers believe that God is everywhere in the universe and in everything. They see God as one big power that is all around us. They have a special symbol, called Ik Onkar:



This symbol stands for this idea. The Sikh god could be understood with the idea of everything being connected.

Sikhs see everybody as an equal.

Leading a good life, doing good things and making the right choices are an important part of the Sikh faith. Sikhs believe that Guru Nanak, the founder of the Sikh religion, received messages from God to teach people how to follow a simple faith.



#### Sikh symbols



#### **The Five Ks:**

a ceremonial sword, steel bracelet, uncut hair, wooden comb and cotton undergarment are Sikh physical symbols that show Sikh identity, commitment to Sikh principles and readiness to defend the oppressed.



#### **Khanda**

is a symbol of Sikhism.

It is made up of: the khanda, a double-edged sword, the chakkar which reminds Sikhs to remain within the rule of God; and two crossed kirpans, swords that represent spiritual authority and political power.

#### Sikh Place of Worship



Sikhs worship in a temple called a Gurdwara. The picture shows the most important Sikh temple—The Harmandir Sahib (The Golden Temple) - in Amritsar, Punjab, India. Most towns in England also have their own Gurdwara.

Inside a Gurdwara you will find:



This is the Sikh holy book. It is like a guide-book Sikhs follow to learn about their faith and how to live a good life. In the book, there are teachings from different Sikh gurus.



A chaur is a special brush or fan made of long, soft hairs attached to a handle. Sikhs wave it over the Guru Granth Sahib, their holy book, as a sign of respect.



Sikh langar is a communal meal where free vegetarian food is served to all people from all backgrounds as a symbol of equality, unity and selfless service.

#### Sikh Festivals



Vaisakhi is a Sikh festival celebrated in April to mark the harvest season and the birth of the Khalsa, a Sikh warrior community. It is also a time for community gatherings and a religious procession called **Nagar Kirtan**.

During **Vaisakhi**, Sikhs go to the gurdwara in the morning for a service. Afterwards, they have a procession through the streets with lots of singing, chanting and colourful clothes. In the evening, Sikhs have a special meal with family and friends.

Like Hindus, Sikhs also celebrate Diwali but for a different reason; they celebrate the story of Guru Hargobind's (the sixth guru) release from prison.





## Key Vocabulary:

Abstract	Art where the subject doesn't necessarily look like it does in real life
Composition	Putting different elements together in a pleasing way
Curator	Someone who organises and looks after collections in museums and galleries
Felt	A material made by laying fibres in different directions then squashing them together
Fibre	Threads of wool
Inspired	Feeling very interested and excited by something you have seen
Negative print	Ink will show the background of the tile rather than the drawn lines
Pattern	A design in which shapes, colours or lines are repeated
Stained glass	Colourful, decorative glass that makes a design
View finder	A tool used to help choose a composition

Felt is used to make both artworks and useful objects



### Artists

Susan Stockwell

Kim Soon Im

Josef Albers

Eduardo Paolozzi

Matthew Cusick

Abstract art doesn't necessarily look like it does in real-life. Artists use shapes, colours and different marks

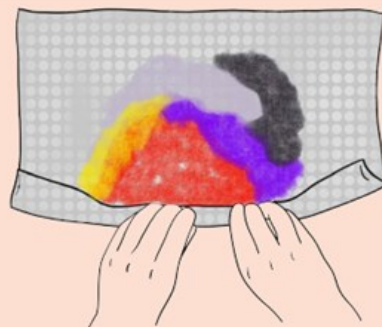


### Arranging artwork for display



- Think about your audience
- Try out combinations of work
- Fix your work in position
- Add labels

Make felt by laying wool fibres in different directions, adding hot water then rolling and squeezing the felt.



### Using a roller for printing



- Not too much ink!
- Roll in different directions.
- Aim for a thin layer all over the roller.
- Listen for a sticky 'hissing' noise!



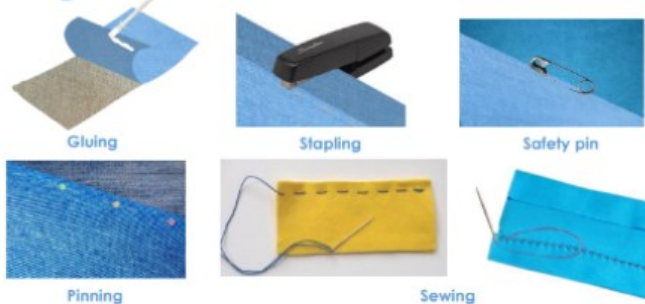
Mix colours by overlapping materials

Vocabulary

Fabric	plant or tree's edible seed with envelope
technique	plant used for food
joining	Making mechanical or chemical changes to food
finishing	Equipment used to make changes to food (knives, juicers, etc.)
fastenings	Taking measures to prevent the spread of bacteria that can cause illness

## Exploring and evaluating joining techniques

### Joining fabric



## Finishing techniques



## Templates and patterns

### Creating pattern pieces: chalk



### Creating pattern pieces: pins



### Creating pattern pieces: clear tape



## Different joining techniques

### Sewing: running stitch



### Stapling



### Gluing



### Pinning



Children will have the opportunity to explore different types of fruit fabrics and joining techniques to create wearable items. Children will also learn the importance of careful drawing, cutting and following of instructions. After all investigative work is done children will design, make and evaluate a sporran.

## What is a sporran?



A sporran is a traditional part of male Scottish Highland dress. It is a pouch that performs the same function as pockets on the pocketless kilt.

### Key Vocabulary

Habitat	A place where a living organism makes its home.
Micro-habitat	A small area which different in some ways from the surrounding habitat.
Adaptations	the biological mechanism by which organisms adjust to new environments or to changes in their current environment

### What should I already know?

- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- Identify and describe the basic structure of a variety of common flowering plants, including trees.

### In this unit, I will...

- Learn that all objects are either living, dead or have never been alive.
- Learn that plants live in a habitat to which they are suited, which means that they have suitable features that help them to grow well. The habitat provides the basic needs plants – shelter, food and water.
- Know that within a habitat there are different micro-habitats e.g. in a woodland – in the leaf litter, on the bark of trees, on the leaves. These micro-habitats have different conditions e.g. light or dark, damp or dry. These conditions affect which plants live there.

### Key Learning

Habitats are more than just homes for plants. They provide all the things they need to survive and succeed.

#### Plants that grow in desert



Fleshy stem



Thorns shaped leaves

#### Submerged water plants



#### Aquatic Plants



Fixed plants



Floating plants



Underwater Or Submerged plant

Plants also **adapt** to their habitats. They live in a habitat to which they are suited, which means that they have suitable features that help them to grow well. For example: Plants that are found in deserts have fleshy stems. These fleshy stems help them store water later used during water scarcity. Their roots move deep inside the soil to absorb water. Their leaves get modified into spines so that water is not lost through them.

### Key Learning

Characteristics of living things:



M	ovement
R	espiration
S	ensitivity
G	rowth
R	eproduction
E	xcretion
N	utrition

All objects are either living, dead or have never been alive. Plants (including seeds) are living things. Dead things include some plants and parts of plants that are no longer attached e.g. leaves and twigs.