HOME-LEARNING

YEAR 8

HALF TERM 6

"ALTHOUGH NO ONE CAN GO BACK AND MAKE A BRAND-NEW START, ANYONE CAN START FROM NOW AND MAKE A BRAND-NEW ENDING."

CARL BARD

Core Values

Our school community is built on three important values which underpin all we do.

We believe that great learning comes from:

Politeness

- We treat every person and thing as we want to be treated
- We are respectful, polite and courteous at all times
- We help others at all times

Hard-work

- We never give up
- We remain positive so that we have the strength to persevere with even the hardest work
- We do what it takes, for as long as it takes

Honesty

- We are true to ourselves and others and we do not make excuses
- We look to ourselves to see what needs to be done.

What is learning?

A big part of learning is about getting knowledge to go into your long-term memory and then using this knowledge. Our brains will only remember knowledge in the long term if we think really hard about it. Just reading, or highlighting does not make our brains work hard enough. We must **practise** remembering things – this will feel difficult at the time but worth it in the end.

What is a knowledge organiser?

A knowledge organiser is a document that contains key facts and information. A knowledge organiser will not include every possible fact on a topic; it will include facts needed to understand the main points. Knowledge organisers make knowledge clear. So, even if a learner misses a lesson, they have a constant point of reference.

Why are knowledge organisers good for learning?

Research shows that our brains remember things more efficiently when we know the 'bigger picture' and can see the way that 'nuggets' of knowledge link. Making links helps information move into our long-term memory. A knowledge organiser shows linked facts on a single topic.

Knowledge organisers can be used for retrieval practice (practising remembering things). Regular retrieval of knowledge helps us remember more effectively with our long-term memory. Developing our long-term memory is a vital first step. Without knowledge we have nothing to work with, nothing to think about! Retaining knowledge over time is essential.

To help us understand learning better, Gateacre students and staff have created a series of videos that explain how memory works and what we can do to make it stronger. Follow the QR code or the Learning to Learn link to view them.

How can you best use your knowledge organiser?

There are many ways you can use a knowledge organiser. The most important thing to say, however, is 'use it'. Owning one does not make you remember facts… **you must practise** if you are to improve at anything! There will be mistakes – this is how you learn. Ultimately, the best way to remember things is to try and remember facts that you can't quite remember instantly… practice, practice and practice.

Here are some ways you could try to improve your **long-term memory** – they are all based on making you **think**, getting you to **test your memory**. That way your memory will get stronger:

Hide and seek

Read through a small section of your knowledge organiser (three or four key words), cover the facts and try to write out as much as you can remember. Check your answers and correct them if needed. Then choose your next words or check ones you have already done again.

Quiz

Test your memory by asking someone to quiz you on facts from your knowledge organiser. Write down your answers and see how many you get right. Correct any facts you get wrong.

Teach it!

Teach and explain to someone your key facts – you could even test them!

Back to front

Write down a fact from memory and then compose a question that would lead to that answer.

Sketch it

Draw pictures /diagrams to represent each of the facts or dates (time lines, flow diagrams, or labelled pictures are great ways of remembering parts of a system or orders of events).

Repackage it (from memory)

Create a mind map that brings different facts together under one title. Check that your key words are spelt correctly… or, take a key word and create a sentence that uses it.

Take pride in how you present your work. Each page should be clearly labelled with an underlined date. There should be at least one page of work.

Always check your answers and correct anything you got wrong…. You are allowed to get things wrong… That is how you learn! Getting yourself to think is the key!

Do not just copy a knowledge organiser out – that would not help learning and would only waste your time! Make sure you are having to think!

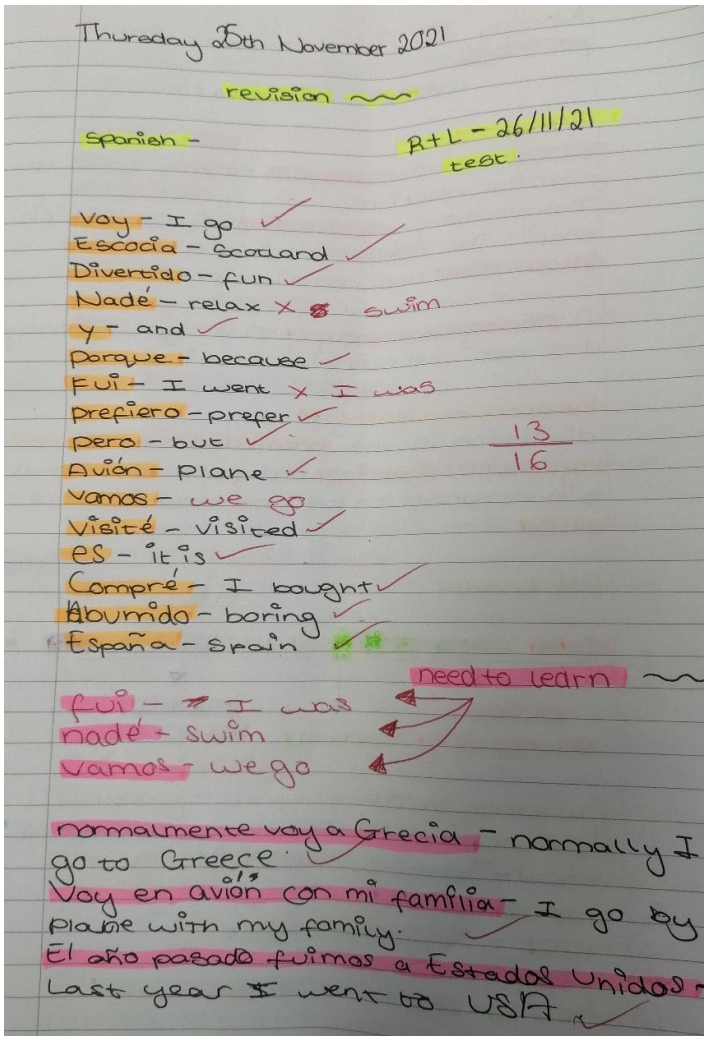
What does effective home-learning look like?

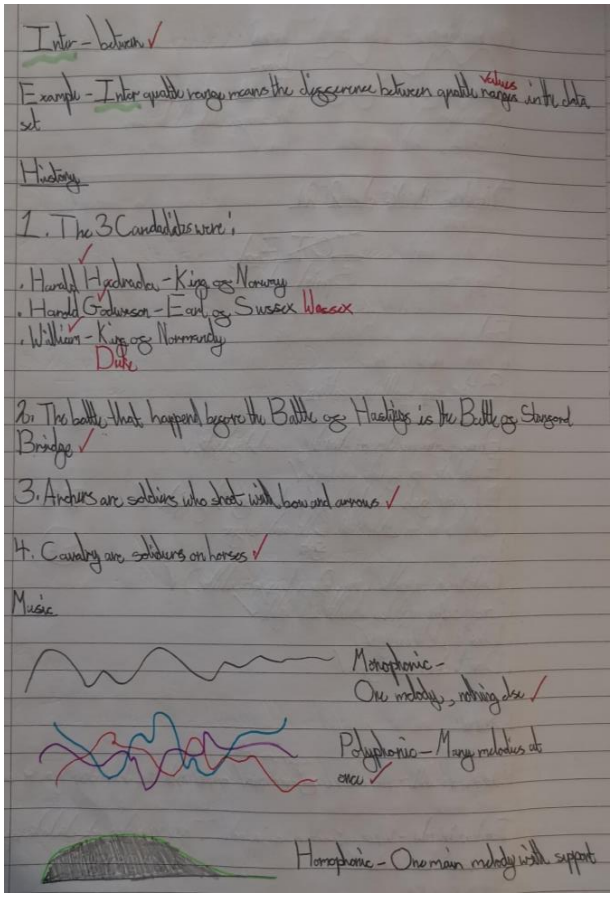
Here are some essential points to remember and some examples to see.

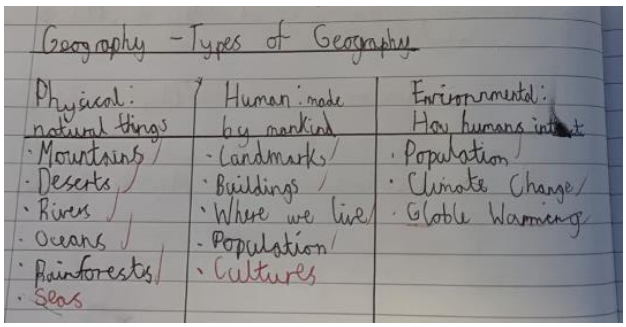
- Long term memories are created when you have to **think**. Simply copying does not help you remember. Testing yourself will make you **think** and remember

- The process of reflection and self-assessment is important if you are to fix mistakes. Do not worry about getting things wrong as long as you check, fix it and try again

All these learners have **read**, **thought**, **tested themselves** and then **checked** their work. They will start to develop long term memory which they can then use in the future.







MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Maths [Hegarty Maths On-Line]	**Computing**	**English** [Supported by Educake Tasks]	**Art**	
History	**Food/Drama**	**Geography**	**Science**	
Music	**Spanish**	**Dt**	**Active Lifestyles/RS**	

Where subjects share a slot it is for **you** to decide which one **you** know less about - which one should **you** revise?

You decide which one to do, or you could, of course, revise both.

Literacy: Do take time to engage with the **Listen Project**. Developing our vocabulary is immensely important if we are to develop as learners. The **listen Project** is an opportunity to listen to interesting ideas, facts and make our vocabulary better. You can do this sh[illegible] point within the week.

Remember, you can always do more. Challenge yourself to be the best you can be!

SCAN ME

The 'Listen' Project #1

How to use the 'Listen' Project

Start Here

Being read to is a vital part of learning - hearing words that we are unfamiliar with, ideas that we don't understand yet and thoughts we haven't had a chance to think.

Even simple stories create links from one idea to the next. The fairy tales we heard when we were babies give us the first step to understanding the adventure stories we read in school.

Take time out and listen…

Step 1 – Click the link and listen.

You can follow the text as you are read to or just listen.

Step 2 – Check the text.

Have a look at the texts. There are three pieces of writing.

The first piece may appear to be very simple, maybe even too young for you. These stories are some of the first we hear and often start our journey to understanding more complicated ideas.

The second text may be something you recognise or have read yourself. Is there a link to the first story?

The third is the most complex and may even leave you with a lot of questions.

Step 3 – What's the connection?

The final step is to think about what links these texts and stories together?

Where have you thought about these ideas before?

Do you think about any of these ideas in school?

You can go back and listen to the texts being read as many times as you like.

SCAN ME

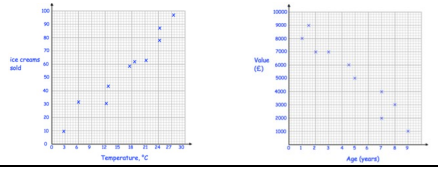
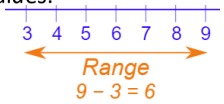
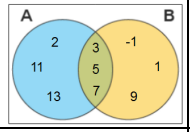
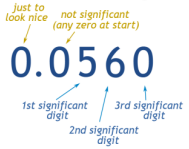
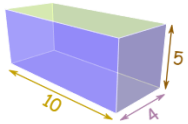
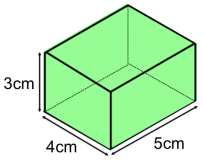
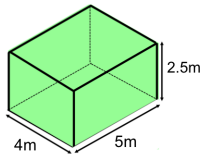
The 'Listen' Project #1

Mathematics

Your Maths Home Learning has two parts:

Part 1 is: Copy the definition of the key word and diagrams into your Home Learning Book, then use these to complete the task

Part 2 is: Access **www.hegartymaths.com** → Watch the video , making notes in your book → Complete the assigned quiz

Week	Key Word	Definition	Task	Hegarty Task
5th June	Correlation	Correlation is a link between two variables. It can be *positive* or *negative*. If it is *positive* it means that as one thing increase the other thing increases as well. If the correlation is *negative* it means that as one thing increases the other will decrease.	What is the type of correlation of the following graphs? 	Memri
12th June	Range	The difference between the lowest and highest values. In {4, 6, 9, 3, 7} the lowest value is 3, and the highest is 9, so the range is 9 − 3 = 6. 	Find the range of the following set of numbers. {2, 5, 8, 6, 2, 5, 9, 7, 4} = {1, 6, 8, 4, 5, 7, 2, 4, 0} =	410
19th June	Set	Simply put, it's a collection of numbers. When we define a set, all we have to look at is a common characteristic, for example: Set of even numbers: {..., −2, 0, 2, 4, 6, ...} Set of odd numbers: {..., −1, 1, 3, 5, 7, ...} Set of prime numbers: {2, 3, 5, 7, 11, ...}	Group the following numbers into sets {-3, -2, -1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18} Set of multiples of 2: Set of factors of 18: Set of squared numbers:	370
26th June	Venn diagram	It is a diagram that helps us visualize the relationship between sets and their elements. The common values in the sets will go in the middle E.g. Here are two sets, let's put them in the circles A = Set of prime numbers: {2, 3, 5, 7, 11, 13} B = Set of odd numbers: {−1, 1, 3, 5, 7, 9} 	Draw a similar Venn diagram to the one on the left and label the circles odd numbers (A) and multiples of 3 (B). Then put all the numbers from 1-20 in the diagram What do you think you would do with numbers than don't belong in either circle?	Memri
3rd July	Significant figure	Significant figures (S.F) are the number of digits in a value that contribute to the degree of accuracy of the value. We start counting significant figures at the first non-zero digit. E.g. Round the following values 563,902 is 560,000 to two significant figures 0.003857 is 0.00386 to three significant figures 	Round the following values to 1 significant figure 157,321 = 0.024687 = Round the following values to 3 significant figures 43,746 = 0.00036824 =	130
10th July	Volume	The amount of 3-dimensional space something takes up. E.g. Imagine how much water could fit in this rectangular prism. Also called Capacity. Volume = Area of front face × depth (height) E.g. the volume is 4 × 5 × 10 = 200 units3 	Find the volume of the following cuboids  	568

Year 8 History KNOWLEDGE ORGANISER

Topic: Why did Britain become involved in the transatlantic slave trade?

YEAR 8
HT 6

Slavery through History

Slavery is when a person is owned like property and is forced to work with no pay and no rights, such as time off. Slavery has existed in human societies throughout history with the earliest recorded enslavement of people within Mesopotamia (modern day Iraq and Syria) when men defeated in battles would be forced to work.

Slavery was used in England for centuries during both the Roman and Anglo-Saxon period. Entire families would work the land for wealthy landowners and in return they were given a place to live and food to eat but there was no opportunity for them to improve their situation. Terribly, slavery does still exist in the modern world. The International Labour Organisation estimates around 40 million people are in slavery today, whether it be child soldiers, people being forced to work or girls and women being sold into marriage.

The Transatlantic Slave Trade

Arguably history's most well-known example of slavery, the **Transatlantic Slave Trade**, took place between the 16th and 19th centuries which resulted in the forced movement of an estimated 12 to 15 million Africans to European colonies in the Americas, of which Britain owned many.

Here they would be forced to work on **plantations** under extremely harsh conditions, often being punished for anything they did that was against the wishes of the plantation owners. These plantations were used to grow tobacco, sugar and cotton. These products made many in Europe extremely wealthy as they used **chattel slavery**, a form of slavery which means the children of enslaved people automatically become slaves themselves.

The slave trade started with the Spanish and Portuguese Empire's during the 1500s but Britain soon joined them when **Sir Francis Drake** sold slaves from Africa to a colony in the Caribbean in 1560. It is thought Britain alone undertook 10,000 slave voyages, transporting around 3.4 million African slaves. Of the millions of Africans sent to the Americas it is estimated that two million Africans died during the **Middle Passage**. This was a gruesome experience were human beings were packed onto ships like cargo with no regard for their health or dignity.

From the 1770s an **Anti-Slavery movement** started in Britain called the **Abolitionist Movement**. One key part of this movement was using the stories of previously enslaved people to shock parliament into outlawing the slave trade. In 1807 the **Abolition of the Slave Trade Act** was passed, which ended the buying and selling of slaves. It didn't protect the people already enslaved in the Americas however and many slave traders continued their actions illegally. It wasn't until 1834 that slavery was abolished in all British colonies for good.

The 'Triangular Trade'

From the 1500s a flow of trade developed between Africa, America and Europe that has been named the **'Triangular Trade'**. The three main stages were as follows:

1. British slavers sailed from ports in Britain such as **Liverpool, Bristol and Glasgow**. They travelled down the Atlantic to the **West Coast of Africa** where they traded many different goods such as guns, cloth, iron and beer in exchange for enslaved people. It was often other **African slave traders**, Kings or Warlords, who captured and traded these people.
2. These slaves were then boarded on to ships and packed into horrifically tight conditions with 300-500 of them being chained to each other lying down on their sides for the 80-day journey. This was to maximise the amount of slaves that could be sent across the Atlantic, increasing the profits of slave traders. This journey became known as the **Middle Passage** and up to 2 million African slaves died during these voyages due to disease or murder. There are some cases of Africans being thrown alive overboard in the middle of the ocean.
3. Finally, British slavers would sell the African slaves in exchange for goods that could only be made in the Americas such as tobacco and cotton. These were very expensive back in Britain and so the slavers could make huge profits.

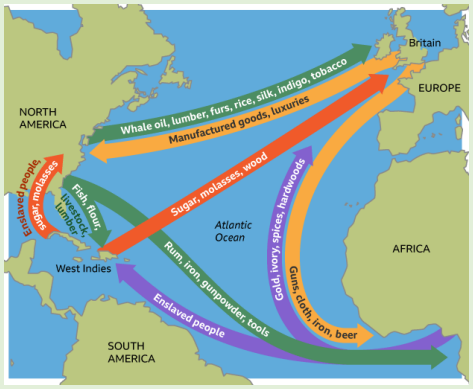
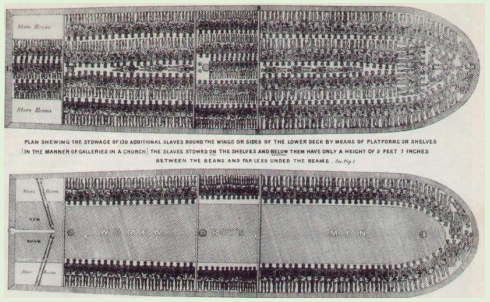


Diagram of the triangular slave trade.



Plan of a slave ship. The slaves are packed as tightly as possible to maximise their numbers.

Liverpool's role

Liverpool was central to Britain's slave trade with much of the city's wealth being made through the triangular slave trade. By the 1740s, ships leaving Liverpool's docks were responsible for more slaves being sold than all other British cities combined. Each year Liverpool was making around £300,000 a year from the slave trade which is equal to nearly £50,000,000 today! Today the legacy of slavery can still be seen on the streets and buildings of Liverpool. For example, Penny Lane which became famous due to The Beatles, is thought to have been named after slave trader James Penny. Within the city centre there are still buildings that hold the name *West Africa House* and *Cotton Exchange*.

Key Terms	Tasks
Abolitionist – A person who wanted to get rid off or abolish the slave trade. **Act of Parliament** – A written law passed in the Houses of Parliament. **Chattel Slavery –** Where the children of enslaved people automatically become slaves themselves when born. **Empire** – When a collection of countries or areas of land, known as colonies, are owned by a country. **Middle Passage** – The journey across the Atlantic from West Africa to America where many slaves were taken. **Plantation** – A large farm where crops such as cotton, sugar and tobacco were made by slaves. **Slavery** – When a person is owned like property and is forced to work with no pay or rights. **Triangular Trade** – The movment of goods and people across the Atlandtic from Europe to Africa and finally the Americas. **Wealth** – The amount of money and possessions owned.	**Task 1** Write a paragraph explaining how Britain benefitted from the slave trade. Think about the amount of slave voyages they undertook, what they were getting in return for slaves they sold in the Americas and how this would have made them wealthy. **Task 2** Draw up a map of the Triangular Slave Trade. Make sure to annotate your map, describing what was traded at each step of the journey. **Task 3** Using the image of the plan of a slave ship in the 'Triangular Trade' section, explain why the slave traders used 'tight packing' of slaves and why the middle passage would have been such a terrible experience for the African slaves. **Task 4** Write up a diary entry from the perspective of a slave. You need to describe the daily life of a slave on a plantation. Think about their working hours, what they did during times they were not working and any punishments they received from the plantation overseers. **Task 5** Design a poster urging slaves to resist their owners. Within the poster include descriptions of several methods of slave resistance, both active and passive and explain how they can be effective. **Task 6** Research task: Research one of the following streets or buildings in Liverpool and create an information sheet on how they are linked with the slave trade: Bold Street, Seel Street, Jamaica Street, Hardman Street, Parr Street, West Africa House, Cotton Exchange.

SUMMARY

1.

ROMANTIC
[1800…ish - 1900…ish]
All textures used to create drama

Composers
Chopin
Liszt
Brahms

CLASSICAL
[1750 - 1800…ish]
Mainly Homophonic

Composers
Haydn
Mozart
Beethoven

BAROQUE
[1600…ish - 1750…ish]
Mainly Polyphonic

Composers
J. S. Bach
Handel
Vivaldi

2.

Symbol	Name	Number of beats
	Semibreve	4 beats
	Minim	2 beats
	Crotchet	1 beat
	Quaver	½ beat each
	Semiquaver	¼ beat each

3.

Family	Instrument Names	
Strings	Violin; Viola; Cello; Double bass; Harp	
Woodwind	Flute Oboe Saxophone	Clarinet Bassoon
Brass	Trumpet Trombone	French Horn Tuba
Percussion	Timpani (Kettle Drums) Xylophone (wooden) Glockenspiel (metal)	 Piano

4.

Guitar Key Technical Words:

Chord: playing many notes at once (often all six strings)

Strumming: Playing all required strings in one go

Picking: Plucking the individual strings

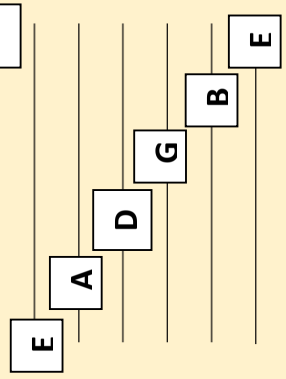
Fret: The spaces on the neck where you press your fingers

Acoustic: a guitar that does not need an amplifier

TASK
Revise each box by number. This page is a summary of some of the important key words this year.

4.

Tuning the open strings:



5. THE BLUES – MUSICAL FEATURES

Improvisation – making music up 'on the spot'

Blues scale – a set of notes (scale) used that gives The Blues its 'cool' sound

Call & Response – Where the singer sings a line and an instrument plays a short tune in reply

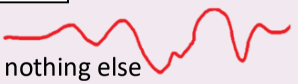
Pentatonic – 5 note scale
(the blues scale is based on this)

5. ORIGINS OF THE BLUES

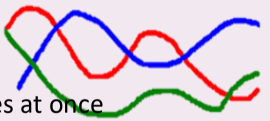
- Slaves sang **worksongs** in the fields
- When slavery ended, one way of earning a living for black Americans was to make music
- Their music became hugely popular

Texture: **3.**

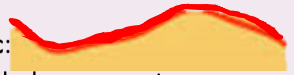
Monophonic:
One melody – nothing else



Polyphonic:
Many melodies at once



Homophonic:
One main melody + support



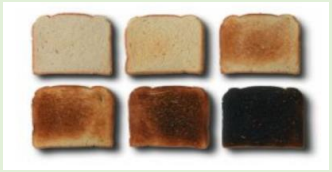
Functional Properties of Food – Year 8

Ingredients provide a variety of functions in recipes. Carbohydrate, protein and fat all have a range of properties that make them useful in a variety of food products.
These include:

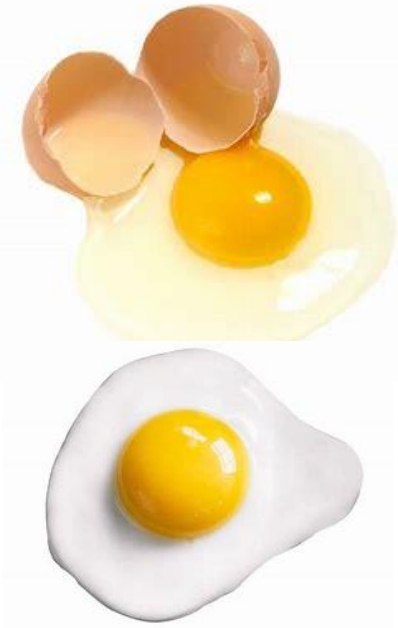
- Dextrinisation & Caramelisation of Carbohydrates
- Denaturation & Coagulation of Proteins
- Aeration and Plasticity of Fats

Carbohydrates

Dextrinisation: When foods containing starch are heated, they can also produce brown compounds due to dextrinisation. Dextrinisation occurs when the heat breaks the large starch polysaccharides into smaller molecules known as dextrins which produce a brown colour.



Caramelisation: When sucrose (table sugar) is heated above its melting point it undergoes physical and chemical changes to produce caramel. The colour goes from light to dark and the flavour becomes more bitter.



Proteins

Denaturation: The change in structure of protein molecules. The process results in the unfolding of the protein's structure. Factors which contribute to denaturation are heat, salts, pH and mechanical action.

Coagulation: Coagulation follows denaturation. For example, when egg white is cooked it changes colour and becomes firmer (sets). The heat causes egg proteins to unfold from their coiled state and form a solid, stable network.

Fats

Aeration: Products such as creamed cakes need air incorporated into the mixture in order to give a well-risen texture. This is achieved by creaming a fat, such as butter or baking spread, with sugar. Small bubbles of air are incorporated and form a stable foam.

Plasticity: Fats do not melt at fixed temperatures, but over a range. This property is called plasticity.

Weekly Tasks

Week 1 – Make revision cards for the functional properties of carbohydrates (dextrinisation and caramelisation)

Week 2 – Make revision cards for the functional properties of proteins (denaturation and coagulation).

Week 3 – Make revision cards for the functional properties of fats (aeration and plasticity).

Week 4 – Research the plasticity of fats and how it effects the texture of baked foods.

Week 5 – Link each functional property with at least 2 food products. E.g. dextrinisation – toast.

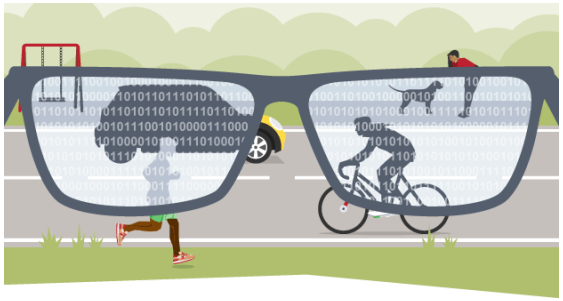
Week 6 – Draw and label the denaturation and coagulation diagram in your book.

Week 7 – Discuss how each functional property affects the final product when baking a sponge cake.

Computing Department Knowledge Organiser: Year 8 Binary

Binary

What is Binary?

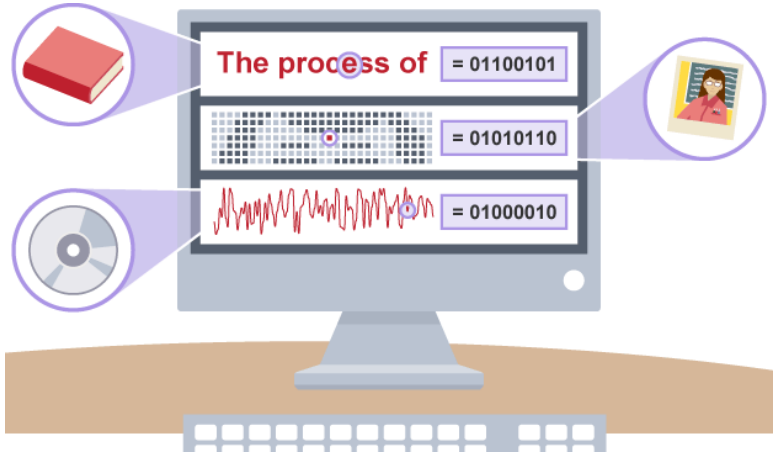


Binary is a number system that only uses two digits: 1 and 0.

All information that is processed by a computer is in the form of a sequence of 1s and 0s.

Therefore, all data that we want a computer to process needs to be converted into binary.

How computers see the world



There are a number of very common needs for a computer, including the need to store and view data.

Computers use electrical signals that are **ON** or **OFF**, so they have to see everything as a series of binary numbers.

This data is represented as a sequence of 1s and 0s (ON and OFF).

All data that we want a computer to process needs to be converted into this binary format.

Base 2 System:

1 and 0

The binary system is known as a 'base 2' system because:

- there are only two digits to select from (1 and 0)
- when using the binary system, data is converted using the power of two

Computing Department Knowledge Organiser: Year 8 Binary

Task 1 Converting denary (our numbers) to binary	
Using the binary place values in the table, can you work out what these numbers are in binary? • 2 • 30 • 102 • 168 • 255	How to work out 168 in binary. Remember, you can only enter 1 and 0: • We know that 128 + 32 + 8 = 168 • Put a 1 in each of these columns in the table above • Put a 0 in any blank columns The answer in binary is: **10101000**

Binary Place Values

128	64	32	16	8	4	2	1

Task 2 Binary numbers max and min	
What is the maximum number that you can make with 8 bit binary? How is it written in binary?	What is the minimum number that you can make with 8 bit binary? How is it written in binary?

Computing Department Knowledge Organiser: Year 8 Binary

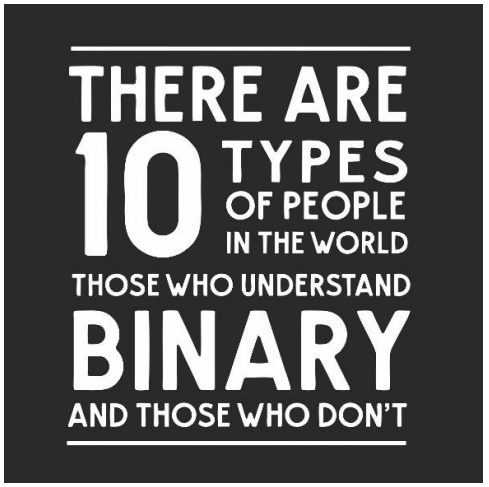
Task 3 Messages in Binary

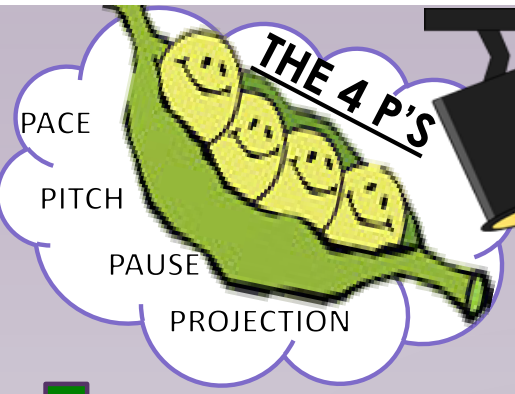
a	1100001	n	1101110
b	1100010	o	1101110
c	1100011	p	1110000
d	1100100	q	1110001
e	1100101	r	1110010
f	1100110	s	1110011
g	1100111	t	1110100
h	1101000	u	1110101
i	1101001	v	1110110
j	1101010	w	1110111
k	1101011	x	1111000
l	1101100	y	1111001
m	1101101	z	1111010

This table shows what letters look like in binary. In your home learning book, write your name in binary code.

E.g. Bob = b 1100010
o 1101110
b 1100010

Write a longer message in binary code instead of using letters.





YEAR 8 CURRENT TOPIC: AP2 & Costume Design

New Skill/Technique/Knowledge **Retrieval**

Stage positioning

The purpose of set design BBC Bitesize!

Knowledge/ skill	Definition
Hot seating	A character is questioned by the group about his or her background, behaviour and motivation.
Stage positioning	Stage positions are used to help keep track of how performers and set pieces move during rehearsal and performance. All nine positions on stage are from the perspective of the performer.
Teacher in role	The teacher plays a role. They may ask questions of the students, perhaps putting them into role as well.
Levels	Using different heights or levels onstage creates visual interest. It can also help to ensure that the audience see all of the action. Levels can be used to suggest status - meaning the power or authority one character has over another and can also be used to suggest various locations.
Improvisation	A very spontaneous performance without specific or scripted preparation.
Thought Track	A character speaks out loud about his/her inner thoughts at a particular moment in the drama.
Movement	Where we move to on and around the stage avoiding the blocking another actor.
Physical Theatre	**Physical theatre** is a well-known genre of theatrical performance that encompasses storytelling primarily through **physical** movement.
Transitions	This is the process in which something changes from one state to another
Flashback	A flashback is an interjected scene that takes the narrative back in time from the current point in the story.
Narration	A commentary delivered to accompany a performance.
Slow Motion	Performing in manner whereby the action appears much slower than in real life.

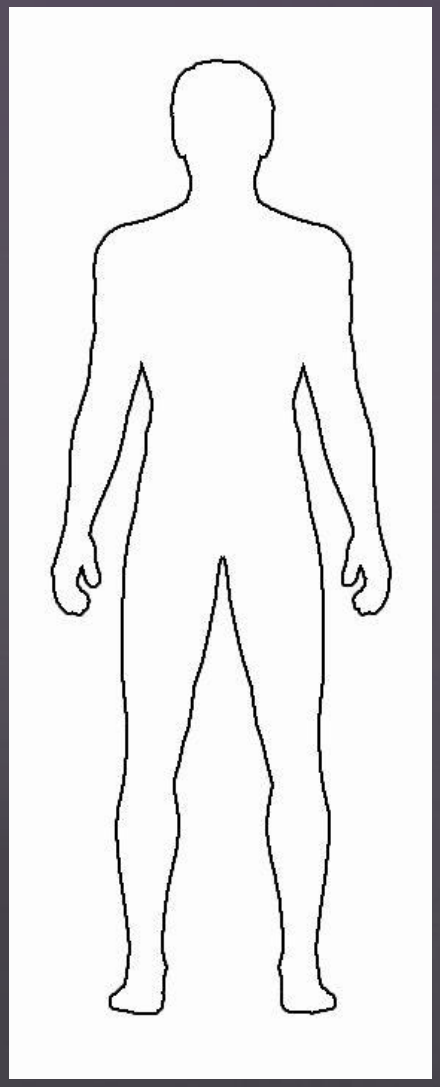
Tasks

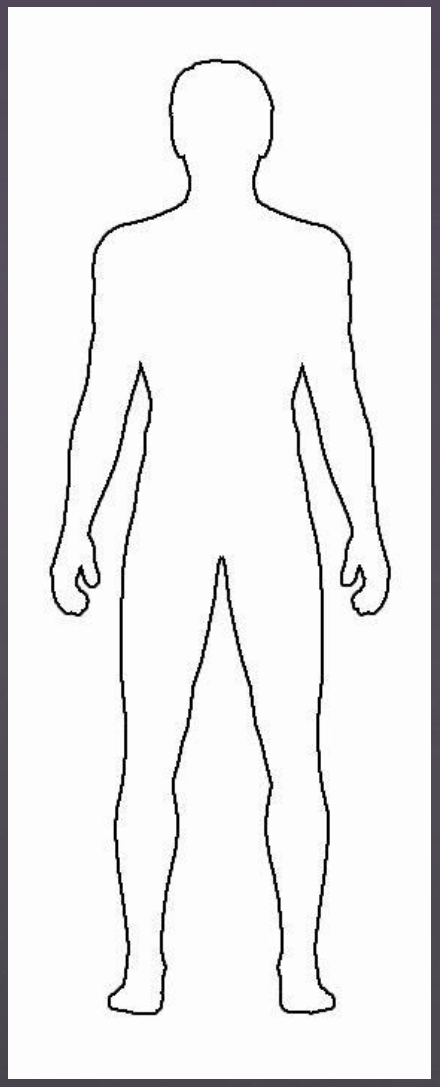
Week 1	Create a costume design for a character from Alice in Wonderland and annotate your ideas
Week 2	Label the plain stage provided with the following: Upstage, Downstage, Stage Left, Stage right, Wings, Centre Stage and Apron
Week 3	Using the plain design templates on the next page – design a costume for a character from your favourite play/topic you have explored so far.
Week 4	Sketch out the stage types and try and match the title of them to each one!
Week 5	Access the GCSE Drama Bitesize portal and prepare for your GCSE Drama journey.

Access the Bitesize GCSE in preparation for the course!

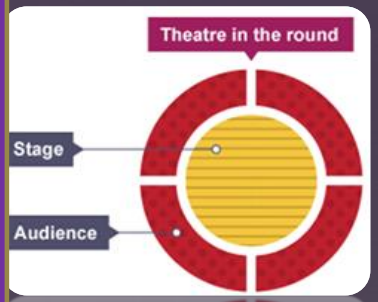
Use the following acronym to help you when designing a costume design:

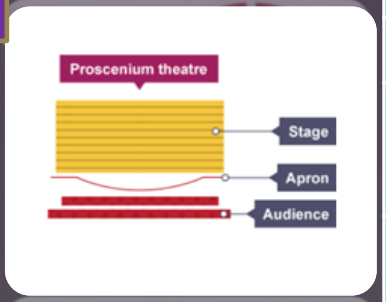
Colour/Condition/Cut
Ornamentation
Style
Texture
Un(fit)
Material
Expressing…? (what it expresses about the character)

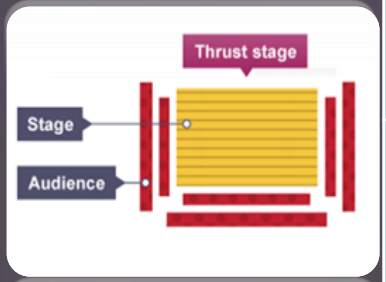


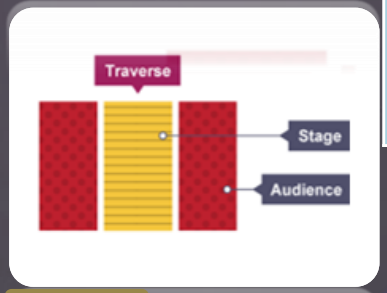


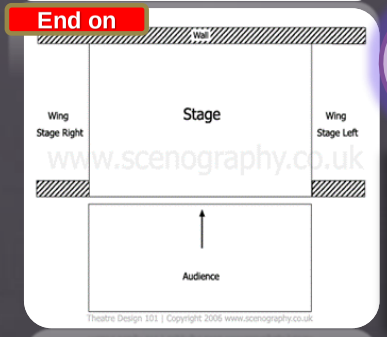
Stage Types











Some key information to take note of for this coming AP2 & Design

Theatre Maker	Role and responsibilities
Performer	A performer is an actor or entertainer who realises a role or performance in front of an audience.
Understudy	An actor who studies another's role so that they can take over when needed.
Technician	A person who works backstage either setting up technical equipment such as microphones or rigging lights before a production or operating technical equipment during a performance.
Director	A director is in charge of the artistic elements of a production. A director will often have the initial creative idea ('concept') for a production, will work with the actors in rehearsal, and will collaborate with designers and the technical team to realise this idea in performance.
Stage manager	The Stage Manager is in charge of all aspects of backstage, including the backstage crew. They will oversee everything that happens backstage before, during and after a performance. During the rehearsal period, the Stage Manager and their team will make sure that all props are found or made, scene changes are rehearsed and smooth, and all other aspects of backstage are prepared. They are also in charge of the rehearsal schedule.

Drama Essentials BBC Bitesize Portal:

How would you dress an Actor up as the Cheshire Cat?

Sketch the stage configuration 'Thrust Stage'

Well done Year 8 on an absolutely fantastic year. You have shown a real growth in knowledge in Drama – you have all done incredibly well!!

Spanish

Go to languagenut.com or download the app from the app store/google play store.

Log in with the username and password given to you by your teacher.

Your weekly task will appear in the "assignments" section.

Tuesday 6th June	Complete the assigned tasks holidays vocabulary.
Tuesday 13th June	Complete assigned tasks practising TV and film vocabulary.
Tuesday 20th June	Complete assigned task practising clothes vocabulary.
Tuesday 27th June	Complete assigned reading tasks on food.
Tuesday 4th July	Complete assigned translation task on TV and film.
Tuesday 11th July	Complete assigned writing task on holidays.

If you're accessing Languagenut from a tablet or computer, you can browse through other sections and practise other skills.

Click "high school" and either "vocab practice", "exam skills" or "sentences and chunks" and practise away!

You get points for each activity you complete and the Top 10 students in the school with the most points at the end of each month will get a prize off Mrs. Foy!

Y8 Speaking and Listening Knowledge Organiser Advertising and Marketing

Key Words and Definitions

Advertisement - a notice or announcement in a public medium promoting a product or service.

Marketing - the action or business of promoting and selling products or services, including market research and advertising.

Sales pitch - a spoken description or talk about a product or service you are trying to sell, intended to persuade people to buy it.

Persuade – to convince someone to do or think something through reasoning or argument.

Target audience – a particular group at which a product is aimed.

Demographic - a particular sector of a population.

Slogan – a short and striking or memorable phrase used in advertising.

Logo – a symbol or other small design adopted by an organization to identify its products.

To achieve in a speaking and listening assessment you must try to:

- Be audible
- Use Standard English
- Follow a structure
- Respond to questions

Persuasive Devices

Direct Address: Talking to the reader directly using the pronoun "you".

Alliteration: Using the same letter or sound multiple times.

Facts: Things that are proven to be true.

Opinions: Individual views, not based on facts.

Rhetorical questions: Questions that do not need an answer. Designed to make the reader think.

Repetition: Saying the same thing multiple times for emphasis.

Emotive language: To make the reader feel a certain way.

Statistics: of the highest quality or degree

Triples (rule of 3): Three things or the same thing repeated three times for emphasis.

When creating your cleaning product think about:

- **What your product will be used for**. What exactly does it do and how does it work? Will it be for use in a certain room in your house? Or for cleaning a material like wood, glass or carpet? Or for cleaning a specific device such as a car?
- **Who is your target audience?** Which demographic will you aim at? How will your advertising and marketing attract your specific target audience?
- **What will your product look like?** Think about your product's colours; your logo; your slogan; any imagery you might want to include on the product itself.
- **Where will your product be sold?** How much will it cost?
- **How will your advertisement and sales pitch present your product?** How will you want to come across? Will you be serious and formal or have a more informal, light-hearted approach to marketing your product?

Advertising & Marketing - S&L Home Learning Tasks

Week 1
TV ADVERTS

Choose **3 advertisements** to view on **TV**. For each advertisement state:

- The **name** of the product/service advertised.
- The **target audience.**
- Any **persuasive techniques** used including use of **sound**.

Week 2
COLOUR

The **use of colour** in advertising serves the purpose of trying to create a particular response in the audience. Different colours are associated with different **feelings and emotions**, therefore the specific colours included within an advertisement are very important and **influential**. For each of the following colours, try to say how the colour may influence your emotions or mood.

RED e.g. anger, danger, attention grabbing, love, confidence, warmth.

BLUE

GREEN

BLACK

WHITE

YELLOW

GREY

PURPLE

Add your own colour to the list above

Week 3
SLOGANS

Use the internet to research 10 well-known slogans used in advertising. Annotate each slogan to show what makes it memorable, catchy, colourful, clever, fun etc.

Week 4
PERSUASIVE WRITING

Imagine you are advertising this car. Design sentences that use the following devices:

- a triple
- a rhetorical question
- a superlative
- exaggeration

Week 5
DESIGN A PRODUCT

Create a new product aimed at teenagers. It can be anything of your choice e.g. trainers, sunglasses, bicycle etc.

What will it look like? Include a simple sketch of the product.

What will it be used for and when?

How will you advertise the product to reach your audience?

Where will it be sold?

How much is the product?

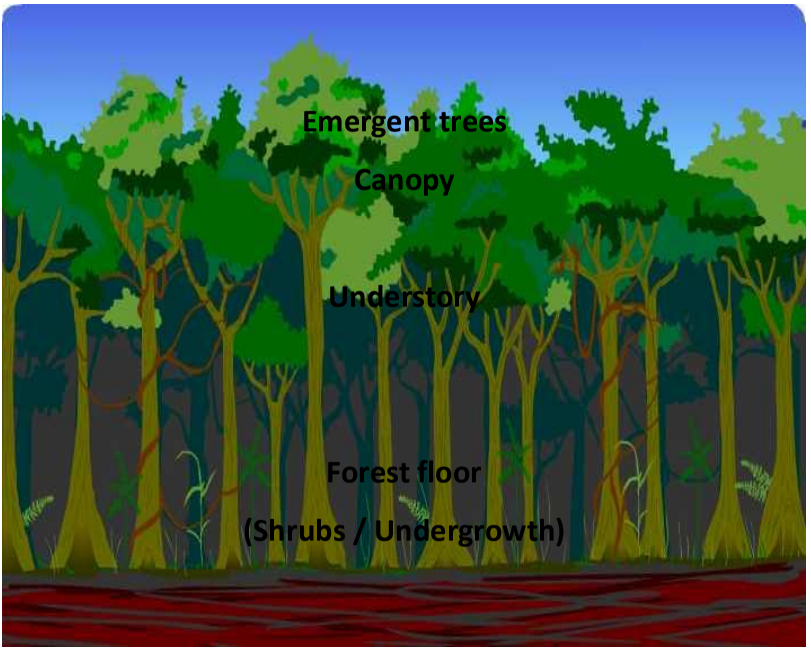
How will your advertising/sales pitch present the product? Formally/informally? Serious/light-hearted?

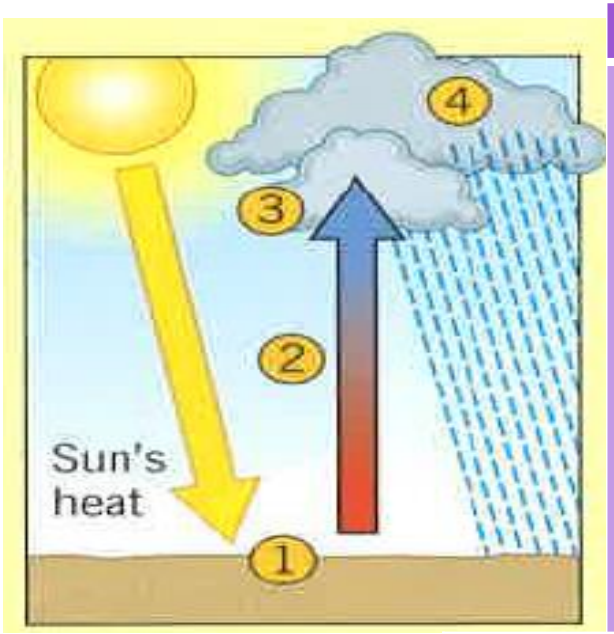
Week 6
TEAMWORK

Use the internet to research and write 10 essential teamwork skills that will help you to work successfully in your groups in order to complete your assessment task.

Rainforest structure- definitions

- **Emergent- 50m or taller. Usually supported by buttress roots.**
- **Canopy- A dense layer. Trees are 20-30m high. Many hardwood trees such as Mahogany.**
- **Understory-Dark and humid area containing saplings and shrubs.**
- **Forest floor- Covered with ferns and a deep layer of litter – fallen leaves and branches.**





Convectional rainfall

This precipitation is caused by very HOT WEATHER heating the ground:

1.Sun beats down.

2.The ground becomes very hot and heats the air above it.

3.The hot air rises = evaporates.

4.When it reaches the cool air up in the atmosphere it condenses to form clouds.

5.It rains – usually hard as this is a quick and intense process.

Services- a service or action that the biosphere provides for us e.g. the green lungs.

Year 8 Geography

Goods- things which the biosphere gives us (products) e.g. meat and fruit.

How the rainforest provides us with resources

- **Food-** Bananas, nuts, tea, coffee, palm oil. all originated in the rainforest.
- **Medicine-** Many types of medicine (more than 700) come from plants e.g. malaria (quinine). Heart conditions, diabetes, cancer (rosie periwinkle) etc.
- **Minerals-** Minerals such as gold and silver are found in rocks.
- **Materials-** Building materials such as wood- teak, mahogany.
- **Fuels-** Wood-can be burnt as a source of heat & energy.
- **Recreation-** Increasingly TRFs are exploited by travel companies bringing large groups of tourists. E.g. zip wires.

Tasks- if you complete all 5, revisit some or all from memory

Task 1: Revise the diagram of rainforest structure, then cover it and sketch the diagram from memory, (using a pencil) then self assess and add any of the layer names you have missed.
Task 2: Learn the definitions of the names of layers of the rainforest.
Task 3: Revise how the rainforest provides us with resources. Cover and then create a mind map of all the resources you can remember. Check back and add any you have missed in red pen.
Task 4: Learn the key terms for 'services' and 'goods' and then go back to your mind map from task 3 and then use 2 colours to highlight those things that are goods and those that are services. Don't forget to create a key.
Task 5: Create a flow diagram showing the 4 stages in convectional rainfall.

JUDAISM

BACKGROUND

- The Jewish people believe they are a race chosen by God to be his special people.
- Their racial identity is combined with their religious identity
- They believe their ancestor Abraham made a **COVENANT** (agreement) with God and this promise continues through them.

As we study think about…

How do these beliefs help Jews?

How do the beliefs and actions make them feel?

What links can you make with your life?

How do they express their beliefs in everyday life?

What symbols/images do they use? Why?

Can the rules be adapted for the 21st century?

Can a Jew be an atheist (someone who doesn't believe in God)?

KEY WORDS:

COVENANT	The agreement that Jews believe they have with God. He will protect them, they will worship him	TREFAH	Food that does not follow the food rules so cannot be eaten, e.g. pork
ABRAHAM	The 'father of Judaism'. He was the first man to make the Covenant with God	MEZUZAH	A prayer box found on Jewish door frames
SYNAGOGUE	The Jewish place of worship	KIPPAH	A skull cap
TALLIT	A shawl that is worn when praying	SHABBAT (SABBATH)	A day of rest and worship, from sunset Friday to sunset Saturday
KOSHER	Food that is allowed to be eaten as it keeps the Jewish food rules	CIRCUMCISION	The removal of the foreskin to show that a boy is Jewish
PASSOVER	A festival remembering how God freed the Jews from slavery	BAR/BAT MITZVAH	A rite of passage to symbolise and celebrate when a child becomes an adult
SEDER	A plate used to tell the story of Passover	TORAH	The Jewish holy book

SOME TASKS FOR YOU TO COMPLETE	*Draw a symbol for each key word*	*Create a mind map of Jewish worship. Use different colours for home and synagogue*	*Create a key word quiz or flash cards*	*Write your answers to 3 reflection questions*	*Investigate an issue in the media that involves Judaism*	*Create a poster of Jewish food rules*	*Make a list of things that make you special*

Where do they worship?
IN A SYNAGOGUE:

- A synagogue is a simple but beautiful building used by Jews as a place to pray and also to gather as a community.
- At the centre of the main room is a **Bimah** which is a stand from which the **Torah,** the holy book, is read
- The Torah is stored in an **Ark**, a special cupboard.
- There will be an eternal flame hanging above the Ark called the **Ner Tamid** to reflect God's constant presence
- The synagogue may be decorated with the **Star of David** and other images but no statues as these would offend God
- Prayers and songs are shared in **Hebrew**, the Jewish language

Where do they worship?
AT HOME:

- Jews worship by following God's rules in all aspects of their life
- They keep **Shabbat** by doing no work on that day. Instead they spend the day in worship. To mark the start of Shabbat they have a family meal where two candles are lit and bread is shared.
- Jews also keep a **kosher** house. This means they follow God's laws about food
- They may have a **mezuzah** on their door frame which contains a prayer of God's blessing

The mother prepares the house and lights the candles to represent the start of Shabbat.

During Shabbat, most Jews will not switch on electrical items, drive cars or spend money as they all reflect some form of work.

KOSHER RULES include:

- No meat with blood in it
- No meat from animals without cloven hooves (e.g. pigs)
- No shellfish
- No mixing of meat and milk

It is called 'Passover' because the Angel of Death 'passed over' the Jewish houses

'Seder' means order, as it helps to retell the story

THE FESTIVAL OF PASSOVER

- The Jews were slaves in Ancient Egypt but God sent **Moses** to rescue them and lead them to a Promised Land
- Every year Jews retell their story of freedom in the **Passover** festival
- Jewish families share a meal together and items on a **seder** plate are used to remember what happened.
- The festival encourages Jews that whatever situation they are in God knows and he has a plan to save them

ART KNOWLEDGE ORGANISER

Topic: Native American Art and Culture. Responding to Native American Art

YEAR 8
Term 3b Creating a Personal Response.

Context: Personal response

During this term, you will continue to explore the theme of 'Native American Spirit Animals' and create your own artwork in response in ceramics. You will produce your own drawings of your favourite animal and create a piece of artwork based on the spirit animal style and techniques. Your aim will be to use pattern, geometric pattern and line which capture Native America.

A personal response is 'an outcome or final task' produced to support the work and theme you have been exploring in your art lessons. This outcome is created by using materials, techniques and processes that link to your artist and your theme. Your personal response (final outcome) should link to the theme you've been working on and show a clear connection to your artist/culture and theme. It solidifies previous research and development created throughout the year as well as demonstrate the art skills and techniques you've already learnt. You will be encouraged to show more independence in your artwork this term. You will carry out your own research and select your own materials to create your final piece inspired by Native America and Spirit Animals.

Tasks to complete:

Week 1: Practice key literacy vocab 1-6 – look, cover, write, check, correct x 3. Read the sentences again and check for understanding.

Week 2: Practice key literacy vocab 7-12 – look, cover, write, check, correct x 3. Read the sentences again and check for understanding.

Week 3: Research about Native American Spirit Animals. Create an information page to support what you have learnt.

Week 4: Using the image below (labelled week 4) discuss the art work:

- What it is
- How you think it was created
- What skill set was used
- What you think about the work

Week 5: From memory, record the clay process step by step. Start with

- Rolling out your clay.

Key Literacy Vocabulary:

1: **CONTEXT:** Context refer to the meaning of an artwork
2: **UNDERSTANDING:** You will show an understanding of something when you demonstrate what you have learnt through your work.
3: **CONNECTION:** A connection is a link made between/to another person, subject or media in your work.
4: **INQUIRE:** Inquire means to investigate, by looking into and sourcing information
5: **PROCESS:** Process refers to the steps undertaken to achieve something
6: **RESPONSE: an artistic** reaction to previous work produced.
7: **EXPRESSIVE:** Expressive is when a particular thought or feeling is portrayed in a piece of artwork
8: **APPEARANCE:** Appearance refers to the way that artwork looks
9: **OBJECTIVE:** artwork that depicts easily recognizable subject matter.
10: **INERPRETATION:** Interpretation demonstrates the way that an artist has translated what they have learnt
11: **REFINE**: to develop/amend/improve your idea further.
12: **OUTCOME:** the personal response (piece of work) you produce, relating to your theme and artist.

Week 3 – Research Native American Spirit Animals. Example below.

Week 4 – Using the ceramic pot to the left. Discuss this art work, using the key points to help.

Spirit Animal examples

DESIGN TECHNOLOGY KNOWLEDGE ORGANISER

Topic: Cam Toy Project

YEAR 8 DT

My Tool Box

Pin Hammer – Used to knock panel pins and small nail into wood.

Coping Saw – Used to cut curves and internal shapes in wood.

Tenon Saw – Used to cut straight lines in wood.

Bench hook – Used to hold work in place when cutting

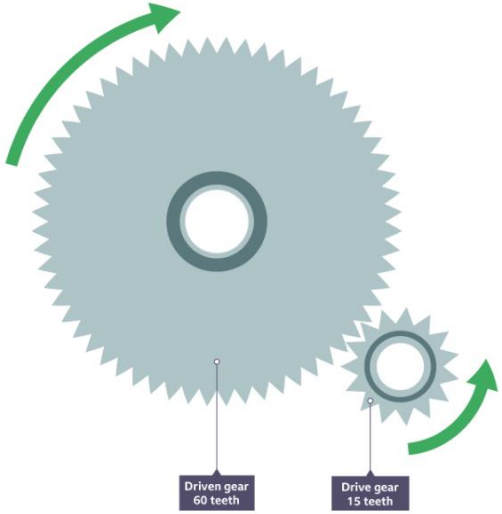
Wood Vice – Used to secure material while working on it (cutting, filing sanding etc.)

Scroll-Saw/Hegner-Saw- Used to cut complicated shapes in thin material.

Pillar/Bench Drill – Used to drill holes into different materials.

Gear trains

Gear trains are when two or more gears are joined together. In a simple gear train, the drive gear causes the driven gear to turn in the opposite direction



Smaller gears with fewer teeth turn faster than larger gears with more teeth. This difference in speed is called the gear ratio.

Gear ratio = number of teeth on driven gear ÷ number of teeth on the drive gear

Example

The driven gear has 60 teeth and the drive gear has 15 teeth.

Gear ratio = 60 ÷ 15 = 4

For each rotation of the drive gear, the driven gear would rotate four times.

Gear ratio = 4:1

This is known as gearing up. If the driven gear had 15 teeth and the drive gear had 60 teeth, the gear ratio would be 4:1 which is known as gearing down.

Key Terms

Aesthetics- how humans perceive and judge objects according to their attractiveness
Softwood - the wood from a conifer (such as pine, fir, or spruce)
Pine wood - an evergreen coniferous tree which has clusters of long needle-shaped leaves.
Manufactured Board – timber sheets which are produced by gluing wood layers or fibers together (such as MDF, Plywood and Chipboard)
Medium-density fibreboard (MDF) – an engineered wood product made from wood fibres and resin binder (glue)
Plywood – is a composite material. It is composed of individual plies/veneers of wood. It is very strong due to the way the plies are put together. The grain of each ply is positioned at ninety degrees to the pieces of ply above and below it.
Ratio - the relation between two amounts showing the number of times one value contains or is contained within the other

Tasks

Task 1: Cover the knowledge organiser then write down all the tools you have learnt. Check and red pen mistakes.
Task 2: Do the same as task 1 for Key terms & definition.
Task 3: Look around your home and list as may different products you can find that you thing use gears to function.
Task 4: Draw two tools and write what they are for.
Task 5: For the products listed in task 3, write down what the gears do in the product (what do the gears move)
Task 6: Create a mind map for the information you remember and red pen anything you've forgotten.
Task 7: Teach it. Create a task that can be used to teach some of the information from here.

To go further:

Introduction to sketchup -3D CAD

Introduction to 3D crating:

Week One

Create a mind map/spider diagram of information you remember from the topics:

- Periodic Table
- Separation Techniques
- Light
- Space

Once you have completed the mind map use your previous home learning booklets to make sure you aren't missing important information.

Week Two

Create a mind map/spider diagram of information you remember from the topics:

- Adaptation & Inheritance
- Reactivity Series
- Forces
- Cells

Once you have completed the mind map use your previous home learning booklets to make sure you aren't missing important information.

Forces and Cells have been added to this booklet.

Week Three

Read your knowledge organiser focusing on **Ecosystem processes** for 5 minutes. Then turn the organiser over and write a short summary of the topic.

The summary should include:

1. No more than 40 words
2. And should be written in full sentences.

Week Four

Pick 4 key words from the knowledge organiser page titled **Ecosystem processes.** Using those 4 key words make as many links between the words as you can.

Remember to include:

1. The 4 key words you have chosen
2. The links you have made between the words, these should be written along the arrow that connects them.

Week Five

Using your Home Learning book, make a quiz containing at least 10 questions from the topic **Ecosystem processes.**

Remember to include:

1. Answers to each question written in full sentences,
2. A variation in the type of question, Draw/state/explain etc.

Week Six

Design the ultimate predator.

You must describe any adaptations in detail, giving explanations as to why this function is useful for your predator.

You must include:

- Habitat
- Prey
- Social Interactions
- Labelled picture of your predator

WE ARE USING

TASSOMAI

Have you completed your 4 daily goals?

Complete 4 daily goals each week to ensure success in Science! 😉

Home learning tips:

1. Answer any questions in full sentences.
2. Take your time reading through your knowledge organiser.
3. Read the task twice.
4. Ask your teacher in your next lesson if you are unsure about anything.
5. Not sure which week to do? Ask your teacher!

7.1 – Forces

What do I need to be able to do?

- Understand that forces are pushes and pulls, arising from the interaction between two objects
- Identify forces associated with deforming objects; squashing & stretching, friction between surfaces, pushing things out of the way and air/water resistance
- Describe and apply Hooke's Law; the force-extension linear relationship
- Understand and describe non-contact forces; gravity forces acting at a distance, forces between magnets and static charges
- Understand and describe opposing forces and equilibrium; weight held by a stretched spring or supported on a compressed surface
- Calculate resultant force needed to make an object change speed and/or direction
- Use force arrows in one dimensional diagrams to show balanced and unbalanced forces
- Measure forces in newtons, and measure extension or compression of an object in m

1. Forces Intro

Forces are **pushes** or **pulls**, arising from the **interaction** between two objects.

Forces are measured with a **newton meter** in the unit, **Newtons (N)**

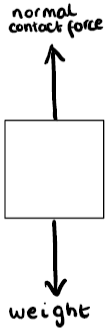
Forces can either be:
Contact forces – the two objects need to be touching for the force to be exhibited
Non-contact forces – the force is exhibited between two objects when they are not touching

Normal contact force	Contact
Tension force	
Friction	
Air Resistance	
Weight	Non-contact
Magnetism	
Electrostatics	

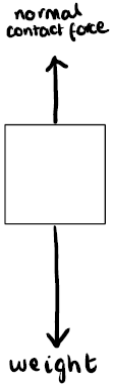
2. Free Body Diagrams

Free body diagrams model the forces acting on an object

The **arrows** show the **direction** that the force is acting in and the relative **size** of the force in comparison to the other forces on the object



These forces are equal and in opposite directions. They are balanced

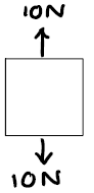


The weight force is larger than the normal contact force. They are unbalanced. The object will move in the direction of the larger force

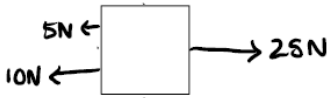
3. Resultant Force

All the forces acting on an object can be replaced with one **resultant force**

Forces acting in the **same direction** must be **added** together
Forces acting in **opposite directions** are **subtracted**



The forces in opposite directions.
10 - 10 = 0 N
No resultant force.
The forces are balanced. There is no change in speed or direction



The forces on the left are acting in the same direction. 5 + 10 = 15 N
They are acting in opposite directions to the force on the right. 25 – 15 = 10N resultant force

4. Weight

Weight is the force that acts on an object's mass due to gravity. It is measured in **Newtons (N)**

Mass is a measure of how difficult it is to change the motion of an object. It is measured in **kilograms (kg)**

Weight can be calculated using the equation:

$$W = m \times g$$

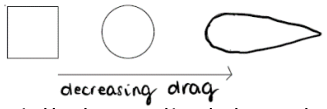
W – Weight (N)
m – mass (kg)
g – gravitational field strength (N/kg)

The gravitational field strength of the Earth is 9.81 N/kg

5. Drag & Friction

Drag forces occur as an object moves through **fluids** (liquids and gases), pushing **particles** out of the way. **Air and water resistance** are examples of drag forces.

Making the object more **streamlined** (less surface area in contact with the force) **decreases** the effect of drag forces



Friction is the force acting between two surfaces in contact with each other.

Friction **increases** with the **roughness** of the surface

6. Hooke's Law

Hooke's law states that the force applied to a spring is **directly proportional** to the extension, up to a point

The graph can be used to predict the extension of a force applied, by reading from the line of best fit

The relationship can be represented by the equation:

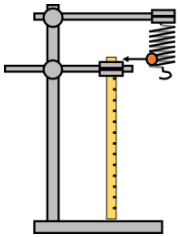
$$F = k \times e$$

F – Force (N)
k – spring constant (N/m) – measure of the stiffness of the spring
e – extension (m)

To see worked examples of the equation being used

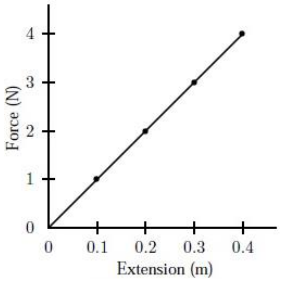
SCAN ME

7. Squashing and Stretching



1. Clamp the ruler so 0 cm is level with the fiducial marker
2. **Add 100 g mass**
3. Record the extension of the spring by reading where the fiducial marker points to on the ruler
4. **Repeat adding another 100 g mass each time**

Plot a graph of **force** added (N) – 100g is roughly equal to 1N – on the **y axis** and **extension** of the spring (m) on the **x axis**

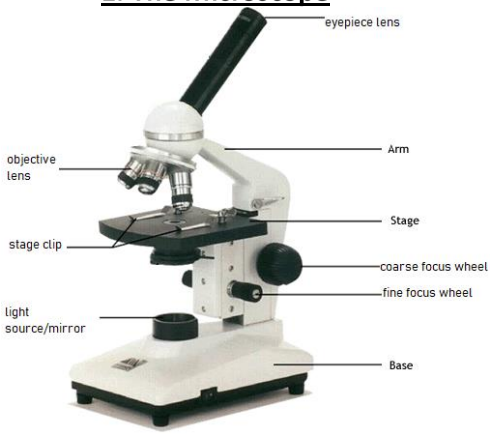


7.6 – Cells

What do I need to be able to do?

- Understand cells as the fundamental unit of living organisms
- Describe the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria, ribosomes, and chloroplasts
- Compare the similarities and differences between plant and animal cells
- Understand the role of diffusion in the movement of materials in and between cells
- Identifying areas of high and low concentration to predict the movement of particles by diffusion
- Explain the structural adaptations of some unicellular organisms
- Describe the cycles of materials and energy
- Observe, interpret, and record cell structure using a light microscope

1. The Microscope



Eyepiece lens	Magnifies the sample
Objective lens	Magnifies the sample
Stage clip	Holds the slide in place
Light source/mirror	Directs light through the sample to illuminate it
Coarse focus wheel	Brings the specimen into approximate focus
Fine focus wheel	Sharpens the focus quality of the image

2. Using the Microscope

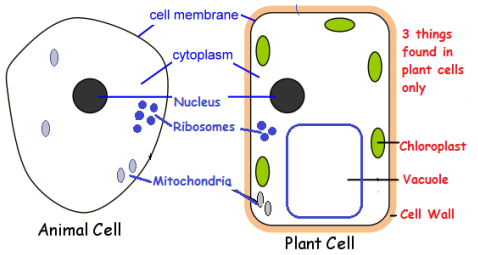
1. Carry the microscope with one hand holding the **arm** and one under the **base**
2. If necessary, plug in and turn on the microscope
3. Rotate the **nosepiece** and select the lowest power **objective lens**
4. Place the **specimen slide** onto the **stage** and clip in place
5. Look through the **eyepiece lens** and turn the **coarse focus wheel** until the specimen comes into view – take care not to get too close to the slide
6. Adjust the **fine focus wheel** until the image in view becomes clear
7. To view the specimen in more detail – rotate the nosepiece to a higher power objective lens and repeat steps 5 and 6

To calculate the total magnification of the image:
Total magnification = eyepiece lens power x objective lens power

To calculate the actual size of the specimen:
Actual size = image size ÷ total magnification

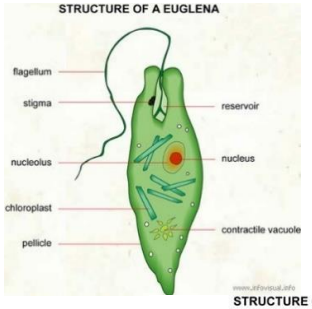
The image size (the size the specimen appears in the microscope view after magnification) can be measured using a ruler

3. Plant & Animal Cells

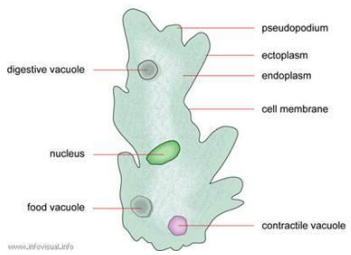


Nucleus	Contains the genetic information (DNA) that controls the activities of the cell
Cytoplasm	Gel-like substance where chemical reactions occur
Cell membrane	Controls what substances enter/leave the cell
Mitochondria	Where respiration occurs
Ribosomes	Where proteins are made
Chloroplasts	Where photosynthesis occurs
Vacuole	Filled with cell sap that keeps the cell firm
Cell wall	Supports the cell

4. Unicellular Organisms



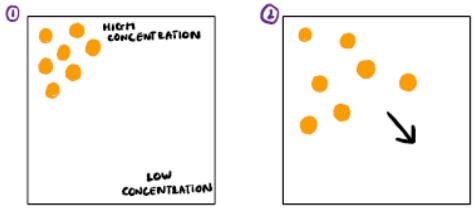
Flagellum helps the euglena to move around



An amoeba surrounds and engulfs food

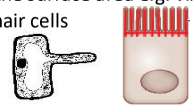
5. Diffusion

Substances enter cells from the blood stream, across the cell membrane, via **diffusion**. Substances leave cells by the same method



Hint – see 7.2 Particles & Their Behaviour

Cells are adapted to increase the efficiency of diffusion into and out of the cell by having folded membranes to increase the surface area e.g. villi epithelial cells and root hair cells



6. Respiration

Respiration is the chemical reaction in which energy is released from glucose

Aerobic Respiration	Anaerobic Respiration
Occurs in the presence of oxygen	Occurs with limited/no oxygen
Glucose + oxygen → carbon dioxide + water (+ energy)	**Animal cells:** Glucose → lactic acid (+ energy) **Plant cells and Yeast (unicellular organism):** Glucose → ethanol + carbon dioxide (+ energy)
✔ releases a lot of energy	✔ energy can be released quickly (e.g. when sprinting) and is not reliant on the delivery of oxygen to cells
✘ reliant on a constant supply of oxygen to cells	✘ releases a lot less in energy in comparison. Lactic acid causes pain and cramps

7. Specialised Cells

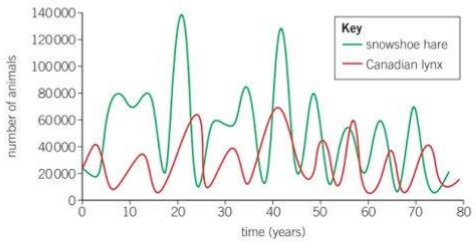
Not all plant and animal cells look like those above. Some have different features that make it better adapted to its function. They are specialised.

Cell	Diagram	Function	Features
Red Blood Cell		To transport oxygen to respiring cells	No nucleus to maximise surface area
Sperm Cell		To carry DNA to the egg cell	Lots of mitochondria 'Tail'
Palisade Cell (leaf cell)		Absorb light for photosynthesis	Lots of chloroplasts
Root Hair Cell		Absorb water and mineral ions	Large surface area Lots of mitochondria

Ecosystem Processes

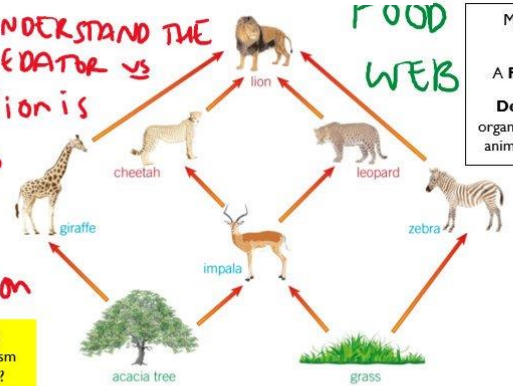
When a predator feeds on just one type of prey, there is an interdependence between the predator population and the prey population. This means that changes in the population of one directly affects the population of the other

- When the prey population (hare) increases, the predators (lynx) have more to eat. The lynx survive longer and reproduce more.
- This increases the number of predators.
- The growing predator population eats more prey. The prey numbers fall.
- Eventually there is not enough food for all the predators so their numbers decrease.
- There are now fewer lynx feeding on the hares. The hare population increases, and the cycle starts again.



YOU MUST UNDERSTAND THE ROLE OF PREDATOR VS PREY, eg- lion is predator to giraffe + giraffe is prey to lion

FOOD WEB



MOST ANIMALS EAT MORE THAN ONE TYPE OF ORGANISM.

A **FOOD WEB** (left) is a set of interlinked food chains.

Decomposers are also found in food webs. These are organisms (bacteria or fungi) that break down dead plant and animal material, releasing nutrients back into the soil/water

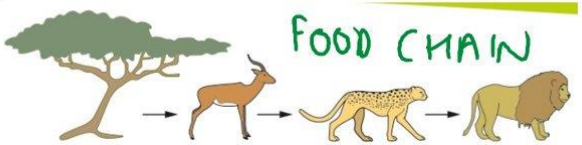
What happens if the numbers of one organism change in a food web? What is the overall effect?

Most food chains have **4 or 5** links. If there were more, too little energy would be transferred to organisms at the top of the food chain.

Roughly **10%** of energy is transferred from one level to the next. Energy is lost between levels by:

EXCRETION, EGESTION, RESPIRATION (HEAT ENERGY GIVEN OFF), MOVEMENT, NOT ALL ORGANISM CONSUMED (e.g. bones)

FOOD CHAIN



PRODUCER — PRIMARY CONSUMER — SECONDARY CONSUMER — TOP PREDATOR

ARROWS IN A FOOD CHAIN/WEB INDICATE TRANSFER OF ENERGY!

PREDATOR-PREY RELATIONSHIPS

FOOD CHAINS AND FOOD WEBS

INTERDEPENDENCE

COMPETITION

KEY VOCABULARY

ECOSYSTEMS

FOOD CHAINS AND WEBS

DISRUPTION TO

BIOACCUMULATION

WHAT DO ANIMALS COMPETE FOR?

WHAT DO PLANTS COMPETE FOR?

In a habitat there is a limited supply of resources, such as food, water and space.

Animals compete for:

1. food
2. water
3. space – to hunt and for shelter
4. mates – to reproduce.

Plants also compete for resources in their environment. Plants compete for:

1. light
2. water
3. space
4. minerals – plants do not compete for food, as they produce their own through photosynthesis.

What is an ecosystem?

An **ecosystem** is the name given to the plants and animals that are found in a particular location, and the area in which they live. These plants and animals depend on each other to survive.

A State what is meant by an ecosystem.

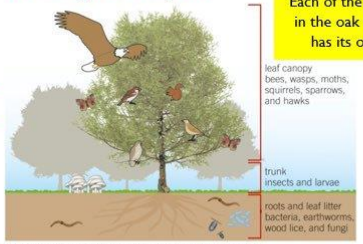
The organisms in an ecosystem are known as a **community**. The area they live in is called a **habitat**. The conditions found in a habitat are known as the **environment**. These include the air, soil, and water.

For example, in a pond ecosystem:

- habitat – pond
- community – water plants, microorganisms, insects, fish, and fish-eating birds.

The plants and animals in a community and a habitat co-exist. This means they live in the same place at the same time.

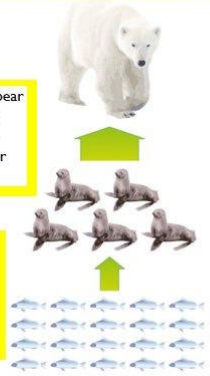
Co-existing in an ecosystem



- Roots and leaf litter – microorganisms, woodlice, and earthworms live at the base of the tree. They break down the old leaves, releasing nutrients that the tree can then absorb and use for new growth.
- Trunk – the tree trunk provides food or shelter for a number of insects and caterpillars.
- Tree canopy – many organisms live amongst the branches and leaves of the tree. For example, bees gather pollen and nectar when the tree is in blossom. Fungi may grow on the leaves. Squirrels gather acorns and moths lay their eggs. Small birds, such as sparrows, eat the moth larvae. Sparrow hawks feed on the sparrows.

Each of the organisms living in the oak tree ecosystem has its own **NICHE**.

Polar bears eat seals. One polar bear eats a lot of seals and so the insecticide accumulates to a dangerous level inside the polar bear's body.



Some insecticides are washed into rivers and end up in the sea. Fish absorb small amounts of these chemicals and store them in their body. Seals eat the fish and the insecticide build up as one seal eats lots of fish

Key Word	Definition
ADAPTATION	Characteristic that helps an organism to survive in its environment
BIOACCUMULATION	The build-up of toxic chemicals inside organisms in a food chain
COMMUNITY	The collection of the different types of organism present in an ecosystem
COMPETITION	Organisms have to make use of the same limited supply of resources available to them
DECOMPOSER	Organism that breaks down dead plant and animal material so nutrients can be recycled back to the soil or water
ECOSYSTEM	The living things in a given area and their non-living environment
ENVIRONMENT	The surrounding air, water and soil where an organism lives
FOOD CHAIN	Part of a food web, starting with a producer and ending with a top predator. The diagram shows the transfer of energy between organisms
FOOD WEB	A diagram that shows how food chains in an ecosystem are interlinked
HABITAT	The area/place where an organism lives
INTERDEPENDENCE	The way in which living organisms depend on each other to survive, grow and reproduce
NICHE	The place/role an organism has in an ecosystem
POPULATION	A group of the same species living in a particular area
PREDATOR	An animal that eats other animals
PREY	An organism that is eaten by another animal
PRODUCER	Green plant or algae that makes its own food using sunlight by the process of photosynthesis
SAMPLING	The collection of a small amount of data about a population that is used to make estimates about a whole population
SPECIES	A group of living things that have more in common with each other than with other groups. This allows them to mate to produce fertile offspring.
VARIATION	Differences within and between species

SOFTBALL

List 4 ways to be out in softball:

Game Overview

OFFENSE (BATTING): Each batter has three chances ('**strikes**') to hit the ball, which must be thrown by the Pitcher through the '**strike zone**'. If the batter hits, they run to First Base, unless the ball goes outside the Foul Lines (a '**foul ball**'), which counts as a strike (except as a third strike), or if the ball is caught in the air (an '**out**'). If they make it to first base, or beyond, before the defense throws the ball there, they are '**safe**'. Batters are entitled to proceed directly to first base (known as a '**walk**') if the Pitcher throws four bad pitches ('**balls**'), which they do not swing at, or if a pitch hits the batter.

OFFENSE (RUNNING): The player on a base is called a '**runner**'. Only one runner can be safe on each base, so they must advance if there are runners approaching behind them. A player who comes up to bat can advance the runners by hitting the ball or taking a 'walk'. If the runner is touched ('**tagged**') with the ball between the bases, they are out. Players score when they reach Home Plate safely. If the ball is hit over the fence (a '**home run**') then the batter, and all runners, proceed around to Home Plate.

DEFENSE: The defense uses a variety of techniques to try and prevent the offense from scoring. The Pitcher tries to get batters out by throwing three 'good' pitches that the batter is unable to hit. If a hit is made, the defenders try to prevent the batter from making it to first base, either by catching the ball in the air or throwing the ball to First Base before the batter reaches it. If the Batter makes it to First Base or beyond, they try to tag them with the ball between bases. Alternately, they may throw the ball to a base that a runner has been forced to advance toward by another runner behind them, getting them out. Once the defense makes three outs, they become the offense.

Strike Zone

Batting technique

True or False:
1. When playing softball ou can be caught out on a foul ball?
2.There are only 2 scoring methods in rounders
3. You can not be tagged out in softball

ROUNDERS

Simplified Rounders Rules

Teams:

1. Games played between 2 teams.
2. A team consists of a maximum of 15 and minimum of 6 players - **no more than 9 players** are allowed to be on the field at one time.
3. You don't always have to play the same team in each innings - if you have stronger batters than fielders you can only put them on to bat and let the stronger fielder's field.
4. Substitutes can be made at any point when the bowler has the ball.

Batting:

1. Wait in backward area well away from 4th base (a line is marked or if not a set of cones) until you are called up to bat.
2. **If out, wait in backward area** (behind line or cones) well away from 1st base/post.
3. When you are called, walk slowly into the batting square and position yourself anywhere in the box you choose.
4. Have your weight on your back foot/leg and hold the bat in 1 hand, holding your arm up at right angles in line with your back. Transfer your weight forwards onto your front foot as you follow through. **Batters can use 2 hands.**
5. You will have 1 good ball bowled to you.
6. When the ball is good (the umpire will NOT shout no ball) you have to run.
7. **The batter can take one step out of either side of the box** when batting to position themselves better to hit the ball.

Scoring methods

If the batter reaches the 2nd or 3rd post in one hit he scores half a rounder.
Batter reaching the 4th post in one hit scores a full rounder.
Runner reaching the 4th post on a no ball scores 1 rounder.

Batting technique

SCAN ME

Learning to Learn

SCAN ME

The 'Listen' Project #1