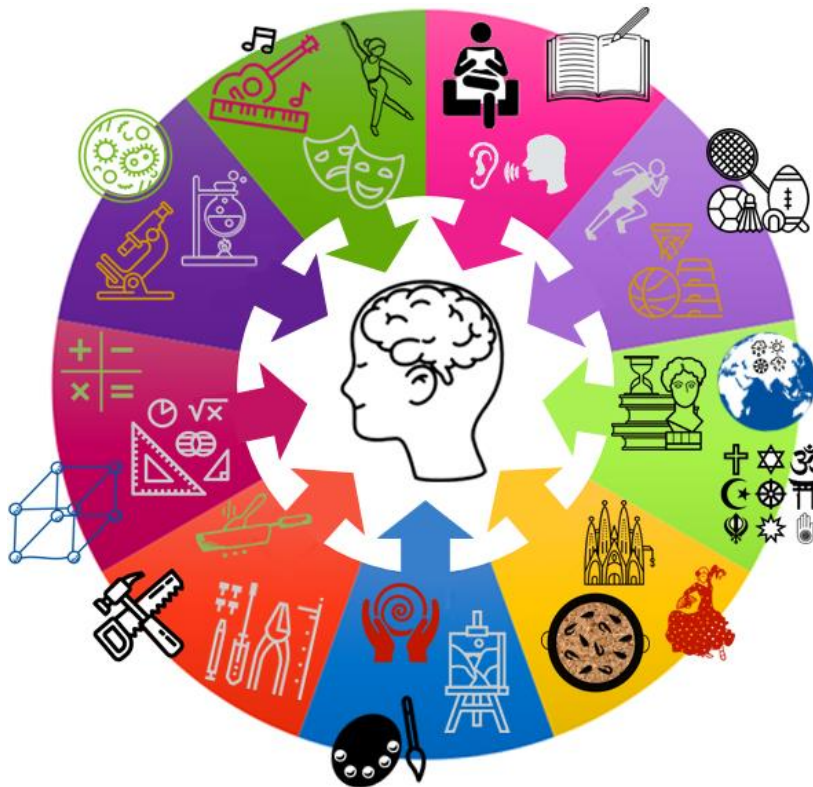


100% book – Booster

Aim to memorise 100% of the knowledge on these Knowledge Organisers.



Term 6

Swindon Academy 2022-23

Name:	
Tutor Group:	
Tutor & Room:	

*"If you are not willing to learn, no one can help you.
If you are determined to learn, no one can stop you."*

How to use your 100% book of Knowledge Organisers and Quizzable Organisers

Knowledge Organisers

Knowledge Organisers contain the essential knowledge that you **MUST** know in order to be successful this year and in all subsequent years.

They will help you learn, revise and retain what you have learnt in lessons in order to move the knowledge from your short-term memory to long-term memory.

Quizzable Knowledge Organisers

These are designed to help you quiz yourself on the essential Knowledge.

Use them to test yourself or get someone else to test you, until you are confident you can recall the information from memory.

Top Tip

Don't write on your Quizzable Knowledge Organisers! Quiz yourself by writing the missing words in your prep book. That way you can quiz yourself again and again!

Expectations for Prep and for using your Knowledge Organisers

1. Complete all prep work set in your subject prep book.
2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
3. Take pride in your prep book – keep it neat and tidy.
4. Present work in your prep book to the same standard you are expected to do in class.
5. Ensure that your use of SPAG is accurate.
6. Write in blue or black pen and sketch in pencil.
7. Ensure every piece of work has a title and date.
8. Use a ruler for straight lines.
9. If you are unsure about the prep, speak to your teacher.
10. Review your prep work in green pen using the mark scheme.

How do I complete Knowledge Organiser Prep?

Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.

The image shows the Epraise website interface. On the left is a 'Planner' for the week of 20th May to 26th May 2020, with columns for Sun, Mon, Tue, Wed, Thu, and Fri. On the right is a 'Knowledge Organiser' for 'Particle Theory'. It contains various sections: 'What is particle theory?', 'What is the law of conservation of mass?', 'What are the different states of matter?', 'What are the differences between the states of matter?', and 'What are the differences between the states of matter?'. There are also diagrams of particle arrangements for solid, liquid, and gas.

Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.

The image shows a printed page from a knowledge organiser. The date '29th May 2020' is handwritten at the top. The title 'Particle theory' is also handwritten. The page contains sections: 'A. What is particle theory?' (The theory that all matter is made up of particles), 'A. What is the law of conservation of mass?' (The Law of Conservation of Mass states that mass cannot be created or destroyed), 'B. What are the different changes of state?' (Melting, Freezing, Evaporation, Condensation), and 'What are the differences between the states of matter?' (Solid, Liquid, Gas). There are also diagrams of particle arrangements for solid, liquid, and gas.

Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.

The image shows handwritten notes on lined paper. The date '29th May 2020' is written at the top. The title 'Properties of the states of matter' is written. The notes define 'Particle theory = all matter is made of particles'. It then defines the three states: 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other Particles can slide past each other and move around.', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.

The image shows handwritten notes on lined paper. It repeats the definitions of the three states of matter: 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other Particles can slide past each other and move around.', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

Step 5

Open your quizzable Knowledge Organiser. Write the missing words from your quizzable Knowledge organiser in your prep book.

The image shows a printed page from a quizzable knowledge organiser. The date '29th May 2020' is handwritten at the top. The title 'Particle theory' is also handwritten. The page contains sections: 'A. What is particle theory?' (The theory that all matter is made up of particles), 'A. What is the law of conservation of mass?' (The Law of Conservation of Mass states that mass cannot be created or destroyed), 'B. What are the different changes of state?' (Melting, Freezing, Evaporation, Condensation), and 'What are the differences between the states of matter?' (Solid, Liquid, Gas). There are also diagrams of particle arrangements for solid, liquid, and gas. The handwritten answers are: 'Self quizzing', 'Arrangement/movement of matter', 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other Particles can slide past each other and move around.', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.

The image shows handwritten notes on lined paper. It repeats the definitions of the three states of matter: 'Particle theory = all matter is made of particles', 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other Particles can slide past each other and move around.', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'. There are checkmarks next to the definitions, indicating they are correct.

Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.

KS4 MACBETH Foundation

1. Context		
<p>Playwright: Shakespeare (April 23rd 1564-April 23rd1616) Dates: written around 1606 Published: in 'the First Folio, 1623 Era: Jacobean Genre: Tragedy = <i>A play ending with the suffering and death of the main character.</i> Set: Scotland, Structure: Five Act Play</p>		<p>Macbeth. The plot is partly based on fact. Macbeth was a real 11th Century king who reigned Scotland from 1040-1057. Shakespeare's version of the story originates from the Chronicles of Holinshed (a well known historian). The play was most likely written in 1606 – the year after the Gunpowder Plot of 1605 – and reflects the insecurities of Jacobean politics.</p>
<p>The Divine Right of Kings says that a monarch is not subject to earthly authority and that they have the right to rule directly from the will of God. It implies that only God can judge an unjust king and that any attempt to depose, dethrone or restrict his powers runs contrary to the will of God and may constitute a sacrilegious act. The action of killing a king is called regicide and is considered a terrible crime.</p>		<p>King James I of England (and VI of Scotland) came to the throne in 1603 following the death of Queen Elizabeth I. The play pays homage to the king's Scottish lineage. The witches' prophecy that Banquo will found a line of kings is a clear nod to James' family's claim to have descended from the historical Banquo. James was convinced about the reality of witchcraft and its great danger to him leading to witch trials. The play is probably not written simply to please James, but certainly looks at relevant ideas.</p>
<p>Shakespearean Tragedy. Macbeth is one of Shakespeare's tragedies and follows specific conventions. The climax must end in a tremendous catastrophe involving the death of the main character; the character's death is caused by their own flaw(s) (hamartia) yet the character has something the audience can identify with.</p>		<p>The Great Chain of Being was a belief in a strict religious hierarchy (see key vocabulary) of all things which was believed to have been decreed by God. This idea was important in Elizabethan and Jacobean beliefs. The chain starts from God and progresses downward to angels, demons (fallen/renegeade angels), stars, moon, kings, princes, nobles, commoners, wild animals, domesticated animals, trees, other plants, precious stones, precious metals, and other minerals.</p>
Conventions of a Shakespearean Tragedy		
<p>A tragic hero who falls from greatness through a flaw of their own character.</p>	<p>Hamartia – the flaw in the tragic hero that destroys them.</p>	<p>A hero of status – the central characters are people of importance, with power and status to lose.</p>
<p>External conflict – his tragedies feature conflict between characters, and always lead to death.</p>	<p>Internal conflict – there are frequent moments of self-doubt or internal torment.</p>	<p>Supernatural elements – Many of Shakespeare's tragedies feature supernatural influences.</p>

2. Key Characters	
<p>Macbeth: The eponymous protagonist is the tragic hero of this play. He is both ambitious and ruthless. He falls from loyal and respected warrior to a paranoid, tyrannical king, before dying in battle in Act V.</p>	
<p>Lady Macbeth: A strong, ambitious and manipulative woman who exerts pressure on Macbeth to pursue his ambition of becoming king by murdering Duncan. Unable to deal with the guilt of these actions and is driven to madness and suicide.</p>	
<p>The Witches / Weird Sisters: Supernatural and manipulative beings who seem to be able to predict the future. They are unearthly and omniscient.</p>	
<p>Banquo: Macbeth's close friend and ally is astute and loyal. Macbeth sees him as a threat. He is virtuous, admired by audiences, and mistrustful of the supernatural witches.</p>	
<p>Duncan: King of Scotland at the beginning of the play. He is a virtuous, strong and respected leader, held up as the model of good kingship by others in the play. He is murdered by Macbeth in Act 2.</p>	
<p>Macduff: A soldier who is loyal to Duncan and is suspicious of Macbeth. His family is murdered by Macbeth's soldiers, and he eventually exacts revenge by killing Macbeth. He was born by caesarian section and therefore was "not of woman born".</p>	
<p>Malcolm: Duncan's son and next in line to the throne. He is described as a good man in the play.</p>	

3. Central Themes	
<p>Ambition</p>	<p>The play is about the corrupting power of ambition. Both Lady Macbeth and Macbeth are urged to action by the prophecies of the witches, but they still commit their crimes themselves because they want greater power. Their ambition leads them to violence and death.</p>
<p>Kingship and Tyranny</p>	<p>The play contrasts the kind and wise rule of Duncan, who is described as a virtuous (good) king, with the brutal rule of Macbeth, who quickly becomes called a tyrant. The play shows how Macbeth has no divine right to rule and upsets the natural order by killing Duncan.</p>
<p>Order and Disorder</p>	<p>The play subverts the natural order of the world. Macbeth's actions are based on a supernatural belief in a prophecy. It depicts an anarchic world: Macbeth inverts the order of royal succession; his wife inverts the patriarchal hierarchy; the unnatural world disrupts the natural. The disruption underpins the conflict that is not only external and violent but internal as Macbeth and his wife come to terms with what they've done.</p>
<p>Appearance and Reality</p>	<p>Characters in the play are often not what they seem. Lady Macbeth and Macbeth are duplicitous towards Duncan, the witches equivocate (not say what they really mean) and cannot be trusted, Lady Macbeth seeks to manipulate Macbeth.</p>

4. Key Vocabulary	
Ambition	A desire to achieve something e.g. Macbeth and kingship
Hubris	Having excessive pride or self-confidence
Tyrant	A ruler who rules through fear and violence
Corrupt	Acting dishonestly <i>OR</i> being in a state of decay
Patriarchal	A society where power is in the hands of men
Duplicitous	Lying and being false. Two-faced. Deceitful
Façade	A false front, mask or illusion. Hiding one's true feelings
Prescient	Having knowledge of things before they happen – the witches
Nihilistic	The belief that everything is meaningless
Courageous	Being very brave
Supernatural	Things that are not a part of the natural world
Fate	Events being already decided and out of a person's control
Treachery	Betraying someone's trust
Regicide	The killing of a king

5. Key Terminology, Symbols and Devices	
Motif	A recurring image or idea that has symbolic importance. The best example in Macbeth would be blood.
Soliloquy	When a character is alone on stage and speaks their thoughts aloud to themselves.
Iambic Pentameter	A line of a play or poem that has ten syllables organised into five pairs of syllables, where the second in each pair is emphasised. e.g. "When you durst <i>do it then you were a man</i> "
Foreshadowing	When a hint or warning is given about a later event.
Dramatic Irony	When a character is unaware of something that the audience is aware of, so they don't know the full significance of their words.
Symbolism	When something symbolises a set of ideas e.g. "The raven himself is hoarse" – raven symbolic of death, supernatural.
Aside	When a character pauses in a conversation to speak only to the audience or another character, unheard by the rest.

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	A ruler who rules through fear and violence
	Acting dishonestly <i>OR</i> being in a state of decay
	A society where power is in the hands of men
	Lying and being false. Two-faced. Deceitful
	A false front, mask or illusion. Hiding one's true feelings
	Having knowledge of things before they happen – the witches
	The belief that everything is meaningless
	Being very brave
	Things that are not a part of the natural world
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	Betraying someone's trust
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<p>Foreshadowing</p>	<p>When a hint or warning is given about a later event.</p>
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<p>Symbolism</p>	<p>When something symbolises a set of _____ e.g. "The raven himself is hoarse" – raven symbolic of death, supernatural.</p>
<p>Aside</p>	<p>When a character pauses in a conversation to speak only to the audience or another character, unheard by the rest.</p>



Science Topic B1.1 Cell biology



What we are learning this term:	A	What are the names and functions of animal and plant sub-cellular structures?	
A. Animal & plant cells B. Eukaryotes & prokaryotes C. Cell specialisation D. Cell differentiation E. Microscopy	Structure	Function	Found in...
	Nucleus	Controls the cell & contains genetic information	Animal & plant
	Cell membrane	Controls movement in & out of the cell	Animal & plant
	Cell wall	Supports the cell. Made of cellulose	Plant
	Cytoplasm	Jelly-like substance where chemical reactions take place	Animal & plant
5 Key Words for this term	Mitochondria	Respiration, to release energy	Animal & plant
1. Eukaryotic 2. Prokaryotic 3. Differentiation 4. Magnification 5. Resolution	Chloroplast	Photosynthesis, to produce glucose	Plant
	Vacuole	Filled with cell sap, keeps cell turgid	Plant
	Ribosome	Protein synthesis	Animal & plant

B Compare eukaryotic and prokaryotic cells			C How are these cells specialised?		
Feature	Eukaryotic	Prokaryotic	Cell	Animal or plant	Specialised features
DNA	In nucleus	Single loop DNA & plasmids	Sperm cell	Animal	Tail to swim. Pointed head, containing acrosome. Lots of mitochondria.
Cytoplasm	Yes	Yes	Nerve cell	Animal	Long. Branched ends (dendrites). Fatty sheath to insulate axon.
Cell membrane	Yes	Yes	Muscle cell	Animal	Layers of protein filaments for contraction. Lots of mitochondria.
Cell wall	No	Yes	Root hair cell	Plant	Large surface area. Thin walls.
Size	Larger	Smaller	Xylem cells	Plant	Continuous. Thickened & woody.
			Phloem cells	Plant	Companion cells have lots of mitochondria.



Science Topic B1.1 Cell biology



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A. Animal & plant cells B. Eukaryotes & prokaryotes C. Cell specialisation D. Cell differentiation E. Microscopy	Structure	Function	Found in...	
	Nucleus			
	Cell membrane			
	Cell wall			
	Cytoplasm			
5 Key Words for this term	Mitochondria			
1. Eukaryotic 2. Prokaryotic 3. Differentiation 4. Magnification 5. Resolution	Chloroplast			
	Vacuole			
	Ribosome			

B	Compare eukaryotic and prokaryotic cells		C	How are these cells specialised?	
Feature	Eukaryotic	Prokaryotic	Cell	Animal or plant	Specialised features
DNA			Sperm cell		
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Cell membrane			Muscle cell		
Cell wall			Root hair cell		
Size			Xylem cells		
			Phloem cells		



Science Topic B1.1 Cell biology



What we are learning this term:

- A. Animal & plant cells
- B. Eukaryotes & prokaryotes
- C. Cell specialisation
- D. Cell differentiation
- E. Microscopy

E Define magnification

The number of times larger an image is than the original specimen.

E Define resolution

The minimum distance at which two distinct points of a specimen can still be seen.

E

What is the formula for magnification?

$$\text{magnification} = \frac{\text{size of image}}{\text{real size of image}}$$

D

When does differentiation occur for most types of animal cells?

At early development

D

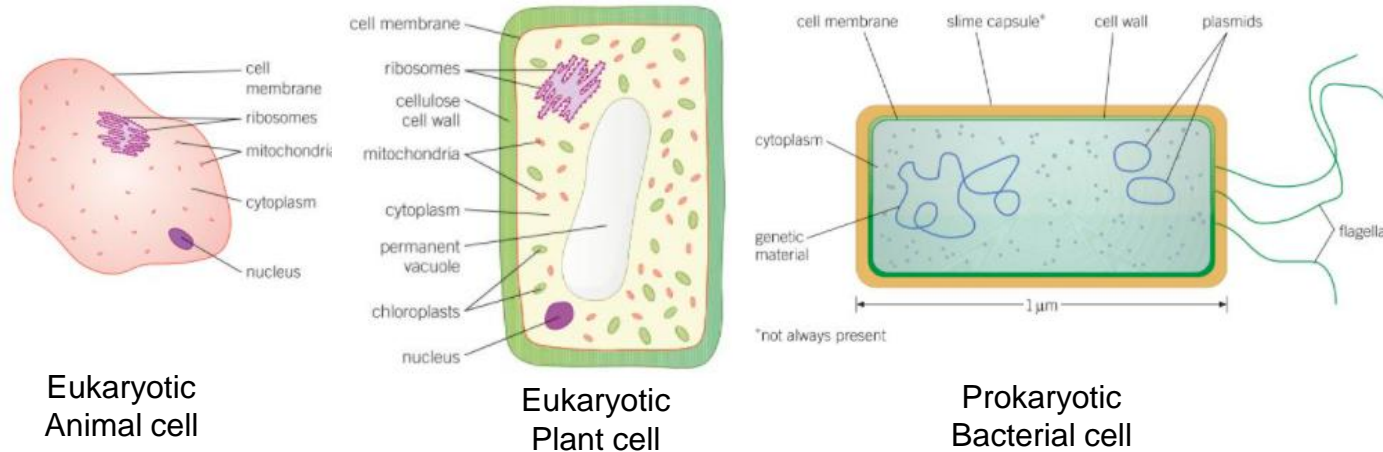
When does differentiation occur for most types of plant cells?

Throughout the lifetime of the plant

D

In multicellular animals, what is cell division required for?

- Growth or repair
- To replace cells



E

Compare light and electron microscopes

Feature	Light	Electron
Radiation used	Light waves (visible light)	Electron beams
Magnification	Lower magnification (~ 1500 times)	Greater magnification (~ 2 000 000 times)
Resolution	Larger resolution (200nm)	Smaller resolution (0.2nm)
Size & cost	Smaller & portable. Cheaper.	Very large & not portable. Very expensive.



Science Topic B1.1 Cell biology



What we are learning this term:

- A. Animal & plant cells
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E

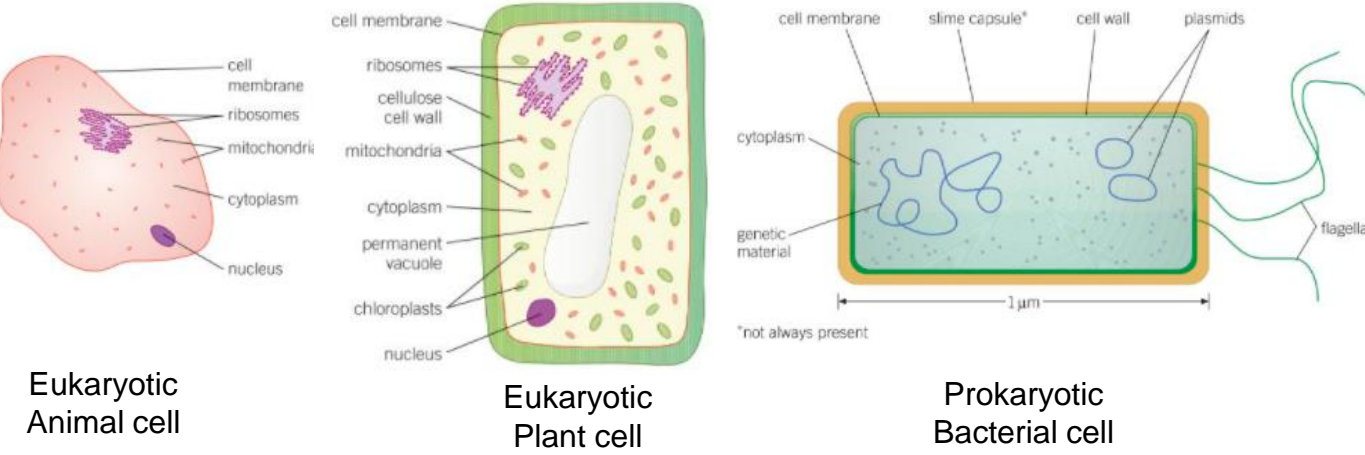
Define magnification

E

Define resolution

E

What is the formula for magnification?



Eukaryotic Animal cell

Eukaryotic Plant cell

Prokaryotic Bacterial cell

D

When does differentiation occur for most types of animal cells?

D

When does differentiation occur for most types of plant cells?

D

In multicellular animals, what is cell division required for?

-
-

E

Compare light and electron microscopes

Feature	Light	Electron
Radiation used		
Magnification		
Resolution		
Size & cost		



Science Topic = C1.1 Atomic Structure



What we are learning this term:
<ul style="list-style-type: none"> A. Atoms, elements and compounds B. Mixtures and separation C. Development of the atomic model D. Structure of the atom E. Electronic structure

6 Key Words for this term
<ul style="list-style-type: none"> 1. Isotopes 2. Protons 3. Ionisation 4. Aqueous 5. Residue

B.	What is a mixture?
-----------	---------------------------

A mixture consists of two or more elements or compounds not chemically combined.

What properties do mixtures have?
--

Each substance in the mixture will have the same chemical properties

How are mixtures separated?	
------------------------------------	--

By physical methods:	Filtration
Crystallisation	Simple Distillation
Fractional Distillation	Chromatography

Are new substances made?	
---------------------------------	--

No new substances are made

A.	What is Conservation of Mass
-----------	-------------------------------------

Atoms are not created or destroyed in a reaction

A.	What are atoms?		
-----------	------------------------	--	--

All substances are made of atoms. An atom is the smallest part of an element that can exist

What are elements?	What are compounds?
---------------------------	----------------------------

An element is a substance made of one type of atom

Compounds contain two or more elements chemically combined

How are elements represented?	How are compounds represented?
--------------------------------------	---------------------------------------

By a chemical symbol.

By the symbols of the atoms that formed them

Example: Sodium	Na	Example: Sodium Chloride	NaCl
------------------------	----	---------------------------------	------

How many elements are there?	How can compounds be separated?
-------------------------------------	--

There are about 100, all shown on the periodic table

By chemical reactions only

A.	What are word equations?		
-----------	---------------------------------	--	--

These show the names of each substance that is involved in a chemical reaction. The reactants are shown on the left. The products are shown on the right.



What are symbol equations?			
-----------------------------------	--	--	--

The chemical formulae (symbols) of the reactants and products show what happens in a chemical reaction

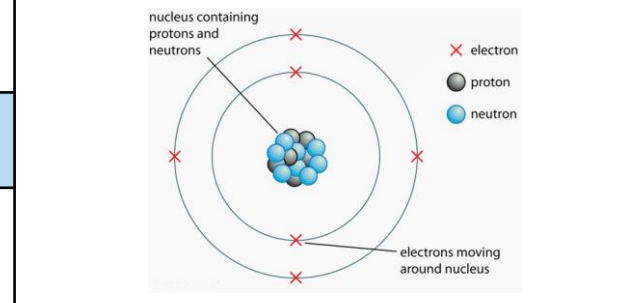


D.	What are subatomic particles?	Where are each subatomic particles found?
-----------	--------------------------------------	--

The particles that make up atoms

Name the 3 subatomic particles	
---------------------------------------	--

Protons, neutrons and electrons





Science Topic = C1.1 Atomic Structure



C. Development of the Atomic Model – How was our current atomic model developed?					
Person/Time	Democritus (400BC) Dalton (1803)	JJ Thomson (1898)	Ernest Rutherford (1909)	Niels Bohr (1913)	James Chadwick (1932)
Ideas/model	<ul style="list-style-type: none"> Small indivisible matter Tiny hard spheres. 	Plum Pudding model <ul style="list-style-type: none"> Sphere of positive charge with negative charged particles spread throughout (like plums in a pudding) 	<ul style="list-style-type: none"> Alpha particle scattering experiment Proved that mass of atoms found in the centre – nucleus Negative electrons surround the positive nucleus 	<ul style="list-style-type: none"> Electrons are restricted to certain orbits like planets round the sun 	<ul style="list-style-type: none"> Discovered the neutron
Diagram					
Contribution to current model:	Everything is made of atoms	Negative electrons	Positive mass in the centre surrounded by negative electrons	Electrons orbit in shells/orbitals at specific distances	Neutrons found in nucleus along with protons

D.	How big are atoms?
0.1nm (1 x 10 ⁻¹⁰ m)	
How big is the radius of an atom?	
1/10000 the size of the atom – 1x10 ⁻¹⁴ m	

D.	What is relative mass and charges of the subatomic particles?	
	Relative Mass	Relative Charge
Subatomic particle		
Proton	1	+1
Neutron	1	0
Electron	1/2000	-1

D.	What is the overall charge of an atom?
Atoms have no charge	
No of protons = no of electrons	

D.	How do we know how many subatomic particles are in each element?	
C	12 ← Mass Number	6 ← Atomic Number
	What is Mass number?	
	Number of protons and neutrons	
	What is atomic number?	
	Number of protons – same for each individual element	

D.	How can we know what element we have?
Each element has a unique number of protons	
What is an isotope?	
An isotope is a substance with the same number of protons but different number of neutrons	

D.	What is relative atomic mass of an element?
An average value that takes account of the abundance of the isotopes of an element	

E.	Which energy level do electrons fill first?	
Electrons in an atom occupy lowest energy level first		
How many electrons does each orbital hold?		
First	Up to 2	
Second	Up to 8	
Third	Up to 8	

Electronic structure of Sodium:	
	2,8,1



Science Topic = C1.1 Atomic Structure



What we are learning this term:

- A. Atoms, elements and compounds
- B. Mixtures and separation
- C. Development of the atomic model
- D. Structure of the atom
- E. Electronic structure

6 Key Words for this term

- 1. Isotopes
- 2. Protons
- 3. Ionisation
- 4. Aqueous
- 5. Residue

B. What is a mixture?

What properties do mixtures have?

How are mixtures separated?

Are new substances made?

A. What is Conservation of Mass

A. What are atoms?

What are elements?

What are compounds?

How are elements represented?

How are compounds represented?

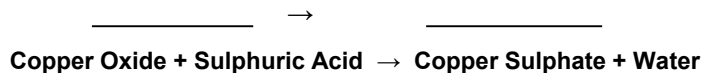
Example: Sodium

Example: Sodium Chloride

How many elements are there?

How can compounds be separated?

A. What are word equations?



What are symbol equations?

D. What are subatomic particles?




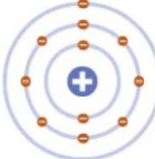
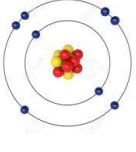
Where are each subatomic particles found?

Name the 3 subatomic particles



Science Topic = C1.1 Atomic Structure



C. Development of the Atomic Model – How was our current atomic model developed?					
Person/Time	Democritus (400BC) Dalton (1803)	JJ Thomson (1898)	Ernest Rutherford (1909)	Niels Bohr (1913)	James Chadwick (1932)
Ideas/model					
Diagram					
Contribution to current model:					

D.	How big are atoms?
How big is the radius of an atom?	

D.	What is relative mass and charges of the subatomic particles?	
Subatomic particle	Relative Mass	Relative Charge
Proton		
Neutron		
Electron		

D.	What is the overall charge of an atom?

D.	How do we know how many subatomic particles are in each element?	
C	12 ← Mass Number	What is Mass number?
	6 ← Atomic Number	What is atomic number?

D.	How can we know what element we have?
What is an isotope?	

D.	What is relative atomic mass of an element?

E.	Which energy level do electrons fill first?	
How many electrons does each orbital hold?		
First		
Second		
Third		

Electronic structure of Sodium:



Science Topic P1.1 Energy



What we are learning this term:
A. Energy stores and transfer between energy stores
B. Work done
C. Gravitational potential energy
D. Kinetic energy and elastic energy stores
E. Wasted energy and Dissipation
F. Energy efficiency

6. Key Words for this term
1. Dissipate
2. Generation
3. Efficiency

A.	What are the changes in energy stores for the following objects?
An arrow being thrown directly up into the air	From kinetic to gravitational potential. As it comes back down, the opposite is true.
A toy car (with battery) hitting a wall head on	Energy is transferred from chemical to kinetic to vibrational in sound and heat.
A car accelerating	Energy is transferred from the chemical energy from the petrol/diesel to kinetic energy.
A bike slowing down	Energy is transferred from kinetic to heat.
Water boiling in an electric kettle	Energy is transferred from electrical to heat.

A.	What is a system?
It is an object or group of objects	

A.	What is the law of conservation of energy?
Energy cannot be created or destroyed, just changed in form.	

A.	Theoretically, if a roller-coaster has 20000 J of GPE at the top of the slope, how much KE will it have gained when it reaches the bottom?
20000 J, assuming non is lost by air resistance/friction	

A.	What are the 8 energy stores?
1. Chemical	5. Gravitational potential (GPE)
2. Kinetic (KE)	6. Thermal (internal)
3. Magnetic	7. Elastic potential
4. Nuclear	8. Electrostatic

A.	What is the energy store of a person on a bungee jump?
Whilst the rope is slack, energy is transferred form GPE to KE. As the rope tightens, the jumpers KE store decrease but the ropes elastic potential energy store increases. They stop when all the KE store is stored as elastic potential energy.	

B.	What is work?
When energy is transferred, work is done.	
What is the link between work and energy?	
Work done = energy transferred	
If the units for energy are -joules, what are the units for work done?	
-joules (J)	

A.	What is the energy transfer from the sun, to solar panel to light bulb?
Sun → solar panel → lightbulb.	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">store of nuclear energy in <u>sun</u></div> → <div style="border: 1px solid black; padding: 5px; display: inline-block;">energy transferred to <u>light bulb</u> by electric current</div> → <div style="border: 1px solid black; padding: 5px; display: inline-block;">energy transferred to <u>surroundings</u> by heating and light waves</div>	

B.	If a person uses 300 J of energy pushing a bike, what is the work done?
300 J	

B.	What is the equation for work done?
Work done = force x distance moved	
Force is measured in newtons (N)	
Distance is measures in meters (m)	
Work done is measured in joules (J)	

B.	If a person pushes a trolley with force of 800 N and moves it down a 50 m isle, how much work has been done by the person?
Work done = 800 x 50 = 4000 J or 4 kJ	

B.	A crane lifts 400 N crate full of coca cola 15 m. How much work was done by the crane?
Work done = 400 x 15 = 6000 J or 6 kJ	



Science Topic P1.1 Energy



What we are learning this term:

A. Energy stores and transfer between energy stores
 B. Work done
 C. Gravitational potential energy
 D. Kinetic energy and elastic energy stores
 E. Wasted energy and Dissipation
 F. Energy efficiency

6. Key Words for this term

1. Dissipate
 2. Generation
 3. Efficiency

A.	What are the changes in energy stores for the following objects?
An arrow being thrown directly up into the air	
A toy car (with battery) hitting a wall head on	
A car accelerating	
A bike slowing down	
Water boiling in an electric kettle	

A. What is a system?

A. What is the law of conservation of energy?

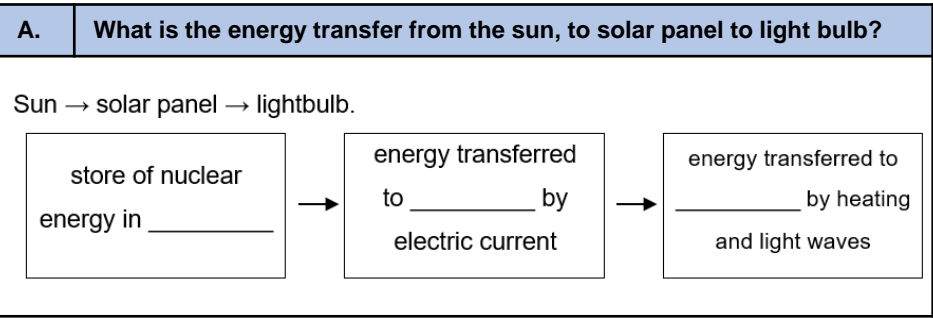
A. Theoretically, if a roller-coaster has 20000 J of GPE at the top of the slope, how much KE will it have gained when it reaches the bottom?

A. What are the 8 energy stores?	
1. _____	5. _____
2. _____	6. _____
3. _____	7. _____
4. _____	8. _____

A. What is the energy store of a person on a bungee jump?

B. What is work?

What is the link between work and energy?



B. If a person uses 300 J of energy pushing a bike, what is the work done?

300 J

If the units for energy are –joules, what are the units for work done?

-joules (J)

B. If a person pushes a trolley with force of 800 N and moves it down a 50 m isle, how much work has been done by the person?

B. What is the equation for work done?

_____ is measured in _____
 _____ is measured in _____
 _____ is measured in _____

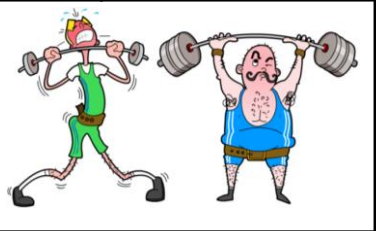
B. A crane lifts 400 N crate full of coca cola 15 m. How much work was done by the crane?



Science Topic P1.1 Energy



B. Who is doing the most work in these images and why?



The bodybuilder on the right is doing the most work. This is because work done depends on force and the one on the right is lifting a larger force.



The fireman on the left is doing the most work. This is because work done depends on distance and the fireman on the left has travelled a longer distance.

B. Why, when work is done, isn't all the energy transferred?

Some is lost in heat and sound.

Compare a glass block being pushed 1 m across a polished floor with a wooden block being pushed 1 m across a rubber floor. Which needs more force and why? Which is more work done?

For the glass block, most of the energy will be transferred into kinetic energy, so only a small force is needed. For the wooden block, most of the energy will be transferred into heat, so a large force is needed. More work is done on the wooden block as more energy is transferred to heat rather than KE.

C. What is the equation to calculate gravitational potential energy (GPE)?

GPE = mass × gravitational field strength × height
 Mass, m is measured in kilograms (kg)
 Gravitational field strength, g, is measured in newtons per kilogram (N/kg), usually taken as 10 N/kg on Earth.
 Height, h, is measured in metres (m).
 GPE is measured in joules (J).

A bird with a mass of 3 kg flies at a height of 150 m about the ground, how much GPE does it have?

$$GPE = 3 \text{ kg} \times 10 \text{ N/kg} \times 150 \text{ m} = 4500 \text{ J or } 4.5 \text{ kJ}$$

D. What is the equation for kinetic energy?

KE = ½ × mass × velocity²
 $= \frac{1}{2}mv^2$
 Mass is measured in kilograms (kg).
 Velocity is measured in metres per second (m/s).
 KE is measured in joules (J).

If a car with a mass of 1750 kg is travelling at a velocity of 30 m/s, what is the KE of the car?

$$KE = \frac{1}{2} \times 1750 \text{ kg} \times 30^2 = 787,500 \text{ J or } 787.5 \text{ kJ}$$

D. What is the equation for elastic potential energy?

EPE = ½ spring constant × extension²
 EPE is measured in joules (J)
 Spring constant is measured in Newtons per metre (N/m)
 Extension is measured in Meters (m)

If a spring has a spring constant of 25 N/m and the extension is 0.2 m, what is the EPE?

$$EPE = \frac{1}{2} \times 25 \text{ N/m} \times 0.2^2 = 0.5 \text{ J}$$

D. What happens to energy that is not usefully used?

It spreads out to the surrounding in many forms, this is called dissipated energy.

Are the following useful or wasteful; energy transfers:
 Heater: heat, car: sound, heater: light, television: light, car: heat, car: kinetic, television: sound, television: heat?

Useful
 Heater: heat
 heater: light
 car: kinetic
 television: sound

Wasteful
 car: sound
 television: light
 car: heat
 television: heat

F. What is energy efficiency?

All devices waste energy, so no device is perfectly efficient. The more efficient a device is, the less energy is wasted.

Why is energy efficiency so important?

It saves money and the planet as it uses less energy, so uses less fossil fuels.

How do you calculate energy efficiency?

$$\text{energy efficiency} = \frac{\text{useful output energy}}{\text{total input energy}}$$

C. How is power calculated?

Power (Watts, W) = energy transferred (Joules, J)/time taken (seconds, s)

If a student did 2000 J of work walking up the stairs and I took 10 seconds, what is the power?

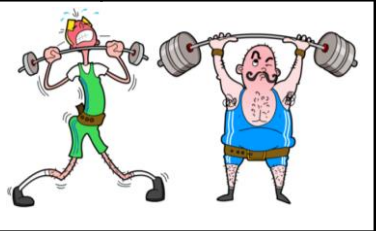
$$P = 2000 \text{ J} / 10 \text{ s} = 200 \text{ W}$$



Science Topic P1.1 Energy



B. Who is doing the most work in these images and why?



B. Why, when work is done, isn't all the energy transferred?

Compare a glass block being pushed 1 m across a polished floor with a wooden block being pushed 1 m across a rubber floor.
Which needs more force and why?
Which is more work done?

C. What is the equation to calculate gravitational potential energy (GPE)?

_____ is measured in _____
_____ is measured in _____, usually taken as 10 N/kg on Earth.
_____ is measured in _____
_____ is measured in _____

A bird with a mass of 3 kg flies at a height of 150 m about the ground, how much GPE store does it have?

D. What is the equation for kinetic energy?

If a car with a mass of 1750 kg is travelling at a velocity of 30 m/s, what is the KE of the car?

D. What is the equation for elastic potential energy?

If a spring has a spring constant of 25 N/m and the extension is 0.2 m, what is the EPE?

D. What happens to energy that is not usefully used?

Are the following useful or wasteful; energy transfers:
Heater: heat, car: sound, heater: light, television: light, car: heat, car: kinetic, television: sound, television: heat?

Useful

Wasteful

F. What is energy efficiency?

Why is energy efficiency so important?

How do you calculate energy efficiency?

C. How is power calculated?

If a student did 2000 J of work walking up the stairs and I took 10 seconds, what is the power?

Geography Knowledge Organiser: Year 10 OCR – Ecosystems of the Planet



Background:

1. An ecosystem is a community of things that are linked together to make up a type of environment. **(A, B, E)**
2. An ecosystem contains biotic (living) and abiotic (non-living) parts. **(B)**
3. The climate of an ecosystem is very important as it influences what you will find there. **(C, D)**
4. The main world biomes can be found in specific parts of the world, they have very different climatic conditions & features. **(C, D)**
5. Ecosystems have cycles that are interdependent on one another **(E)**
6. The location of the major tropical rainforests are found between 0-25°N/S of the equator **(F)**
7. The location of the major warm water coral reefs are found between 0-30°N/S of the equator **(G)**

A. Classification of ecosystem (4)

Ecosystem	A community of things linked together in an environment.
Biome	An ecosystem on a large scale that covers parts of continents and whole countries.
Habitat	A place where plants and animals live. Example: a pond, or hedgerow.
Biodiversity	The amount of variety of life there is in a place.

B. Features of an ecosystem (3)

Biotic	The living parts of an ecosystem. Examples: plants, animals, humans.
Abiotic	The non-living parts of an ecosystem. Examples: soil, climate, river.
Food chain	A diagram that shows what is eating what in an ecosystem.

C. Major global biomes (5)

Tundra (2)	<ol style="list-style-type: none"> 1. Found between 60- and 70-degrees N and S of the equator 2. A cold ecosystem, little rainfall.
Hot desert (2)	<ol style="list-style-type: none"> 1. Found along the Tropic of Cancer and the Tropic of Capricorn. 2. Hot environments with little rain.
Tropical rainforest (2)	<ol style="list-style-type: none"> 1. Found in places along the Equator. 2. Hot and humid environments with huge amounts of rainfall.
Temperate forest (2)	<ol style="list-style-type: none"> 1. The main biome of the UK and other places along the same lines of latitude. 2. Warm summers, mild winters. No extremes of temperature, rainfall.
Coral Reefs (2)	<ol style="list-style-type: none"> 1. Located in the tropics between 30 degrees north and 30 degrees south. 2. Ocean temperature must be over 20 degrees.

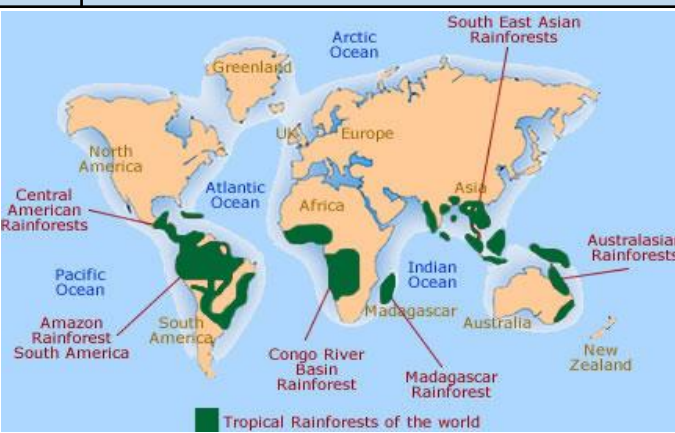
D. Climate and plants (5)

Tropical rainforest	<ol style="list-style-type: none"> 1. Warm and humid all year round. 2. Dense vegetation 3. Plants such as Lianas and drip tip leaves are adapted to deal with conditions. 4. Animals such as Tapir and Leopards.
Coral Reef	<ol style="list-style-type: none"> 1. Warm and shallow oceans so that corals can photosynthesise 2. Most biodiverse ecosystems on the planet. 3. Animals such as reef sharks and turtles.
Tundra	<ol style="list-style-type: none"> 1. Extremely cold and relatively dry conditions. 2. Low levels of biodiversity. E.g., Low shrubs.
Hot desert	<ol style="list-style-type: none"> 1. Hot and dry all year round. 2. Vegetation includes cacti and succulents. 3. Animals include desert fox and reptiles.
Temperature forest	<ol style="list-style-type: none"> 1. Dense deciduous trees. 2. Seasonal vegetation 3. Animals include deer.

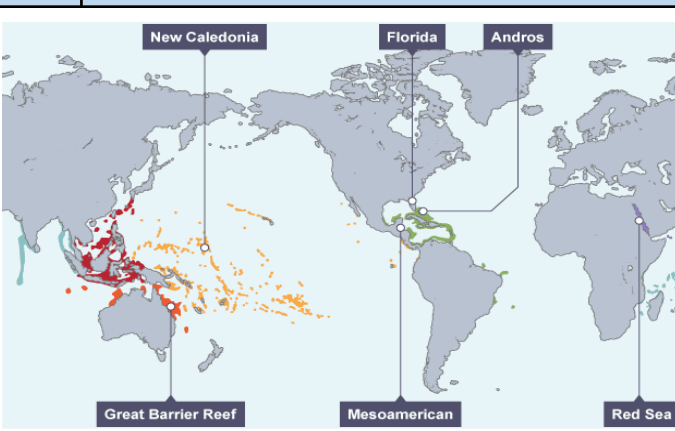
E. Interdependence in ecosystems (3)

Nutrient Cycle	The cycling of nutrients throughout a system to keep everything alive.
Water Cycle	The cycling of water throughout a system to keep everything alive.
Interdependence	When different parts of an ecosystem rely on each other to maintain balance

F. Location of major tropical rainforests



G. Location of major coral reefs



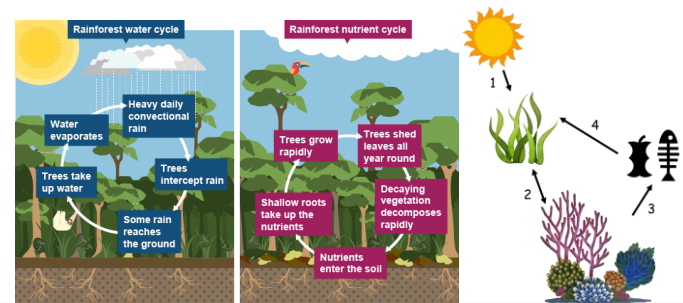


Background:	
8.	Ecosystems are at threat from human activity
9.	The nutrient and water cycles that operate in the tropical rainforest are essential to life.
10.	The nutrient and water cycles that operate in a coral reef are essential to life.
11.	Case study of one tropical rainforest: Malaysian rainforest including the threats to the ecosystem and attempts to mitigate these through sustainable use and management.
12.	Case study of one coral reef: The Great Barrier Reef including the threats to the ecosystem and attempts to mitigate these through sustainable use and management

A.	Human threats to ecosystems (7)	
Industrialisation	The growth of factories and mining in an area.	
Over-fishing (3)	<ol style="list-style-type: none"> Using large scale trawlers to catch hundreds of fish at one time. Means many fish cannot breed. Usually happens for profit. Is not well monitored. 	
Tourism	Travel for leisure.	
Deforestation (2)	<ol style="list-style-type: none"> Cutting down large amounts of trees for profit. Is not well monitored. 	
Climate change (3)	<ol style="list-style-type: none"> Increase in greenhouse gases in the atmosphere. Lead to increase in temperatures. Leads to increased drought and flooding. 	
Medicinal purposes	Scientists believe that some chemicals released by corals could be used to treat viruses.	
Scientific research	Coral reefs help us understand climate change.	

A.	The nutrient and water cycles: Tropical Rainforest (2)	
Nutrient Cycle (4)	<ol style="list-style-type: none"> Plant matter receives nutrients from the soil and through photosynthesis. Plant matter falls to the forest floor. Warm temperatures lead to rapid decomposition (rotting). Nutrients are returned to the soil. 	
Water Cycle (4)	<ol style="list-style-type: none"> Convictional rainfall is intercepted by the canopy. Most rainfall is evaporated off the canopy leading to more rain. Some rainfall reaches the ground. Plants take in water through roots. 	

A.	The nutrient cycle: Coral reefs	
Nutrient Cycle (4)	<ol style="list-style-type: none"> Sunlight is used by Algae in photosynthesis to produce energy. Algae live in coral and provide coral with nutrients they need to grow. Coral gives off waste nitrogen during respiration. Algae eats the waste material from the coral. 	



H.	CASE STUDY: One tropical rainforest- Malaysia	
Background	60% of Malaysia is covered by rainforest. It is an Emerging Developing Economy.	
	Threats to biodiversity (3)	Sustainable management (3)
	<ol style="list-style-type: none"> Subsistence farming: Farming on a small scale. Uses slash and burn practices which can get out of control. Palm oil: Malaysia is world's largest producer. Is a monoculture so less biodiversity Bakum dam – built in 2011. Powers factories in Malaysia. 700km of forest destroyed. 	<ol style="list-style-type: none"> Selective management system. Does not clear large areas of forest. Gives small trees room to grow. BUT 30% of trees are still removed and it is not well monitored. Ecotourism. Provides a source of income for locals BUT hotels and transport can cause damage. Forest Stewardship Council. Reduces deforestation BUT membership can be bought.

H.	CASE STUDY: One coral reef- Great Barrier Reef	
Background	The Great Barrier Reef is the world's largest coral reef	
	Threats to biodiversity (3)	Sustainable management (2)
	<ol style="list-style-type: none"> Commercial fishing. Contributes \$104 million/year to the economy. Destroys reefs with machinery. Tourism. Over 3 million visitors/ year. Medicinal purposes. Chemicals in coral reefs are thought to treat cancers. 	<ol style="list-style-type: none"> Fishing restrictions. Large companies are given a quota (certain amount of fish they can catch). Dynamite fishing banned. BUT can be bought. Coral farming. Small corals are collected and grow 50 x faster than in the wild on the farms. BUT sometimes coral is sold.

Geography Knowledge Organiser: Year 10 OCR – Ecosystems of the Planet



Background:

1. An ecosystem is a community of things that are linked together to make up a type of environment. **(A, B, E)**
2. An ecosystem contains biotic (living) and abiotic (non-living) parts. **(B)**
3. The climate of an ecosystem is very important as it influences what you will find there. **(C, D)**
4. The main world biomes can be found in specific parts of the world, they have very different climatic conditions & features. **(C, D)**
5. Ecosystems have cycles that are interdependent on one another (E)
6. The location of the major tropical rainforests are found between 0-25°N/S of the equator (F)
7. The location of the major warm water coral reefs are found between 0-30°N/S of the equator (G)

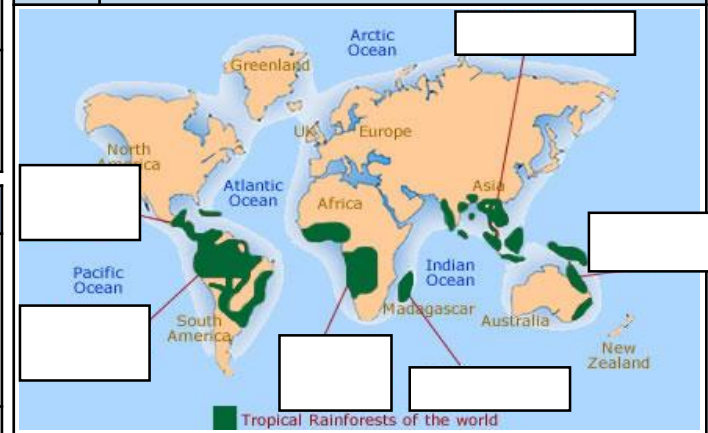
C. Major global biomes (5)

Tundra (2)	
Hot desert (2)	
Tropical rainforest (2)	
Temperate forest (2)	
Coral Reefs (2)	

E. Interdependence in ecosystems (3)

Nutrient Cycle	
Water Cycle	
Interdependence	

F. Location of major tropical rainforests



A. Classification of ecosystem (4)

Ecosystem	
Biome	
Habitat	
Biodiversity	

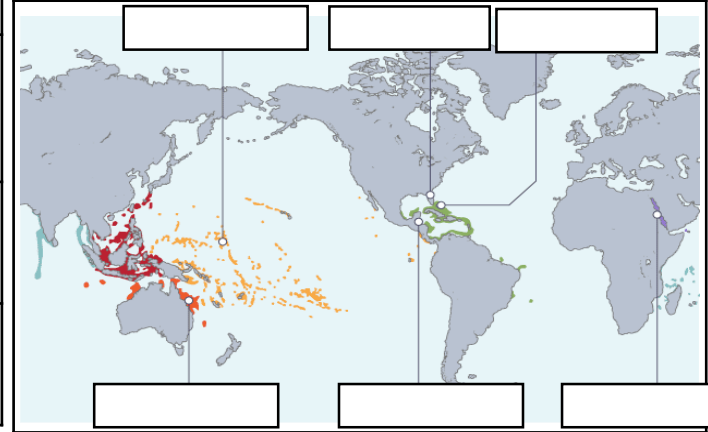
B. Features of an ecosystem (3)

Biotic	
Abiotic	
Food chain	

D. Climate and plants (5)

Tropical rainforest (4)	
Coral Reef (3)	
Tundra (2)	
Hot desert (3)	
Temperature forest (3)	

G. Location of major coral reefs





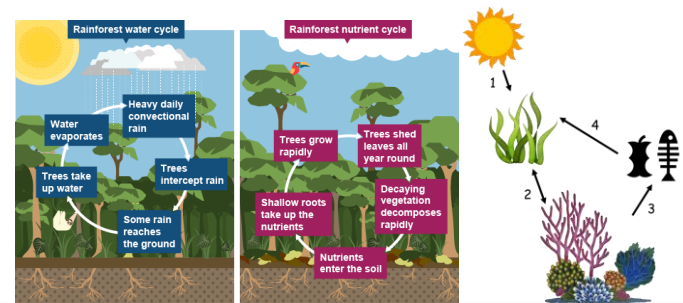
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A. Human threats to ecosystems (7)	
Industrialisation	
Over-fishing (3)	
Tourism	
Deforestation (2)	
Climate change (3)	
Medicinal purposes	
Scientific research	

A. The nutrient and water cycles: Tropical Rainforest (2)	
Nutrient Cycle (4)	
Water Cycle (4)	

A. The nutrient cycle: Coral reefs	
Nutrient Cycle (4)	



H. CASE STUDY: One tropical rainforest- Malaysia

Background	
Threats to biodiversity (3)	Sustainable management (3)

H. CASE STUDY: One coral reef- Great Barrier Reef

Background	
Threats to biodiversity (3)	Sustainable management (2)



Year 10 History : 1. Spain reaches the New World, c1490-1512

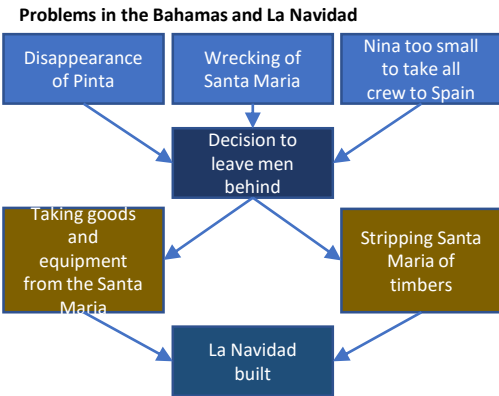


Spain c1490: exploration, religion and ambition
<ul style="list-style-type: none"> Most people knew the world was round Most of Europe was mapped The Spice Trade with the East Indies was well established Portugal and Spain were rivals – both wanted to find a sea route to the East Indies The Catholic Church had 2 concerns in the 2nd half of the 15th Century: <ul style="list-style-type: none"> Defend Christendom Spread Christianity to new lands



Why did Spain agree to sponsor Columbus?	
Christianity	Isabella was keen to continue spreading Christianity to the East Indies.
Priest	Juan Perez, a priest and friend to Isabella, helped Columbus while he made his case.
Status	Finding the sea route to the East Indies before Portugal would give Spain international status.
Wealth	A successful voyage would bring riches to the Spanish treasure and wealth to Spanish merchants.

Columbus' First Voyage 1492	
Finding ships and crew	Martin and Vicente Pinzon helped Columbus get ships and crew. 2 caravels – the Nina and the Pinta 1 carrack – the Santa Maria (flagship)
Rivalry at sea	Columbus had to change routes to avoid Portuguese caravels.
Sailors' fears	Columbus kept 2 different logs to stop sailors getting worried: -1 was accurate and he kept secret -The other log recorded shorter distances
Possible Mutiny	As the sailors had not spotted land for so long, they came close to mutiny. They allowed Columbus 2 more weeks.
Quarrels	Columbus and Martin Pinzon disagreed on the route.
Land	On the 10 th October, after 6 weeks at sea, the crew spotted land.



Columbus' return to Spain 1493	
4 th March 1493 Columbus lands in Portugal and meets King John. Columbus is sent congratulations letters and is cheered by crowds in his way to Barcelona.	The role of the pope The Pope gives Isabella and Ferdinand his support for the new 'Spanish Indies'. He is excited by Columbus' discoveries and wanted Christianity to spread to these lands.
Rivalry with Portugal King John believed he had claim to the lands Columbus had discovered. This led to talks with Spain to determine who had rights over what lands as Spain were getting ready to send Columbus back to govern.	Columbus' Rewards Isabella and Ferdinand encouraged Columbus to carry out another voyage. Columbus was given new titles, a new coat of arms and issued a pension for life. He was also given powers to govern lands in the New World.

Effects of Spanish Settlements	
1	Gold mines set up in Haiti – most of the work done by natives.
2	Tainos and Carib societies destroyed in order to provide work for the Spanish.
3	Columbus had captured natives to sell as slaves – Isabella not pleased and sent slaves back to Haiti.
4	Encomienda system set up. Nicolas de Ovando set this up in 1502.
5	Diseases like smallpox killed many natives. 1492 around 500,000 natives. By 1507 only 60,000.

Impact of contact with the Natives		
Gold, cotton and tobacco	Tainos and Caribs	Incident at Samana
Natives wore gold but would not tell the Spaniards where it came from. Kapock was used by the natives – it could be spin into thread and woven into cloth. Spaniards sailing with Columbus quickly picked up the habit of smoking tobacco.	Tainos – considered friendly and peaceful, allowed Columbus to build La Navidad, found at San Salvador. Caribs – mainly found east of the Bahamas, raided the Tainos taking women, rumours that they were cannibals.	On way back to Spain – Samana, Haiti. Men went ashore and found dried human heads and large canoes. An exchange went wrong and erupted in violence. They learnt that the natives could be hostile.

The Treaty of Tordesillas 1494
On 7 th June an agreement was reached between Spain and Portugal. An imaginary line was drawn from the North to the South pole. All lands to the west were for Spain. Lands to the east were for Portugal.

Columbus as governor	
La Navidad and Isabela	Santo Domingo
La Navidad found burned to the ground on 28 th Nov 1493. A new settlement was named Isabela. It failed as Spaniards wanted adventure and gold. Columbus went exploring and found Jamaica. He returned to Haiti in September 1494.	Bartholomew left in charge when Columbus returned to Spain. He built Santo Domingo. Columbus returned in 1498 to problems – Tainos and Spaniards not cooperating. Order restored by giving Spanish rebels land and providing native labourers to work the land. Rebellions kept breaking out so Columbus carried out executions on both natives and Spaniards. September 1500 – Bobadilla sent to take over from Columbus, Columbus arrested and sent back to Spain in chains.

Imperial Policy towards the Caribbean	
Importance of Santo Domingo It became the centre of Spanish administration in the Caribbean. -Wide roads and squares surrounded impressive stone buildings -The building housed administration offices were rules were issued and taxes collected. -Courts were established to control the laws	Establishment of a monopoly In 1503, the Casa de Contractacion (House of Trade) was established in Seville, Spain. The aim was to control all trade from the Caribbean. Powers included: -Approve all voyages to the Caribbean. -Collect up to date trade routes. -Collect taxes. -Control who travels to the Indies. However, there was smuggling and people worked out ways to avoid paying the taxes.
Catholic Missionaries In 1503, Ferdinand and Isabella issued a series of rules about educating the Indians: -Indians were to live in towns and pay taxes. -Taught about Christianity and expected to live as Christians. -Taught how to read, write and dress. Reports reached Spain about the abuses of Indians. Dominicans were sent to stop the mistreatment. Spaniards shocked at the mistreatment of natives.	Regulation of Exploration Ferdinand and Isabella needed to establish Spanish control over exploration and discovery in the New World. -Every ship sailing to the Caribbean had to leave from Cadiz, Spain and had to register with the Spanish. -Anyone could live in the Indies freely. If the discovered gold, 2/3 had to go to the Spanish government, 1/3 could be kept by the discoverer. 1/10 of all other products had to be sent to Spain. -1/10 if all cargo carried by ship sailing to the New World had to be Spanish.



Year 10 History : 1. Spain reaches the New World, c1490-1512



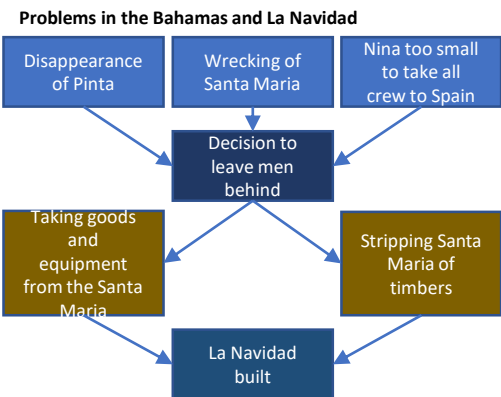
Spain c1490: exploration, religion and ambition

- Most people knew the world was round
- Most of Europe was mapped
- The Spice Trade with the East Indies was well established
- Portugal and Spain were rivals – both wanted to find a sea route to the East Indies
- The Catholic Church had 2 concerns in the 2nd half of the 15th Century:
 - Defend Christendom
 - Spread Christianity to new lands



Why did Spain agree to sponsor Columbus?	
Christianity	
Priest	
Status	
Wealth	

Columbus' First Voyage 1492	
Finding ships and crew	
Rivalry at sea	
Sailors' fears	
Possible Mutiny	
Quarrels	
Land	



Columbus' return to Spain 1493	
4 th March 1493 Columbus lands in Portugal and meets King John. Columbus is sent _____.	The role of the pope The Pope gives Isabella and Ferdinand his support for _____.
Rivalry with Portugal King John believed he had _____ This led to _____.	Columbus' Rewards Isabella and Ferdinand encouraged _____ Columbus was given _____.

Effects of Spanish Settlements	
1	
2	
3	
4	
5	

Impact of contact with the Natives		
Gold, cotton and tobacco	Tainos and Caribs	Incident at Samana
Natives wore _____ but would not tell the _____ where it _____ was used by the natives – it could be spun into _____ Spaniards sailing with Columbus quickly picked up the habit of _____	Tainos – considered _____, allowed Columbus to build La Navidad, found at San Salvador. Caribs – mainly found east of the Bahamas, r _____ the Tainos _____	On way back to Spain – Samana, Haiti. Men went ashore and found _____ heads and _____. An exchange went wrong and _____. They learnt that the natives _____.

The Treaty of Tordesillas 1494
On 7th June an agreement was reached between _____ to the _____ to the _____. All lands to the west were for Spain. Lands to the east were for Portugal.

Columbus as governor	
La Navidad and Isabela	
La Navidad found burned to the ground on 28 th Nov 1493. A new settlement was named Isabela. It failed as Spaniards wanted adventure and gold. Columbus went exploring and found Jamaica. He returned to Haiti in September 1494.	Bartholomew left in charge when Columbus returned to Spain. He built _____ Columbus returned in _____ to problems – Tainos and Spaniards not cooperating. Order restored by giving Spanish _____ and providing native labourers _____ land. Rebellions kept breaking out so Columbus carried out _____ ns on both nat _____ s and _____. September 1500 – Bobadilla sent to take over from Columbus, Columbus arrested and sent back to Spain in chains.

Imperial Policy towards the Caribbean	
Importance of Santo Domingo It became _____ of Spanish administration in the C _____ n. -Wide roads and squares surrounded impressive stone buildings -The building housed _____ where rules were issued and taxes collected. -Courts were established to _____	Establishment of a monopoly In 1503, the Casa de Contractacion (House of Trade) was established in Seville, Spain. The aim was to control all trade from the Caribbean. Powers included: -Approve all voyages to the Caribbean. -Collect up to date trade routes. -Collect taxes. -Control who travels to the Indies. However, there was smuggling and people worked out ways to avoid paying the taxes.

Catholic Missionaries In 1503, F _____ and I _____ a issued a series of _____: -Indians were to _____ to live as Christians. -Taught how to _____ Reports reached Spain about the a _____ s. Dominicans were sent to stop the _____. Spaniards shocked at the mistreatment of natives.	Regulation of Exploration Ferdinand and Isabella needed to _____. -Every ship sailing to the Caribbean had to leave from Cadiz, Spain and had to register with the Spanish. -Anyone could live in the _____. If the discovered gold, 2/3 had to go to the Spanish government, 1/3 could be kept by the discoverer. 1/10 of all other products had to be sent to Spain. -1/10 if all cargo carried by ship sailing to the New World had to be Spanish.
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What we are learning this term:	
A.	Genesis story
B.	Relationship between science and religion
C.	Different Christians attitudes to the environment
D.	Different Christian attitudes to the use of animals
E.	Different Christian attitude to Abortion
F.	Different Christian attitudes to Euthanasia
6 Key Words for this term	
1	Ensoulment
2	Dominion
3	Stewardship
4	Euthanasia
5	Abortion
6	natural resources

A.	What are the messages from the creation story?	
1	Sacred earth	'God saw that it was good'
2	Dominion	'Rule over it'
3	Stewardship	'Till the earth and keep it'
4	Man is pinnacle	'Made in the image of God'
5	God is Creator	'God said let there be light and there was light'
6	God provides bounty=Love	'I give you all the plants and animals to use'

B.	What is meant by natural resources ?
	Minerals/ materials and fuels that are part of the world and are used by humans. For example non renewable energy supplies like coal and oil.
C. What 2 types of Christian interpretation are there?	
1	Liberal – the story has messages and contains truths that can be understood from the story
2	Literal- The Bible is word for word actually a fact and it happened exactly in 6 days

D.	Can Christians use animals anyway they want?	
Yes	1	'man made in the image of God'
	2	'every animal that creepth upon the ground shall fear you'
	3	'the animals shall be food for you'
	4	'love thy neighbour'
	5	Jesus was a healer
No	1	'Does not God know every sparrow?'
	2	Protect the weak and needy
	4	'you shall not muzzle the ox whilst he treadeth the corn'
	5	'the righteous has regard for the life of his animal'
	6	'Love thy neighbour'

E.	Should Christians support Euthanasia?	
Yes	1	Love thy neighbour
	2	Clothe yourself in compassion
	3	Principle of double effect
No	1	Made in the image of god
	2	Thou shall not kill
	3	Protect the weak and needy
	4	The body is the temple of the holy spirit
	5	Jesus suffered on the cross
	6	soul making
	7	The Lord giveth and taketh away

F.	Should Christians support abortion ?	
Yes	1	Love thy neighbour
	2	Clothe yourself in compassion
	3	God breathed life into the unborn child
	4	Principle of double effect
	5	Protect the weak and needy
No	1	Made in the image of god
	2	Thou shall not kill
	3	The sons shall not bear the guilt of the fathers
	4	The body is the temple of the holy spirit
	6	Go forth and multiply
	7	The Lord Giveth and the Lord taketh away

GCSE Unit 3 SPANISH Knowledge organiser. Topic Free Time Activities

What we are learning this term:	
A. Talking about free time	
B. Talking about your plans for the weekend	
C. Talking about eating out	
D. Talking about special occasion meals	
E. Extending what you can say about sport	
F. Talking about sport in the world	

6 Key Words for this term	
1. disfrutar	4. campeones
2. jugar	5. formentar
3. los deportes	6. a selección

3.1G ¿Qué te gusta hacer?

aburrido/a	boring
bailar	to dance
cantar	to sing
el cine	cinema
de vez en cuando	from time to time, occasionally
entretenido/a	entertaining
estimulante	challenging
jugar	to play (game, sport)
leer	to read
libre	free
odiar	to hate
la película	film
practicar	to practise
salir	to go out
la tarde	afternoon, evening
el teclado	keyboard
tocar	to touch, to play (an instrument)
ver	to see, watch

3.3G ¿Haces deporte?

activo/a	active
al aire libre	in the open air, outdoors
ayudar	to help
el baloncesto	basketball
el campo	countryside, playing field
la cancha	court
los deberes	homework
la equitación	horse riding
el estadio	stadium
montar a caballo	to ride a horse
montar en bicicleta	to ride a bike

3.1F ¿Qué haces en tu tiempo libre?

a veces	sometimes
bastante	quite
cada	each, every
cenar	to have an evening meal
charlar	to chat
el coro	choir
descansar	to rest
los dibujos animados	cartoons
el documental	documentary
el fin de semana	weekend
genial	great
las noticias	news
nunca	never
ocupado/a	occupied, busy
policíaco/a (adj.)	police, detective, crime
poner	to put
por lo general	in general
siempre	always
el teatro	theatre
la telenovela	soap opera
terminar	to finish
el tiempo	time
todo/a/os/as	all, every
tonto/a	silly, stupid
la vez	time, occasion

3.2G Comer y Beber

el (fem.) agua (mineral)	(mineral) water
beber	to drink
el bocadillo	sandwich
la carne	meat
la cena	evening meal
cenar	to have supper / to have an evening meal
comer	to eat
la comida	lunch, food, meal
desayunar	to have breakfast
el desayuno	breakfast
después	afterwards
el helado	ice cream
el huevo	egg
el jamón	ham
la leche	milk
las legumbres	pulses
la mantequilla	butter
la manzana	apple
la mermelada	jam, marmalade
las patatas fritas	chips, fries

Key Verbs

Salir To go out	Ir To go	Jugar To play	Hacer – to do/make	Tocar To play (ins)
Salgo I go out	Voy I go	Juego I play	Hago I do	Toco I play
Sales You go out	Vas You go	Juegas You play	Haces You do	Tocas You play
Sale He/she goes out	Va s/he goes	Juega He/she plays	Hace s/he does	Toca He/she plays
Salimos We go out	Vamos They go	Jugamos We play	Hacemos We do	Tocamos We play
Salen They go out	Van They go	Juegan They play	Hacen They do	Tocan They play

3.2G Comer y Beber

el perrito caliente	hot dog
el pescado	fish
el pollo	chicken
el postre	dessert, pudding
el queso	cheese
la sopa	soup
el té	tea
tomar (drink)	to take, to have (food, drink)
la tortilla	omelette
la tostada	toast
el vaso	glass
las verduras	vegetables

3.2F Vamos a comer fuera

el atún	tuna
el bacalao	cod
la barra	loaf
el bistec	steak
los calamares	squid
la cebolla	onion
el cerdo	pork
la cerveza	beer
los champiñones	mushrooms
el chorizo	chorizo
la chuleta	chop
el cordero	lamb
el filete	fillet
la fresa	strawberry
las gambas	prawns
el gazpacho	chilled tomato soup
los guisantes	peas
el jamón serrano	cured ham
las judías verdes	green beans

3.1H Hablando del tiempo libre y de los planes

aburrido/a	boring
agradable	pleasant
al aire libre	in the open air, outdoors
la batería	drums
la canción	song
dar un paseo	to go for a walk
de vez en cuando	from time to time, occasionally
desafiante	challenging
divertido/a	fun
emocionante	exciting

3.3F ¿Qué deportes harás?

el alpinismo	rock climbing
cansado/a	tired
la carrera	race
el concurso (contest)	competition
contestar	to answer
durante	during
el ejercicio	exercise
el entrenamiento	training
entrenar	to train
el equipo	team
el esquí	skiing
este, esta	this
ganar	to win
el jugador	player
mañana	tomorrow
el miembro	member
el partido	match
probar	to try, to test

GCSE Unit 3 SPANISH Knowledge organiser. Topic Free Time Activities

What we are learning this term:

- A. Talking about free time
- B. Talking about your plans for the weekend
- C. Talking about eating out
- D. Talking about special occasion meals
- E. Extending what you can say about sport
- F. Talking about sport in the world

6 Key Words for this term

- | | |
|-----------------|----------------|
| 1. disfrutar | 4. campeones |
| 2. jugar | 5. formentar |
| 3. los deportes | 6. a selección |

3.1G ¿Qué te gusta hacer?

- | | |
|------------------|----------------------------------|
| aburrido/a | _____ |
| bailar | _____ |
| _____ | to sing |
| _____ | cinema |
| de vez en cuando | _____ |
| entretenido/a | _____ |
| _____ | challenging |
| _____ | to play (game, sport) |
| leer | _____ |
| libre | _____ |
| odiar | _____ |
| la película | _____ |
| _____ | to practise |
| salir | _____ |
| _____ | afternoon, evening |
| el teclado | _____ |
| _____ | to touch, to play(an instrument) |
| ver | _____ |

3.3G ¿Haces deporte?

- | | |
|---------------|----------------------|
| activo/a | _____ |
| _____ | in the open air, |
| outdoors | _____ |
| ayudar | _____ |
| el baloncesto | _____ |
| _____ | countryside, playing |
| field | _____ |
| la cancha | _____ |
| _____ | homework |
| la equitación | _____ |
| el estadio | _____ |
| _____ | to ride a horse |
| _____ | to ride a bike |

3.1F ¿Qué haces en tu tiempo libre?

- | | |
|----------------------|-------------------------|
| a veces | _____ |
| bastante | _____ |
| cada | _____ |
| _____ | to have an evening meal |
| _____ | to chat |
| _____ | choir |
| descansar | _____ |
| los dibujos animados | _____ |
| el documental | _____ |
| _____ | weekend |
| _____ | great |
| las noticias | _____ |
| nunca | _____ |
| ocupado/a | _____ |
| policia/a | _____ |
| _____ | to put |
| _____ | in general |
| _____ | always |
| el teatro | _____ |
| la telenovela | _____ |
| _____ | to finish |
| el tiempo | _____ |
| todo/a/os/as | _____ |
| _____ | silly, stupid |
| _____ | time, occasion |

3.2G Comer y Beber

- | | |
|--------------------------|--------------------------|
| el (fem.) agua (mineral) | _____ |
| beber | _____ |
| _____ | sandwich |
| la carne | _____ |
| _____ | evening meal |
| _____ | to have supper / to have |
| an evening meal | _____ |
| comer | _____ |
| la comida | _____ |
| desayunar | _____ |
| _____ | breakfast |
| _____ | afterwards |
| _____ | ice cream |
| el huevo | _____ |
| el jamón | _____ |
| la leche | _____ |
| las legumbres | _____ |
| _____ | butter |
| _____ | apple |
| la mermelada | _____ |
| _____ | chips, fries |

Key Verbs

Salir _____	Ir _____	To play _____	Hacer – to do/make _____	Tocar _____
I go out _____	Voy _____	Juego I play _____	Hago _____	I play _____
You go out _____	You go _____	Juegas _____	Haces You do _____	Tocas You play _____
Sale He/she goes out _____	Va s/he goes _____	Juega He/she plays _____	_____ s/he does _____	_____ He/she plays _____
Salimos _____	_____ They go _____	Jugamos We play _____	Hacemos _____	Tocamos _____
Salen _____	Van They go _____	_____ They play _____	Hacen They do _____	_____ They play _____

3.2G Comer y Beber

- | | |
|---------------------|-------------------------|
| el perrito caliente | _____ |
| el pescado | _____ |
| el pollo | _____ |
| _____ | dessert, pudding |
| _____ | cheese |
| _____ | soup |
| el té | _____ |
| _____ | to take, to have (food, |
| drink) | _____ |
| la tortilla | _____ |
| la tostada | _____ |
| el vaso | _____ |
| _____ | vegetables |

3.2F Vamos a comer fuera

- | | |
|---------------|-------------|
| el atún | _____ |
| el bacalao | _____ |
| _____ | loaf |
| _____ | steak |
| los calamares | _____ |
| la cebolla | _____ |
| el cerdo | _____ |
| _____ | beer |
| _____ | mushrooms |
| el chorizo | _____ |
| la chuleta | _____ |
| _____ | lamb |
| el filete | _____ |
| _____ | strawberry |
| _____ | prawns |
| el gazpacho | _____ |
| los guisantes | _____ |
| _____ | cured ham |
| _____ | green beans |

3.1H Hablando del tiempo libre y de los planes

- | | |
|------------------|--------------------|
| aburrido/a | _____ |
| agradable | _____ |
| al aire libre | in the open air, |
| outdoors | _____ |
| la batería | _____ |
| la canción | _____ |
| _____ | to go for a walk |
| de vez en cuando | from time to time, |
| ocasionalmente | _____ |
| desafiante | _____ |
| divertido/a | _____ |
| _____ | exciting |

3.3F ¿Qué deportes harás?

- | | |
|--------------|-----------------|
| el alpinismo | _____ |
| cansado/a | _____ |
| la carrera | _____ |
| el concurso | _____ (contest) |
| contestar | _____ |
| _____ | during |
| _____ | exercise |
| _____ | training |
| entrenar | _____ |
| el equipo | _____ |
| el esquí | _____ |
| este, esta | _____ |
| _____ | to win |
| _____ | player |
| _____ | tomorrow |
| el miembro | _____ |
| el partido | _____ |
| _____ | to try, to test |

39. Stakeholder

Stakeholders are the people or groups with an interest in the success or failure of an organisation.

Types of stakeholders & their typical objectives:**Business owners & shareholders**

Interested in the business being successful and making a profit.

Staff/managers

Interested in having job security, career development, fair wages etc.

Customers

Interested in getting an honest and fair deal from a business.

Local Community

Interested in honest and fair dealing/co-operation with the organisation with regards to local employment and environment.

Local Government

Interested in employment plans, location plans and business ability to pay tax.

Pressure Groups

Interested in fair and ethically correct business practices.

40. Types of technology used in business

Technology is used in different aspects of business:

E-commerce: Allows businesses to sell their products online and reach a wider audience of potential customers with lower costs.

Social Media: Allows a business to communicate and interact directly with customers.

Digital Communication: E-mail allows customers to contact a business personally and directly.

Payment Systems: Online payment systems (eg, Paypal) allow all types of businesses to access their payments fast and easily.

41. How does technology influence business activity?

Sales can increase as a result of e-commerce because customers can access products or services 24 hours a day, 7 days a week. New technology drives innovation to create new products or services and this can increase sales of new products.

Costs can be reduced through advertising online through websites, e-mail newsletters, and via social media. Costs can also be reduced through manufacturing efficiency and being able to find the best deal on raw materials online.

The 4 P's are affected by different types of technology.

Product = New technologically advanced product or a new method of production.

Promotion = Digital marketing can improve the effectiveness of marketing and is cheap.

Place = Products can be sold online and can be accessed by customers worldwide.

42. Retail Legislation

Legislation	Law's passed by acts of parliament. Too many rules that impact on a business from operating as the owner would like are known as " Red Tape ".
Consumer Rights Act 2015	<ul style="list-style-type: none"> • Goods must be fit for purpose and free from defects. • The buyer has the right to get their money back or have their product repaired at the seller's expense. • Any issues are to be dealt with by the seller and not the manufacturer.
Trade Descriptions Act	<ul style="list-style-type: none"> • Trader's can not use false or misleading statements. • Labels must not be misleading.
Other acts of legislation:	Consumer credit act 1974, The weights and measures act 1985, The food safety act 1990.

43. Recruitment Legislation

Employees are protected from being exploited in the work place.

Equality Act 2010	Organisations must consider all job applicants equally <u>in regards to</u> gender, age, skin colour etc.
Equal Pay Act 1970	Organisations must pay workers fairly and can not discriminate <u>in regards to</u> gender, age or skin colour etc.

44. The Economy

The economy is the collection of business transactions that take place throughout the country, throughout the year.

Interest rates.	The amount that a lender charges per year to someone who has borrowed money. This is measured as a percentage.
Exchange rates	The value of the pound (£) measured by how much foreign currency can be bought per pound (£).
Recession	A downturn in sales and output throughout the economy, often leading to rising unemployment.
Inflation	The rate in which prices are rising from the same time last year.

39. Stakeholder	
Types of stakeholders & their typical objectives:	
Business owners & shareholders	
Staff/managers	
Customers	
Local Community	
Local Government	
Pressure Groups	

40. Types of technology used in business	
Technology is used in different aspects of business:	
E-commerce:	
Social Media:	
Digital Communication:	
Payment Systems:	
41. How does technology influence business activity?	

42. Retail Legislation	
Legislation	
Consumer Rights Act 2015	
Trade Descriptions Act	
Other acts of legislation:	

43. Recruitment Legislation	
Employees are protected from being exploited in the <u>work place</u> .	
Equality Act 2010	
Equal Pay Act 1970	

44. The Economy	
The economy is the collection of business transactions that take place throughout the country, throughout the year.	
Interest rates.	
Exchange rates	
Recession	
Inflation	

Macronutrients, fibre and water- Term 6

Alcohol

Alcohol is not considered a nutrient, but is a source of energy in the diet.
The government recommends no more than 14 units of alcohol per week for both men and women.

Macronutrients

Macronutrients provide energy. The macronutrients are:

- carbohydrate;
- protein;
- fat.

Macronutrients are measured in grams (g).

Energy from food

- Energy intake is measured in joules (J) or kilojoules (kJ), but many people are more familiar with Calories (kcal).
- Different macronutrients, and alcohol, provide different amounts of energy.

Protein complementation

Different food contains different amounts and combinations of amino acids.
Vegans and vegetarians can get all the amino acids they need by combining different protein types at the same meal. This is known as protein complementation.
Examples are:

- rice and peas;
- beans on toast;
- hummus and pitta bread;
- bean chilli served with rice.

Fibre

- Dietary fibre is a type of carbohydrate found in plant foods.
 - Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and, seeds.
- Dietary fibre helps to:
- reduce the risk of heart disease, diabetes and some cancers;
 - help weight control;
 - bulk up stools;
 - prevent constipation;
 - improve gut health.

Protein

- Made up of building blocks called amino acids.
 - There are 20 amino acids found in protein.
 - Eight amino acids have to be provided by the diet (called essential amino acids).
- The essential amino acids (EAAs) are isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine. In young children, additional amino acids, e.g. histidine and tyrosine, are sometimes considered to be essential (or 'conditionally essential') because they may be unable to make enough to meet their needs.

Recommendations

- 0.75g/kg bodyweight/day in adults.

Sources:

Animal sources: meat; poultry; fish; eggs; milk; dairy food.

Plant sources: soya; nuts; seeds; pulses, e.g. beans, lentils; mycoprotein.

In young children, additional amino acids, e.g. histidine and tyrosine, are sometimes considered to be essential (or 'conditionally essential') because they may be unable to make enough to meet their needs.

Carbohydrate

All types of carbohydrate are compounds of carbon, hydrogen and oxygen. They can be divided into three main groups according to the size of the molecule. These three types are:

- monosaccharides (e.g. glucose);
- disaccharides (e.g. lactose);
- polysaccharide (e.g. sucrose).

The two types main of carbohydrate that provide dietary energy are starch and sugars. Dietary fibre is also a type of carbohydrate.

Starchy carbohydrate is an important source of energy.

Starchy foods - we should be choosing wholegrain versions of starchy foods where possible.

Recommendations

- Total carbohydrate - around 50% of daily food energy.
- Free sugars include all sugars added to foods plus sugars naturally present in honey, syrups and unsweetened fruit juice (<5% daily food energy).
- Fibre is a term used for plant-based carbohydrates that are not digested in the small intestine (30g/day for adults).

Key terms

Dietary reference values:

Estimated dietary requirements for particular groups of the population.

Essential amino acids: 8 of the different amino acids found in proteins from plants and animals that have to be provided by the diet.

Macronutrients: Nutrients needed to provide energy and as the building blocks for growth and maintenance of the body.

Protein complementation: Combining different protein types at the same meal to ensure all EAAs are ingested.

Reference Intakes: Guidelines for the maximum amount of nutrients consumed.

Dietary reference values (DRVs) are a series

of estimates of the energy and nutritional requirements of different groups of healthy people in the UK population. They are not recommendations or goals for individuals.

Reference Intakes are guidelines for the maximum amount of energy (calories), fat, saturated fat, sugars and salt consumed in a day (based on a healthy adult female).

Fat

Sources of fat include:

- saturated fat;
- monounsaturated fat;
- polyunsaturated fat.

Fats can be saturated, when they have no double bonds, monounsaturated, when they have one double bond, or polyunsaturated, when they have more than one double bond.

Recommendations

- <35% energy, Saturated fat <11% energy.

A high saturated fat intake is linked with high blood cholesterol levels.

Sources:

Saturated fat: fatty cuts of meat; skin of poultry; butter; hard cheese; biscuits, cakes and pastries; chocolate.

Monounsaturated fat: edible oils especially olive oil; avocados; nuts.

Polyunsaturated fatty acids: edible oils especially sunflower oil; seeds; margarine; spreadable fats made from vegetable oils and oily fish.

Hydration

- Aim to drink 6-8 glasses of fluid every day.
 - Water, lower fat milk and sugar-free drinks including tea and coffee all count.
 - Fruit juice and smoothies also count but should be limited to no more than a combined total of 150ml per day. 20% of water is provided by food such as soups, yogurts, fruit and vegetables. The other 80% is provided by drinks such as water, milk and juice.
- Drinking too much water can lead to 'water intoxication' with potentially life threatening hyponatraemia. This is caused when the concentration of sodium in the blood gets too low.



Macronutrients, fibre and water- Term 6

Alcohol

Alcohol is not considered a nutrient, but is a source of energy in the diet.
The government recommends no more than 14 units of alcohol per week for both men and women.

Macronutrients

Macronutrients provide energy. The macronutrients are:

-
- protein;
- F.....

Macronutrients are measured in grams (g).

Energy from food

- Energy intake is measured in joules (J) or kilojoules (kJ), but many people are more familiar with Calories (kcal).
- Different macronutrients, and alcohol, provide different amounts of energy.

Protein complementation

Different food contains different amounts and combinations of acids.

V..... and vegetarians can get all the amino acids they need by combining different protein types at the same meal. This is known as protein

- Examples are:
- rice and peas;
 - beans on toast;
 - hummus and pitta bread;
 - bean chilli served with rice.

Fibre

- Dietary is a type of carbohydrate found in plant foods.
 - Food examples include w.....cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and, seeds.
- Dietary fibre helps to:
- reduce the risk of heart d....., diabetes and some cancers;
 - help weight control;
 - bulk up stools;
 - prevent c.....;
 - improve gut health.

Protein

- Made up of building blocks called acids.
- There are amino acids found in protein.
- Eight amino acids have to be provided by the diet (called essential amino acids).

The essential amino acids (EAAs) are isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine. In young children, additional amino acids, e.g. histidine and tyrosine, are sometimes considered to be essential (or 'conditionally essential') because they may be unable to make enough to meet their needs.

Recommendations

- 0.75g/kg bodyweight/day in adults.

Sources:

Animal sources: meat; poultry; fish; eggs; milk; dairy food.

Plant sources: soya; nuts; seeds; pulses, e.g. beans, lentils; mycoprotein.

In young children, additional amino acids, e.g. histidine and tyrosine, are sometimes considered to be essential (or 'conditionally essential') because they may be unable to make enough to meet their needs.

Carbohydrate

All types of carbohydrate are compounds of c....., hydrogen and o..... They can be divided into three main groups according to the size of the molecule.

These three types are:

- (e.g. glucose);
-(e.g. lactose);
- (e.g. sucrose).

The two types main of carbohydrate that provide dietary energy are and

Dietary fibre is also a type of carbohydrate.

Starchy carbohydrate is an important source of energy.

Starchy foods - we should be choosing wholegrain versions of starchy foods where possible.

Recommendations

- Total c..... - around 50% of daily food energy.
- Free sugars include all sugars added to foods plus sugars naturally present in honey, syrups and unsweetened fruit juice (<5% daily food energy).
- Fibre is a term used for plant-based carbohydrates that are not digested in the small intestine (30g/day for adults).

Key terms

Dietary reference values:

Estimated dietary requirements for particular groups of the population.

Essential amino acids: 8 of the different amino acids found in proteins from and that have to be provided by the diet.

Macronutrients: Nutrients needed to provide energy and as the building blocks for and maintenance of the body.

Protein complementation: Combining different protein types at the same meal to ensure all EAAs are ingested.

Reference Intakes: Guidelines for the maximum amount of nutrients consumed.

Dietary reference values (DRVs) are a series

of estimates of the energy and nutritional requirements of different groups of healthy people in the UK population. They are not recommendations or goals for individuals.

Reference Intakes are guidelines for the maximum amount of energy (calories), fat, saturated fat, sugars and salt consumed in a day (based on a healthy adult female).

Fat

Sources of fat include:

- saturated fat;
- monounsaturated fat;
- Poly..... fat.

Fats can be saturated, when they have no double bonds, monounsaturated, when they have one double bond, or polyunsaturated, when they have more than one double bond.

Recommendations

- <35% energy, Saturated fat <11% energy.

A high saturated fat intake is linked with high blood cholesterol levels.

Sources:

Saturated fat: fatty cuts of m.....; skin of poultry; butter; hard cheese; biscuits, cakes and pastries; ch.....

Monounsaturated fat: edible oils especially olive; avocados; nuts.

Polyunsaturated fatty acids: edible oils especially sunflower oil; seeds; margarine; spreadable fats made from vegetable oils and oily fish.

Hydration

- Aim to drink 6-8 glasses of fluid every day.
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Year 10 Cambridge National- Leadership- Term 6



What we are learning this term:	
A.	Different leadership roles
B.	Role-related responsibilities
C.	Personal qualities
D.	Leadership styles
E.	Key considerations when planning sports activity

Main assessment objectives	
Learning outcome: Know the personal qualities, styles, roles and responsibilities associated with effective sports leadership. Be able to plan sports activity sessions.	



Can you give examples of managers from different sports?	
Gareth Southgate	Eddie Jones

Key sections	
Different leadership roles and opportunities	

Captain Coach Expedition leader	Manager Teacher Role model
---------------------------------------	----------------------------------

Role models	
Positive Mo Farah Nicole Adams	Negative Luis Suarez Nick Kyrgios



A. The different leadership roles within sport	
Role	Definition
Coach	A person involved in the direction, instruction and training of the operations of a sports team
Manager	Responsible for handling the business matters of athletes and sports teams
Captain	The leader of the team who is usually also a player
Teacher	A person who teaches, especially in a school
Expedition leader	Someone who leads groups on adventurous activities
Role model	A person looked to by others as an example

A. Role related responsibilities	
Knowledge of activity Enthusiasm for activity Knowledge of safety Knowledge of child protection issues Knowledge of basic first aid	

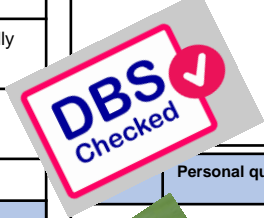


G. Considerations when planning sports activities	
<i>Session content</i>	Objectives for the session appropriate venue Equipment needs Supervision needs Timing of activities Introduction/conclusion of session Basic warm up/cool down Skills and technique development Engaging Organisation
<i>Safety</i>	Risk assessments- facilities, equipment/clothing checks, activity-specific risks Corrective action- wiping up puddles, removing litter, reporting faulty equipment Emergency procedures- procedures in the event of an accident, procedures in the event of other emergencies, summoning qualified help, completion of relevant documents

Role related responsibilities	
-------------------------------	--

Knowledge of; Activity Safety Child protection Basic first aid	Enthusiasm for activity
--	-------------------------

Personal qualities	
Reliability Punctuality Confidence Communication Creativity	



Personal qualities	
--------------------	--

Reliability Punctuality Communication Confidence Creativity



Leadership styles	
-------------------	--

Autocratic Democratic Laissez-faire

A. Leadership styles	
Autocratic-	Relating to a ruler who has absolute power
Democratic-	Members of the group take a more participative role in the decision-making process
Laissez-Faire-	Leaders are hands-off and allow group members to make the decisions

Year 10 Cambridge National- Leadership- Term 6



What we are learning this term:	
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B.	Role-related responsibilities
C.	Personal qualities
D.	Leadership styles
E.	Key considerations when planning sports activity

Main assessment objectives	
Learning outcome: Know the personal qualities, styles, roles and responsibilities associated with effective sports leadership. Be able to plan sports activity sessions.	



Can you give examples of managers from different sports?	
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Key sections	
Different leadership roles and opportunities	

Captain	Manager
Coach	Teacher
Expedition leader	Role model

Role models	
Positive Mo Farah Nicole Adams	Negative Luis Suarez Nick Kyrgios



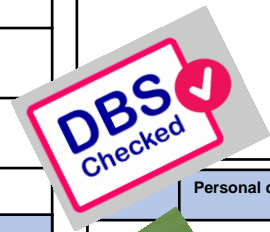
Role related responsibilities	
-------------------------------	--

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A. The different leadership roles within sport	
Role	Definition
Coach	
Manager	
Captain	
Teacher	
Expedition leader	
Role model	

A. Role related responsibilities	

G. Considerations when planning sports activities	
Session content	
Safety	



Personal qualities	
Reliability	Punctuality
Confidence	Communication
Communicator	Creativity



Personal qualities	
--------------------	--

Reliability	Punctuality
Communication	Confidence
Creativity	



Leadership styles	
-------------------	--

Autocratic	Democratic
Laissez-faire	



Year 10 ENGINEERING Term 6



A. Physical & Working Properties	
Physical properties are the traits a material has before it is used.	
Absorbency	Ability to soak up moisture, light or heat
Density	How solid a material is
Fusibility	Ability of a material to be heated and joined to another material when cooled
Electrical Conductivity	Ability to conduct electricity
Thermal Conductivity	Ability to conduct heat
Working properties are how a material behaves when it is manipulated.	
Strength	Ability of a material to withstand compression, tension and shear
Hardness	The ability to withstand impact with damage
Toughness	Materials that are hard to break or snap are tough & can absorb shock
Malleability	Being able to bend or shape easily would make a material easily malleable
Ductility	Materials that can be stretched are ductile
Elasticity	Ability to be stretched and then return to its original shape

What we are learning this term:		
A. Physical & Working Properties	C. Metals & Alloys	E. Forces & Stressors
B. Natural & Manufactured Timbers	D. Iterative Design	F. Product Requirements
B. Natural & Manufactured Timbers	C. Metals & Alloys	
Metals are extracted from natural ore.		
Ferrous	Non-ferrous	
Low-carbon steel (mild steel)	Aluminium	
Cast Iron	Copper	
High-carbon steel (tool steel)	Tin	Zinc
Contain iron and are magnetic, prone to rust.	Do not contain iron, not magnetic. Do not rust.	
Alloys		
Alloys are mixtures of two or more metals to improve its properties or aesthetic.		
Brass	Stainless Steel	High-speed steel
D. Iterative Design / Identify -> Design -> Optimise -> Validate		
Design Brief	Statement of how you are going solve the design problem	
Research	Research findings and client feedback help inspire ideas	
Specification	List of requirements your product has to meet to be successful	
Design	Plan for the construction of your product – how is it going to look?	
Prototype	Creating a mock-up of the product to check design and function	
Error Proofing	Ensuring that the product cannot be assembled or used in an incorrect way.	
Testing	Done to ensure that the product is successful before it is released into the competitive marker.	

E. Forces and Stressors	
Forces apply stress to objects, causing them to break or change shape. Different materials can withstand different forces.	
Tension	Is a stretching or pulling force. E.g. the ropes of a suspension bridge
Compression	Is a pushing or squashing force, e.g. the weight of a building on its foundation
Bending	Is a combination of tension and compression. It exerts tension on one side and compression on the other, e.g. bending anything
Shear	Is a cutting force. The opposing forces are not directly opposite each other, e.g. cutting paper with scissors.
Torsion	Is a twisting force that attempts to rotate two ends of a material in opposite directions, e.g. wringing out a wet cloth.
F. Product Requirements	
These are what a product has to meet / must do. Common requirements are:	
Features	Performance
Target Market	Working Environment
Constraints	Ergonomics
Lifecycle	Aerodynamics



Year 10 ENGINEERING Term 6



A.	Physical & Working Properties
Physical properties are the traits a material has _____	
Absorbency	
Density	
Fusibility	
Electrical Conductivity	
Thermal Conductivity	
Working properties are how a material _____	
Strength	
Hardness	
Toughness	
Malleability	
Ductility	
Elasticity	

What we are learning this term:		
A. Physical & Working Properties	C. Metals & Alloys	E. Forces & Stressors
B. Natural & Manufactured Timbers	D. Iterative Design	F. Product Requirements

B.	Natural & Manufactured Timbers	
Natural timber comes from trees.		
Hardwood	Softwood	
	Softwoods are faster growing & cheaper to buy.	
Manufactured Boards		
Manufactured boards are usually made from natural timber waste and adhesive.		

C.	Metals & Alloys	
Metals are extracted from natural ore.		
Ferrous	Non-ferrous	
	Softwoods are faster growing & cheaper to buy.	
Contain iron and are magnetic, prone to rust.	Do not contain iron, not magnetic. Do not rust.	
Alloys		
Alloys are mixtures of two or more metals to improve its properties or aesthetic.		

D.	Iterative Design / Identify -> Design -> Optimise -> Validate	
Design Brief		
Research		
Specification		
Design		
Prototype		
Error Proofing		
Testing		

E.	Forces and Stressors	
Forces apply stress to objects, causing them to break or change shape. Different materials can withstand different forces.		
Tension		
Compression		
Bending		
Shear		
Torsion		

F.	Product Requirements	
These are what a product has to meet / must do. Common requirements are:		



Year 10 PRODUCT DESIGN Term 6



What we are learning this term:		
A. Modern Materials	C. Polymers	E. Technical Textiles
B. Smart Materials	D. Composite Materials	F. Textiles

A.	Modern Materials	
A modern material is a material that has been engineered to have improved properties.		
Type	Properties	Common Uses
Graphene	Transparent. Very strong and light	Protective equipment and clothing
Metal Foams	Lightweight. Strong under compression. Absorbs energy well.	Prosthetics. Soundproofing and crash protection.
Titanium	High strength-to-weight ratio. Corrosion resistant.	Prosthetics. Aircraft and spacecraft.

B.	Smart Materials	
Materials that exhibit a physical change in response to some external stimuli and change back once that stimuli has been removed.		
Shape-memory alloys (SMA) – spectacle frames	Thermochromic pigments – colour changing spoons	
Photochromic pigments - colour changing lenses and windows	Self-healing materials – metals that resist corrosion, concrete that can heal cracks	
Ferrofluids formed by magnetic field – hydraulic suspension pistons	Polymorph –modelling and ergonomic handles	

C.	Polymers – come from crude oil	
Thermoforming can be heated and formed repeatedly, thermosetting can only be formed once		
Thermoforming (pliable, recyclable)		Thermosetting (good insulators)
Acrylic (PMMA)	Epoxy resin (ER)	
High impact polystyrene (HIPS)	Melamine formaldehyde (MF)	
High density polythene (HDPE)	Phenol formaldehyde (PF)	
Polypropylene (PP)	Polyester resin (PR)	
Polyvinyl chloride (PVC)	Urea formaldehyde (UF)	
Polyethylene terephthalate (PET)	These are resistant to heat and chemicals	

D.	Composite Materials	
A composite material is a mixture of two or more materials to enhance properties.		
Fibre-based	Materials	Common Uses
Glass-reinforced plastic (GRP)	Glass fibres and resin	Boats, instrument cases
Carbon-reinforced plastic (CRP)	Carbon fibres and resin	Formula 1 car bodies, crash helmets, sports equipment
Glass-reinforced concrete (GRC)	Glass fibres and concrete	Street furniture, urban features.
Particle-based	Materials	Common Uses
Concrete	Cement, sand and aggregate	Buildings, street furniture
Cement	Ceramic and metal	Electronic components

Sheet-based composite materials – look back to Term 4 – Manufactured Boards		
Medium Density Fibreboard (MDF)	Plywood	Chipboard

E.	Technical Textiles	
Modern textiles can be engineered to have numerous properties.		
Conductive Fabrics – touch screen gloves	Fire-retardant fabrics – furniture, furnishings, firefighter clothing.	
Kevlar – racing tyres and bullet proof vests	Microfibres – winter clothes and cleaning cloths	Microencapsulation – sports clothing and scratch and sniff perfume samples

F.	Textiles	
Textile materials can be found natural or can be formed synthetically		
Natural – come from plants or animals		Synthetic – come from coal or oil
Cotton (plant)	Polyester	
Wool (animal)	Polyamide (nylon)	
Silk (animal)	Elastane	
Blended – a mixture of fibres that combines and improves properties		
Polycotton	Kevlar	Sympatex



Year 10 PRODUCT DESIGN Term 6



What we are learning this term:		
A. Modern Materials	C. Polymers	E. Technical Textiles
B. Smart Materials	D. Composite Materials	F. Textiles

A. Modern Materials		
A modern material is a material that has been engineered to have improved properties.		
Type	Properties	Common Uses
Graphene		
Metal Foams		
Titanium		

B. Smart Materials	
Materials that exhibit a physical change in response to some external stimuli and change back once that stimuli has been removed.	

C. Polymers – come from crude oil	
Thermoforming can be heated and formed repeatedly, thermosetting can only be formed once	
Thermoforming (pliable, recyclable)	Thermosetting (good insulators)





D. Composite Materials		
A composite material is a mixture of two or more materials to enhance properties.		
Fibre-based	Materials	Common Uses
Particle-based	Materials	Common Uses
Sheet-based composite materials – look back to Term 4 – Manufactured Boards		

E. Technical Textiles	
Modern textiles can be engineered to have numerous properties.	

F. Textiles		
Textile materials can be found natural or can be formed synthetically		
Natural – come from plants or animals	Synthetic – come from coal or oil	
Blended – a mixture of fibres that combines and improves properties		





What we are learning this term:	
A.	Key words
B.	What are the main life stages
C.	What are the 4 areas of growth and development (PIES)?
D.	How do Humans develop physically (P)?

A. Key words for this Unit	
Characteristics	Something that is typical of people at a particular life stage.
Life stages	Distinct phases of life that each person passes through.
Growth	Increased body size such as height, weight.
Development	Involves gaining new skills and abilities such as riding a bike.
Gross motor development (G)	Refers to the development of large muscles in the body e.g. Legs
Fine motor development (F)	Refers to the development of small muscles in the body e.g. Fingers
Language development	Think through and express ideas
Contentment	An emotional state when people feel happy in their environment, are cared for and well loved
Self-image	How individuals see themselves or how they think others see them
Self-esteem	How good or bad an individual feels about themselves and how much they value their abilities.
Informal relationships	Relationships formed between family members
Friendships	Relationships formed with people we meet in the home or in situations such as schools, work or clubs
Formal relationships	relationships formed with non-family/friends – such as teachers and doctors.
Intimate relationships	romantic relationships.






B	What are the main life stages?		C	What are the 4 areas of growth and development (PIES)?
Age Group	Life Stage	Developmental Characteristics and Progress	 Physical Development (P)  Intellectual Development (I)  Emotional Development (E)  Social Development (S)	P = growth patterns and changes in the mobility of the large and small muscles in the body that happen throughout life. I = how people develop their thinking skills, memory and language. E = how people develop their identity and cope with feelings. S = describes how people develop friendships and relationships.
0-2 years	Infancy	Sill dependent on parents but growing quickly and developing physical skills.		
3-8 years	Early Childhood	Becoming increasingly independent, improving thought processes and learning how to develop friendships.		
9-18 years	Adolescence	Experiencing puberty, which bring physical and emotional changes.		
19-45 years	Early Adulthood	Leaving home, making own choices about a career and may start a family.		
46-65 years	Middle Adulthood	Having more time to travel and take up hobbies as children may be leaving home; beginning of the aging process.		
65+ years	Later Adulthood	The aging process continues, which may affect memory and mobility.		






D.	How do humans develop physically (P)?
0-2	<ul style="list-style-type: none"> Gross Motor Development (G) = life head, roll over, sit unaided, walk holding onto something, walk unaided, climb stairs, kick and throw, walk upstairs, jump. Fine Motor Development (F) = hold a rattle for short time, reach for an item, pass item from one hand to other, hold between finger and thumb, scribble, build a tower, use a spoon, draw lines and circles, turn page of a book.
3-8	<ul style="list-style-type: none"> G = ride a tricycle, catch a ball with two hands, walk backwards and step to the side, bounce a ball, run on tiptoes, ride a bike, catch a ball with one hand, balance along a thin line. F = hold a crayon to make circles and lines, thread small beads, copy letters and shapes with a pencil, make detailed models with construction bricks, joined up writing, use a needle to sew.
9-18	<ul style="list-style-type: none"> Girls = puberty starts at 10-13 years, breasts grow, hips widen, menstruation begins, uterus and vagina grow. Boys = voice deepens, muscles and strength increase, erections, facial hair, produce sperm. Both = pubic and underarm hair, growth spurts.
19-45	<ul style="list-style-type: none"> Physically mature, sexual characteristics are fully formed, peak of physical fitness, full height, women at most fertile. Later in the life stage people may put on weight, hair turn grey and men may lose hair, women's menstrual cycle was slow down
46-65	<ul style="list-style-type: none"> People may put on weight, hair turn grey and men may lose hair, women's menstrual cycle was slow down. Women go through the menopause – when menstruation ends and they can no longer become pregnant. Men may continue to be fertile throughout life but decrease in sperm production in this life stage.
65+	<ul style="list-style-type: none"> Women's hair becomes thinner, men may lose most of their hair, skin loses elasticity and wrinkles appear, nails hard and brittle, bones weaken, higher risk of contracting infections disease and illness. Stamina, reaction time, muscle and senses (hearing, sight, taste) all reduce.

What we are learning this term:	
A. Key words	
B. What are the main life stages	
C. What are the 4 areas of growth and development (PIES)?	
D. How do Humans develop physically (P)?	
A.	Key words for this Unit
Characteristics	
Life stages	
Growth	
Development	
Gross motor development (G)	
Fine motor development (F)	
Language development	
Contentment	
Self-image	
Self-esteem	
Informal relationships	
Friendships	
Formal relationships	
Intimate relationships	

B	What are the main life stages?		C	What are the 4 areas of growth and development (PIES)? Explain them.
Age Group	Life Stage	Developmental Characteristics and Progress		
0-2 years			Physical Development (P) 	
3-8 years				
9-18 years			Intellectual Development (I) 	
19-45 years			Emotional Development (E) 	
46-65 years				
65+ years			Social Development (S) 	

D.	<u>How do humans develop physically (P)?</u>
0-2	
3-8	
9-18	
19-45	
46-65	
65+	





What we are learning this term:		F. How do humans develop emotionally (E)?	
E. How do humans develop intellectually (I)? F. How do humans develop emotionally (E)? G. How do humans develop socially (S)?			
E. How do humans develop intellectually (I)?			
Infancy 	At birth brains are already well developed. Infants use all of their senses to learn about the world around them. Infancy is a time of rapid intellectual development. At 3 months infants can remember routines. At 9-12 months infants are developing their memory. At 12 months to 2 years infants understand processes and how things work. Language begins to develop during this stage.	<u>Bonding and Attachment</u> Bonding and attachment describe the emotional ties an individual forms with others. It starts in the first year of life between infants and their main carer because that person fulfils the infants needs which makes them feel safe and secure.	<u>Self-image and Self-esteem</u> Self-image is heightened during adolescence because of the physical changes we experience. Our self-esteem can change from day to day based on a variety of factors including employment and health status.
		<u>Security</u> For infants and young children, security is mainly the feeling of being cared for, being safe and loved – it is closely linked with attachment.	<u>Security</u> Adolescence may feel insecure because of puberty. Adults may feel insecure about relationships, job security of income. Later in life adults may feel insecure about staying in their own home or going into a care home. Feeling secure helps us cope better with everyday situations.
		<u>Contentment</u> Infants and young children are content if they have had enough food, love, are clean and dry and all other needs are met.	<u>Contentment</u> When people feel discontented with aspects of their life – for example, relationships or work – their emotions can be negatively affected.
Early childhood 	At 3-4 years of age children become more inquisitive and enjoy exploring objects and materials. They ask lots of questions and enjoy solving simple problems. At 5-6 years old children’s memory is becoming well developed. This helps them to talk about the past and anticipate the future.	<u>Independence</u> Independence is to care for yourself and make your own decisions. Infants are completely dependent on their carer. As children enter early childhood they develop more independence – feed self and get dressed. However, children still need a lot of help from their carer.	<u>Independence</u> Adolescence are dependent on their parents but are beginning to enjoy more independence and freedom to make their own choices. Adults enjoy living independently and controlling their own lifestyle and environment. Later in adulthood people become more dependent on others again.
G. How do humans develop socially (S)?			
Life Stage		Types of relationships and social development	
Adolescence 		Infancy	<ul style="list-style-type: none"> • Solitary Play - From birth to 2 years, infants tend to play alone although they like to be close to their parent or carer; they may be aware of other children but not play with them.
		Early childhood	<ul style="list-style-type: none"> • Parallel Play - From 2 to 3 years, children enjoy playing next to other children but are absorbed in their own game; they are not socialising or playing with other children. • Cooperative or social play – from 3 years upwards, children start to play with other children; they have developed social skills that help them to share and talk together; they often make up games together, such as being a shopkeeper and customer.
		Adolescence	<ul style="list-style-type: none"> • People become more independent and build more informal and formal relationships. • Social development closely linked to emotions. • Often strongly influenced by peers – ‘peer group pressure’.
Early and Middle Adulthood 	By these life stages most adults have a good range of general knowledge. They use this knowledge and experience to solve problems that they come across in their personal and work lives.	Early adulthood	<ul style="list-style-type: none"> • Increased independence means greater control of decisions about informal relationships. • People may be developing emotional and social ties with partners and their own children. • Social life often centred on the family but social skills are required to build and maintain formal relationships.
		Middle adulthood	<ul style="list-style-type: none"> • Children have often left home, but there are likely to still be strong family relationships. • Social circles may expand through travel, spending more time on hobbies or joining new groups.
Later adulthood 	During this life stage people continue to learn and develop intellectually, however, their speed of thinking and memory may decline. This may affect their ability to think through problems and make logical decisions.	Later adulthood	<ul style="list-style-type: none"> • Retired by this stage and so may enjoy more social time with family and friends or join new groups. • However, later in the life stage people may begin to feel isolated if they struggle to get out or if partners and friends pass away.

What we are learning this term:		F. How do humans develop emotionally (E)? Explain each.	
E. How do humans develop intellectually (I)? F. How do humans develop emotionally (E)? G. How do humans develop socially (S)?		Infancy and Early Childhood	
E. How do humans develop intellectually (I)?		Adolescence and adulthood	
Infancy		Bonding and Attachment	
		Self-image and Self-esteem	
		Security	
		Security	
		Contentment	
		Contentment	
Early childhood		Independence	
		Independence	
		G. How do humans develop socially (S)?	
		Life Stage Types of relationships and social development	
Adolescence		Infancy	
		Early childhood	
		Adolescence	
Early and Middle Adulthood		Early adulthood	
		Middle adulthood	
Later adulthood		Later adulthood	
			

What we are learning this term:	
H.	Key words
I.	How do physical factors affect development?
J.	How does lifestyle affect development?
K.	How do social and cultural factors affect development?
L.	How do relationships and isolation affect development?
M.	How do economic factors affect development?

H	Key words:
Genetic inheritance	Genes the person inherits from their parents
Genetic disorders	Health conditions that are passed on from parent to child through their genes. e.g. cystic fibrosis
Lifestyle Choices	Include the food you eat and how much exercise you do. They also include whether you smoke, drink alcohol or take illegal drugs.
Appearance	The way that someone or something looks
Factor	A circumstance, fact, or influence that contributes to a result
Gender role	The role and responsibilities determined by a person's gender.
Culture	ideas, customs, and social behaviour.
Role models	Someone a person admires and strives to be like.
Social Isolation	Lack of contact with other people
Material possessions	Things that are owned by an individual
Economic	To do with person's wealth and income.



I.	How do physical factors affect development?	
	Genetic Disorders	Disease and Illness
Physical Development	A person's physical build can affect physical abilities. Inherited diseases may affect strength and stamina needed to take part in exercise.	May affect the rate of growth in infancy and childhood. Could affect the process of puberty. Could cause tiredness and/or mobility problems. Could limit of prevent participation in physical activity.
Intellectual Development	Some genetically inherited diseases may result in missed schooling, or have a direct impact on learning – conditions such as Edward's syndrome impact learning.	School, college, university, work or training could be missed. Memory and concentration could be affected.
Emotional Development	Physical appearance affects how individuals see themselves (self-image), and how others respond to them impacts on their confidence and wellbeing.	May cause worry and/or stress. Individuals may develop negative self-esteem. Could lead to feelings of isolation.
Social Development	Physical characteristics or disease may affect opportunities or confidence in building friendships and becoming independent.	May cause difficulty in having opportunities to socialize with other and build wider relationships.

J.	How does lifestyle affect development?	
Lifestyle choices include; diet, exercise, alcohol, smoking, sexual relationships and illegal drugs, appearance.		
Positive lifestyle choices lead to: <ul style="list-style-type: none"> • Healthy hair, skin, nails and teeth • Positive self-image • Energy and stamina • Good health • Emotional security 		Negative lifestyle choices lead to: <ul style="list-style-type: none"> • Being overweight or underweight • Lack of energy • Ill health • Negative self-image • Sexually transmitted diseases (STDs) • Unplanned pregnancy 
Our appearance includes: body shape, facial features, hair and nails, personal hygiene and our clothing. Our appearance can affect the way we view ourselves- self-image		
Positive self-image: <ul style="list-style-type: none"> • Feel good about yourself. • Healthy hair, skin, nails and teeth • Big social circle. • High self-esteem. • High self-confidence. 		Negative self-image <ul style="list-style-type: none"> • Low self-esteem • Low self-confidence • Can lead to eating disorders e.g. anorexia • Can lead to anxiety or depression • Can lead to self-harm • Negative impact on building relationships- social circle decreases. 

What we are learning this term:	
H.	Key words
I.	How do physical factors affect development?
J.	How does lifestyle affect development?
K.	How do social and cultural factors affect development?
L.	How do relationships and isolation affect development?
M.	How do economic factors affect development?

H	Key words:
Genetic inheritance	
Genetic disorders	
Lifestyle Choices	
Appearance	
Factor	
Gender role	
Culture	
Role models	
Social Isolation	
Material possessions	
Economic	

I.	How do physical factors affect development?	
	<u>Genetic Disorders</u>	<u>Disease and Illness</u>
Physical Development		
Intellectual Development		
Emotional Development		
Social Development		

J.	How does lifestyle affect development?	
Lifestyle choices include; diet, exercise, alcohol, smoking, sexual relationships and illegal drugs, appearance.		
<u>Positive lifestyle choices lead to:</u>		<u>Negative lifestyle choices lead to:</u>
<ul style="list-style-type: none"> • • • • • 		<ul style="list-style-type: none"> • • • • •
Our appearance includes: body shape, facial features, hair and nails, personal hygiene and our clothing. Our appearance can affect the way we view ourselves- self-image		
<u>Positive self-image:</u>		<u>Negative self-image</u>
<ul style="list-style-type: none"> • • • • • 		<ul style="list-style-type: none"> • • • • •



K	How do social and cultural factors affect development
Development can be influenced by the persons culture or religion because it affected their: <ul style="list-style-type: none"> • Values: how they behave • Lifestyle choices: diet, appearance 	
<u>Positive affects of a persons culture/religion:</u> <ul style="list-style-type: none"> • A sense of security and belonging from sharing the same values and beliefs with others. • Good self-esteem through being accepted and valued by others 	<u>Negative affects of a persons culture/religion:</u> <ul style="list-style-type: none"> • Feeling discriminated against by people who do not share their religion/culture which leads to low self-image • Feeling excluded and isolated because their needs like diet, are not catered for.
Community refers to: local area where people live, school, religious group or hobby clubs. They have common values and goals.	
<u>Belonging to a community:</u> <ul style="list-style-type: none"> • Brings sense of belonging essential for emotional development. • Building and maintaining relationships- social development • Feeling of security. • Increases self-image and self-confidence 	<u>Not belonging to a community:</u> <ul style="list-style-type: none"> • Minimal contact with others- isolation • Anxiety leading to depression • Making negative lifestyle choices • Feeling less secure • Difficulty in building relationships • Slow self-image and self-confidence
Traditionally, men and women had distinctive responsibilities and expectations which for their gender called gender roles . However, nowadays UK equality legislation stops people being discriminated against because of their gender.	
What happens when people face discrimination because of gender: <ul style="list-style-type: none"> • They might be excluded from a group • They may be refused promotion at work • They may be expected to carry out a particular role • They may be paid less. 	

What we are learning this term:
K. How do social and cultural factors affect development?
L. How do relationships and isolation affect development?
M. How do economic factors affect development?

L	How do relationships and isolation affect development?
1	In adolescence, young people often argue with parents because they want more independence- negative affect on family relationships- can lead to isolation from them.
2	In later life, older people might need to rely on their children for support. This then has a positive affect on their development because all their need are catered for.
3	Relationships are important because they provide emotional security, contentment and positive self- esteem.
4	The breakdown of personal relationships can have a negative effect on persons PIES development: Low self-esteem, loss of confidence, stress.
5	Isolation can happen when individuals do not have the opportunity of regular contact with others. They have no one to share their feelings, thoughts and worries with resulting in feeling insecure and anxious.
6	Isolation can happen because they live alone, are unemployed or retired, are discriminated against or have an illness or a disability.
7	People have role models- infants learn by copying others, and adolescence base their identity on their role models. Role models can influence how people see themselves compared to others and their lifestyle choices can be positive or negative.

M	How do economic factors affect development	
	Having enough money gives individuals and their families feeling of content and security	Not having enough money causes stress and anxiety.
	Having enough money means that the whole family is eating healthy.	Not having enough money can mean that the family is not about to eat well balanced diet, and this has a negative effect on their physical development
Elderly people rely on state pension to live which is not enough and have to cut down on travel, shopping, bills, therefore it speeds their aging process and lead to health decline.		
	<u>Living in good housing with open spaces:</u> <ul style="list-style-type: none"> • Feeling good about themselves • Be more likely to stay healthy, • Space to take exercise • Feel safe ad secure • Warmth 	<u>Living in a poor housing with cramped and damp conditions:</u> <ul style="list-style-type: none"> • Have low self-esteem and self-image • Be more likely to experience ill health • Be lessson likely to exercise • Anxious and stressed.
	Material possession like a new phone or coat has a positive effect on the persons development because they might have more friends as they look nicer, high self-image.	Not having a phone or the newest trainers can have a negative affect in the persons self-image and self-esteem. They might feel isolated from others.



What we are learning this term:

K. How do social and cultural factors affect development?
 L. How do relationships and isolation affect development?
 M. How do economic factors affect development?

K How do social and cultural factors affect development

Development can be influenced by the persons **culture or religion** because it affected their:

- **Values:** how they behave
- **Lifestyle choices:** diet, appearance

<u>Positive affects of a persons culture/religion:</u>	<u>Negative affects of a persons culture/religion:</u>
•	•
•	•

Community refers to:

<u>Belonging to a community:</u>	<u>Not belonging to a community:</u>
•	•
•	•
•	•
•	•
•	•

Traditionally, men and women had distinctive responsibilities and expectations which for their gender called **gender roles**. However, nowadays UK equality legislation stops people being discriminated against because of their gender.

What happens when people face discrimination because of gender:

-
-
-
-

L How do relationships and isolation affect development?

1	
2	
3	
4	
5	
6	
7	

M How do economic factors affect development

Having enough money....	Not having enough money
•	•
•	•
→	
Having enough money means that....	Not having enough money can mean that...
•	•
•	•
→	
Elderly people rely on state pension to live which is not enough and have to cut down on travel, shopping, bills, therefore it speeds their aging process and lead to health decline.	
<u>Living in good housing with open spaces:</u>	<u>Living in a poor housing with cramped and damp conditions:</u>
•	•
•	•
•	•
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•	•
Material possession like a new phone or coat has a positive effect on the persons development because.....	Not having a phone or the newest trainers can have a negative affect on.... Because....
•	•
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What we are learning this term:	
<p>N. What are life events? O. How do people deal with life events? P. How is dealing with life events supported?</p>	
N.	What are life events?
Life Events	Life events are expected or unexpected events that can affect development. Examples include starting nursery, getting married or becoming ill.
Expected Life Events	Expected life events are life events that are likely to happen. Examples include starting primary school aged four and secondary school aged 11.
Unexpected Life Events	Unexpected life events are events which are not predictable or likely to happen. Examples could include divorce and bereavement (the death of a loved one).
Physical Events	Physical events are events that make changes to your body, physical health and mobility. Examples include illnesses such as diabetes and injuries and accidents such as car accidents.
Relationship Changes	Relationship changes could be new relationships such as the birth of a sibling, a new friendship or romantic relationship. Relationship changes can also be changes to existing relationships such as divorce.
Life Circumstances	Life circumstances are different situations that arise in our life that we must deal with. Examples include redundancy (losing a job), moving house or retirement (finishing work in later adulthood).

O.	How do people deal with life events?
Individual	<ul style="list-style-type: none"> The effects of life events vary from person to person based on how they deal with their new situation. Some people react to able to react to life events positively, others find it more difficult due to a range of factors.
Factors	<ul style="list-style-type: none"> Factors that may affect how people cope with life events: age, other life events happening at the same time, the support they have, their disposition (their mood, attitude and general nature), their self-esteem, their resilience (how quickly they recover).
Adapting	<ul style="list-style-type: none"> Adapt – to adjust to new conditions or circumstances. Expected on unexpected life events can often force people to make changes to their lives. Individuals must find their own way to adapt to the changes that life throws at them.
Resilience	<ul style="list-style-type: none"> Resilience – a person's ability to come to terms with, and adapt to, events that happen in life. Resilience is stronger in people who have a positive outlook on life, accept that change happens, has supportive family and friends and plans for expected life events.
Time	<ul style="list-style-type: none"> Sometimes people need a long time to adapt to unexpected life events. It can take time for people to move on from and accept difficult changes in their life.

P.	How is dealing with life events supported?
Types of Support	How this helps individuals deal with life events
Emotional Support	Emotional support is needed to help individuals deal with all life events – expected and unexpected. Having someone to talk to helps people feel secure and adapt to change. Sometimes individuals can find this support in family and friends or professionals to process difficult life events – such as bereavement.
Information and Advice	Life events, particularly unexpected ones, can cause people to feel like they do not know what to do. Information and advice can help people to have a better understanding of their situation, which allows them to deal with it more successfully. Information and advice help them know where to go for help, the choices than are available to them and how to make healthy choices.
Practical Help	<ul style="list-style-type: none"> Financial help – an individual may need money to help them adapt to a life change i.e. money to pay for a stair lift if their mobility has been effected. Childcare – an individual may need support looking after their children i.e. a lone parent after a divorce that needs to go to work. Transport – an individual may need support with transport if they have mobility problems i.e. a car could be adapted to support a person who has had an accident and can no longer walk.
Informal Support	Informal support is the support an individual receives from partners, family and friends. It is usually the first form of support an individual experiences after and expected or unexpected life event. Informal support can provide reassurance, encouragement, advice, a sense of security, someone to talk through options with and practical help.
Professional Support	Formal support may be provided by statutory care services (the state), private care services and charitable organizations. Professional support may include counsellors, teachers, careers advisers, occupational therapists, social workers and health specialists. Professional support may be needed to help people with a health condition, regain mobility, deal with life changes and emotions, get advice and information or change their lifestyle.
Voluntary Support	Organizations offering voluntary support are charities, community groups and religious groups. At voluntary support services, many staff are volunteers (they work for free), but they also employ qualified people who are paid by donations. Community groups work at a local level to meet the needs of people living in a specific neighbourhood i.e. foodbanks. Religious groups are formed by people who share the same religious or spiritual beliefs but they help all people in need regardless of their beliefs and background i.e. a church run soup kitchen for the homeless.

What we are learning this term:	
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N.	What are life events?
Life Events	
Expected Life Events	
Unexpected Life Events	
Physical Events	
Relationship Changes	
Life Circumstances	

O.	How do people deal with life events?
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