2024/2025

Cycle 1 Knowledge Navigator

Morning meeting homework

100% Sheets

Year 10

Name:

Form:

Determination | Integrity | Trust

DIXONS COTTINGLEY ACADEMY

YEAR 10 KNOWLEDGE NAVIGATOR
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DIXONS COTTINGLEY ACADEMY

YEAR 10

CYCLE 1 HOMEWORK

French	IDENTITY & RELATIONSHIPS	CYCLE 1	Year 10

Week 1

Relationships - Verbs		Relationships - Verbs	
se marier	to get married	sourire	to smile
se séparer	to seperate	rire	to laugh
s'entendre bien/mal	to get on well/badly	connaître	to know
s'excuser	to forgive	naître	to be born
se disputer	to argue	mourir	to die
se sentir	to feel	choisir	to choose
se battre	to fight	mentir	to lie
s'occuper	to look after	rencontrer	to meet
se souvenir	to remember	ressembler à	to look like

Week 2

Relationships – Family members and friends			
mon père/ ma mère	my dad/mum	ma copine/mon copain	my friend
mon grand-père	my grand-father	mon petit copain/ma petite copine	my boyfriend/girlfriend
mon cousin/ma cousine	my cousin	ma famille	my family
mon oncle/ma tante	my uncle/auntie	mon beau père/ma belle mère	my step dad/mum
mon neveu/ma nièce	my niece	mon ami/mon amie	my friend
mon fils/ ma fille	my son/daughter	mon/ma/mes	my
mon frère/ma soeur	my brother/sister	ton/ta/tes	yours
mon mari/ma femme	my husband	son/sa/ses	his/hers
mon/ma partenaire	my partner	leur/leurs	theirs

Week 3

Physical Description	
les cheveux/les yeux	hair/ eyes
petit(e)/grand(e)	small / tall
de taille moyenne	of average height
fort	strong
court	short
joli(e)/ moche	pretty / ugly
belle/beau	beautiful / handsome
jeune	young
vieux/vieille	old

Week 4

Relationships - Adjectives		Improve Relationships	
gentil/gentille	kind	encourager	to encourager
méchant(e)	mean	améliorer	to improve
paresseux/paresseuse	lazy	discuter	to discuss
timide/bavard(e)	shy/chatty	parler	to talk
drôle/sympa	funny/kind	écouter	to listen
actif/active	active	passer du temps	to spend time
embêtant(e)	annoying	comprendre	to understand
fier/fière	proud	respecter	to respect
sérieux/sérieuse	serious	promettre de	to promise to

Week 5

Relationships – Past Tense Verbs with Être	
je me suis senti(e)	I felt
je me suis disputé(e)	I argued
je me suis entendu(e) bien/mal	I got on well/badly
je me suis excusé(e)	I forgave
je suis sorti(e)	I went out
je suis né(e)	I was born
il/elle est mort(e)	he/she died
il/elle s'est marié(e)	he/she got married
ils se sont separés	they separated

French	RELATIONSHIPS / HEALTHY LIVING	CYCLE 1	Year 10

Week 6			
Romantic Relationships			
j'ai confiance en	I trust in	l'amour	love
je suis heureux/triste	I am happy/sad	vivre ensemble	to live together
je suis proche de	I am close to	rester célibataire	to stay single
je suis en couple	I am in a couple	avoir des enfants	to have kids
je suis permis de	I am allowed to	tromper	to cheat
je promets de	I promise to	exprimer	to express
je veux	I want to	être seul(e)	to be alone
je m'inquiète de	I am worried about	tomber amoreux(euse)	to fall in love
il/elle me fait rire	he/she makes me laugh	toute la vie	for life

Week 7			
Marriage Plans			
je viens de fêter	I have just celebrated	les advantages	the advantages
une grande fête	a big celebration	les inconvénients	the disadvantages
le mode de vie	the style of life	concentrer sur ma carrière	to concentrate on my career
c'est moins cher	it is less expensive	rester à la maison	to stay at home
c'est la tradition	it is the tradition	garder des enfants	to look after children
le marriage	marriage/wedding	changer son nom	to change your name
le PACS	civil partnership	partager le prix	to share the price
démodé/inutile	outdated/useless	passer du temps ensemble	to spend time together
traditionnel(le)	traditional	se soutenir mutuellement	to support each other

Week 8			
Healthy Lifestyle Verbs			
garder la forme	to keep in shape	faire de l'exercice	to exercise
grandir	to grow	éviter	to avoid
déjeuner	to have lunch	fumer	to smoke
se lever	to get up	s'inquieter	to be worried
se coucher	to go to bed	améliorer	to improve
cuisiner	to cook	prendre	to take
choisir	to choose	changer	to change
perdre	to lose	adapter	to adapt
essayer de	to try to	remplacer	to replace
empêcher	to prevent	dormir	to sleep

Week 9			
Food		**Drinks**	
la nourriture	food	les boissons	drinks
j'ai faim	I'm hungry	j'ai soif	I'm thirsty
les fruits	fruits	de l'eau	some water
les légumes	vegetables	le café	coffee
le pain	bread	le thé	tea
le poisson	fish	le lait	milk
le poulet	chicken	le vin	wine
la viande	meat	le jus d'orange	orange juice
le fromage	cheese	le chocolat chaud	hot chocolate
le gâteau	cake	la limonade	lemonade

French	HEALTHY LIVING	CYCLE 1	Year 10

Week 10

Mealtimes

le matin/l'après-midi	the morning/afternoon
le soir/le nuit	the evening/night
un régime	a diet
le repas	the meal
la recette	the recipe
le plat	the dish
le petit - déjeuner	breakfast
le goûter	snack
le déjeuner	lunch
le dîner	dinner

Adjectives

frais/fraiche	fresh
épicé/gras	spicy/fatty
salé/sucré	salty/sweet
dégoutant/délicieux	disgusting/delicious
végétarien(ne)/vegan(e)	vegetarian/vegan
équilibré(e)	balanced
sain(e)/malsain(e)	healthy/unhealthy
bon(ne) pour la santé	good for your health
mauvais(e) pour la santé	bad for your health
ça me fait vomir	it makes me vomit

Week 11

Parts of the Body

j'ai mal à/au…	I've hurt my…
la bouche	mouth
la jambe	leg
la main	hand
la tête	head
l'oreille	ear
le bras	arm
le dos	back
le pied	foot
le corps	body

Adverbs/Time Expressions

souvent	often
rarement	rarely
absolument	absolutely
bien / mal	good/bad
lentement	slowly
jamais	never
régulièrement	regularly
trop	too much
un peu	a little
des fois	sometimes

Week 12

Complex Opinions

je crois que	I believe that
je pense que	I think that
je préfère	I prefer
je trouve que	I find that
d'après moi	from my point of view
selon moi	according to me
à mon avis	in my opinion
il est necessaire que	it is necessary that
il me semble que	it seems to me that
il n'est pas facile de	It is not easy to

Past Imperfect

je mangeais	I used to eat
je buvais	I used to drink
je sortais	I used to go out
je dormais	I used to sleep
je faisais	I used to do
je prenais	I used to take
je voulais	I used to want
je pouvais	I used to be able to
je devais	I used to have to
j'avais/j'étais	I used to have/be

Week 13

Improve Your lifestyle

changer de style de vie	change lifestyle
réussir à eviter	to succeed in avoiding
contrôler les portions	to control portions
manger plus sainement	to eat more healthily
donner de la confiance	to give confidence
avoir plus d'énergie	to have more energy
se coucher plus tôt	to go to bed earlier
éviter de se lever tard	to avoid waking up late
être en bonne santé	to be in good health
améliorer la santé	to improve your health

Bad Habits

prendre des drogues	to take drugs
boire de l'alcool	to drink alcohol
fumer des cigarettes	to smoke cigarettes
devenir dependant	to become dependant
demander de l'aide	to ask for help
être fatigué	to be tired
augmenter les risques de	to increase the risk of
se sentir mal	to feel bad
être en mauvaise santé	to be in bad health
causer des maladies	to cause disease

1. Levels of organisation

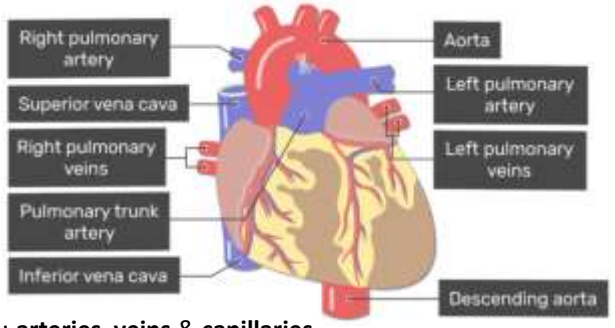
Cells are the basic building blocks of all living organisms.
A tissue is a group of cells with a similar structure and function.
Organs are aggregations of tissues performing specific functions.
Organs are organised into organ systems, which work together to form organisms.

2. Digestive juices

The digestive system is an example of an organ system in which several organs work together to digest and absorb food. Enzymes catalyse specific reactions in living organisms due to the shape of their active site.
Digestive enzymes convert food into small soluble molecules that can be absorbed into the bloodstream.
Carbohydrases break down carbohydrates to simple **sugars**. Amylase is a carbohydrase that breaks down starch.
Proteases break down proteins to **amino acids**.
Lipases break down lipids (fats) to **glycerol and fatty acids**.
These digested products are used to build new carbohydrates, lipids and proteins. Glucose is used in respiration.
Bile is made in the liver and stored in the gall bladder. It is alkaline to neutralise hydrochloric acid from the stomach. It also emulsifies fat to form small droplets which increases the surface area. The alkaline conditions and large surface area increase the rate of fat breakdown by lipase.

3. The heart and blood vessels

The heart is an organ that pumps blood around the body in a double circulatory system. The right ventricle pumps blood to the lungs for gas exchange. The left ventricle pumps blood around the rest of the body.
The natural resting heart rate is controlled by a group of cells located in the right atrium that act as a pacemaker. Artificial pacemakers are electrical devices used to correct irregularities in the heart rate.



The body contains three different types of blood vessel: **arteries, veins** & **capillaries**.
Blood is a tissue consisting of liquid plasma, with red blood cells, white blood cells & platelets suspended in it.

4. Health issues

Health is the state of physical and mental well-being.
Diseases, both communicable and non-communicable, are major causes of ill health. Other factors including diet, stress and life situations may have a profound effect on both physical and mental health.
Different types of disease may interact.

- Defects in the immune system mean that an individual is more likely to suffer from infectious diseases.
- Viruses living in cells can be the trigger for cancers.
- Immune reactions initially caused by a pathogen can trigger allergies such as skin rashes and asthma.
- Severe physical ill health can lead to depression and other mental illness.

5. Coronary heart disease: a non communicable disease

In coronary heart disease layers of fatty material build up inside the coronary arteries, narrowing them. This reduces the flow of blood through the coronary arteries, resulting in a lack of oxygen for the heart muscle. Stents are used to keep the coronary arteries open. Statins are widely used to reduce blood cholesterol levels which slows down the rate of fatty material deposit.
In some people heart valves may become faulty, preventing the valve from opening fully, or the heart valve might develop a leak. Faulty heart valves can be replaced using biological or mechanical valves.
In the case of heart failure a donor heart, or heart and lungs can be transplanted. Artificial hearts are occasionally used to keep patients alive whilst waiting for a heart transplant, or to allow the heart to rest as an aid to recovery.

6. The effect of lifestyle on some non-communicable diseases

Many diseases are caused by the interaction of a number of factors.
A causal mechanism has been proven for some risk factors, but not in others.

- The effects of diet, smoking and exercise on cardiovascular disease.
- Obesity as a risk factor for Type 2 diabetes.
- The effect of alcohol on the liver and brain function (and unborn babies).
- The effect of smoking on lung disease and lung cancer (and unborn babies).
- Carcinogens, including ionising radiation, as risk factors in cancer.

7. Cancer

Cancer can lead to uncontrolled growth and division of cells.
Benign tumours are abnormal cells which are contained in one area. They do not invade other parts of the body.
Malignant tumour cells are cancers. They invade neighbouring tissues and spread to different parts of the body in the blood where they form secondary tumours.

8. Plant tissues, organs and systems

The leaf is a plant organ.
Plant tissues include: epidermal tissues, palisade mesophyll, spongy mesophyll, xylem and phloem, meristem tissue found at the growing tips of shoots and roots.
The roots, stem and leaves form a plant organ system for transport of substances around the plant.
Root hair cells are adapted for the efficient uptake of water by osmosis, and mineral ions by active transport.
Xylem tissue transports water and mineral ions from the roots to the stems and leaves. It is composed of hollow tubes strengthened by lignin adapted for the transport of water in the transpiration stream.
The role of **stomata** and **guard cells** are to control gas exchange and water loss.
Phloem tissue transports dissolved sugars from the leaves to the rest of the plant for immediate use or storage.
The movement of food molecules through phloem tissue is called translocation.
Phloem is composed of tubes of elongated cells. Cell sap can move from one phloem cell to the next through pores in the end walls.

Science: Trilogy Chemistry	C2 — Bonding, Structure, Properties of Matter (inc. Separate Chemistry only)	CYCLE 1	Year 10

1. Chemical bonds, ionic, covalent and metallic

Ionic bonding – When a metal atom reacts with a non-metal atom electrons in the outer shell of the metal atom are transferred. Metal atoms **lose** electrons to become **positively charged ions**. Non-metal atoms **gain** electrons to become **negatively charged ions**. The ions produced by metals in Groups 1 and 2 and by non-metals in Groups 6 and 7 have the electronic structure of a noble gas (Group 0).

An ionic compound is a giant structure of ions. Ionic compounds are held together by strong electrostatic forces of attraction between oppositely charged ions. This ionic bonding acts in all directions in the lattice.

Covalent bonding – When atoms share pairs of electrons, they form covalent bonds. These bonds between atoms are strong.

Covalently bonded substances may consist of small molecules.

Some covalently bonded substances have very large molecules, such as polymers.

Some covalently bonded substances have giant covalent structures, such as diamond and silicon dioxide.

Metallic bonding – Metals consist of giant structures of atoms arranged in a regular pattern.
The electrons in the outer shell of metal atoms are delocalised and so are free to move through the whole structure. The sharing of delocalised electrons gives rise to strong metallic bonds.

2. States of matter

The three states of matter are solid, liquid and gas. Melting and freezing take place at the melting point, boiling and condensing take place at the boiling point.

The amount of energy needed to change state from solid to liquid and from liquid to gas depends on the strength of the forces between the particles of the substance. The nature of the particles involved depends on the type of bonding and the structure of the substance. The stronger the forces between the particles the higher the melting point and boiling point of the substance.

In chemical equations, the three states of matter are shown as (s), (l) and (g), with (aq) for aqueous solutions.

3. Structure and bonding of carbon

In diamond, each carbon atom forms four covalent bonds with other carbon atoms in a giant covalent structure, so diamond is very hard, has a very high melting point and does not conduct electricity.

In graphite, each carbon atom forms three covalent bonds with three other carbon atoms, forming layers of hexagonal rings which have no covalent bonds between the layers. In graphite, one electron from each carbon atom is delocalised.

Graphene is a single layer of graphite and has properties that make it useful in electronics and composites.
Fullerenes are molecules of carbon atoms with hollow shapes. The structure of fullerenes is based on hexagonal rings of carbon atoms but they may also contain rings with five or seven carbon atoms. The first fullerene to be discovered was Buckminsterfullerene (C60) which has a spherical shape.
Carbon nanotubes are cylindrical fullerenes with very high length to diameter ratios. Their properties make them useful for nanotechnology, electronics and materials.

4. Properties of compounds

Ionic compounds have regular structures (giant ionic lattices) in which there are strong electrostatic forces of attraction in all directions between oppositely charged ions. These compounds have high melting points and high boiling points because of the large amounts of energy needed to break the many strong bonds. When melted or dissolved in water, ionic compounds conduct electricity because the ions are free to move and so charge can flow.

Substances that consist of **small molecules** are usually gases or liquids that have relatively low melting points and boiling points. These substances have only weak forces between the molecules (intermolecular forces). It is these intermolecular forces that are overcome, not the covalent bonds, when the substance melts or boils.
The intermolecular forces increase with the size of the molecules, so larger molecules have higher melting and boiling points. These substances do not conduct electricity because the molecules do not have an overall electric charge.

Polymers have very large molecules. The atoms in the polymer molecules are linked to other atoms by strong covalent bonds. The intermolecular forces between polymer molecules are relatively strong and so these substances are solids at room temperature.

Substances that consist of **giant covalent structures** are solids with very high melting points. All of the atoms in these structures are linked to other atoms by strong covalent bonds. These bonds must be overcome to melt or boil these substances. Diamond and graphite (forms of carbon) and silicon dioxide (silica) are examples.

Metals have giant structures of atoms with strong metallic bonding. This means that most metals have high melting & boiling points. In pure metals, atoms are arranged in layers, which allows metals to be bent and shaped. Pure metals are too soft for many uses and so are mixed with other metals to make **alloys** which are harder.

Metals are good conductors of electricity because the delocalised electrons in the metal carry electrical charge through the metal. Metals are good conductors of thermal energy because energy is transferred by the delocalised electrons.

5. Nanotechnology

Nanoscience refers to structures that are 1–100 nm in size, of the order of a few hundred atoms. Nanoparticles, are smaller than fine particles (PM2.5), which have diameters between 100 and 2500 nm (1 x 10-7 m and 2.5 x 10-6 m). Coarse particles (often called dust) (PM10) have diameters between 1 x 10-5 m and 2.5 x 10-6 m.

As the side of cube decreases by a factor of 10 the surface area to volume ratio increases by a factor of 10.

Nanoparticles may have properties different from those for the same materials in bulk because of their high surface area to volume ratio. It may also mean that smaller quantities are needed to be effective.

Nanoparticles have many applications in medicine, in electronics, in cosmetics and sun creams, as deodorants, and as catalysts. New applications for nanoparticulate materials are an important area of research.

CYCLE 1	SUBJECT	TRILOGY BIOLOGY	TOPICS	B3 — INFECTION AND RESPONSE	YEAR GROUP	10

1. Communicable diseases

Pathogens are microorganisms that cause infectious disease. Pathogens may be viruses, bacteria, protists or fungi. They may infect plants or animals and can be spread by direct contact, by water or by air.

Bacteria and viruses may reproduce rapidly inside the body.

Bacteria may produce poisons (toxins) that damage tissues and make us feel ill.

Viruses live and reproduce inside cells, causing cell damage.

2. Viral diseases

Measles is a viral disease showing symptoms of fever and a red skin rash. Measles is a serious illness that can be fatal if complications arise. For this reason most young children are vaccinated against measles. The measles virus is spread by inhalation of droplets from sneezes and coughs.

HIV initially causes a flu-like illness. Unless successfully controlled with antiretroviral drugs the virus attacks the body's immune cells. Late stage HIV infection, or AIDS, occurs when the body's immune system becomes so badly damaged it can no longer deal with other infections or cancers. HIV is spread by sexual contact or exchange of body fluids such as blood which occurs when drug users share needles.

Tobacco mosaic virus (TMV) is a widespread plant pathogen affecting many species of plants including tomatoes. It gives a distinctive 'mosaic' pattern of discolouration on the leaves which affects the growth of the plant due to lack of photosynthesis.

3. Bacterial diseases

Salmonella food poisoning is spread by bacteria ingested in food, or on food prepared in unhygienic conditions. Fever, abdominal cramps, vomiting and diarrhoea are caused by the bacteria and the toxins they secrete.

Gonorrhoea is a sexually transmitted disease (STD) with symptoms of a thick yellow or green discharge from the vagina or penis and pain on urinating. It is caused by a bacterium and was easily treated with the antibiotic penicillin until many resistant strains appeared. Gonorrhoea is spread by sexual contact. The spread can be controlled by treatment with antibiotics or the use of a barrier method of contraception such as a condom.

4. Fungal diseases

Rose black spot is a fungal disease where purple or black spots develop on leaves, which often turn yellow and drop early. It affects the growth of the plant as photosynthesis is reduced. It is spread in the environment by water or wind. Rose black spot can be treated by using fungicides and/or removing and destroying the affected leaves.

5. Protist diseases

The pathogens that cause **malaria** are protists. The malarial protist has a life cycle that includes the mosquito. Malaria causes recurrent episodes of fever and can be fatal. The spread of malaria is controlled by preventing the vectors, mosquitos, from breeding and by using mosquito nets to avoid being bitten.

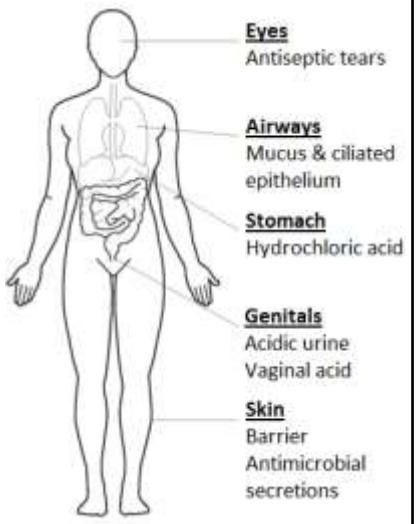
6. Human defence systems

The non-specific defence systems of the human body against pathogens, including the:

- skin (*barrier*)
- nose (*hairs*)
- trachea & bronchi (*mucus & cilia*)
- stomach (*hydrochloric acid*).

If a pathogen enters the body the immune system tries to destroy the pathogen. White blood cells help to defend against pathogens by:

- phagocytosis
- antibody production
- antitoxin production.



7. Vaccinations

Vaccinations prevent illness in an individual, and by immunising a large proportion of the population can reduce the spread of pathogens.

Vaccination involves;

1. Injecting small quantities of dead or inactive forms of a pathogen.
2. This stimulates the white blood cells to produce antibodies.
3. If the same pathogen re-enters the body the white blood cells respond quickly to produce the correct antibodies.
4. This prevents infection.

8. Antibiotics and painkillers

Antibiotics, such as **penicillin**, are medicines that help to cure bacterial disease by killing infective bacteria inside the body. It is important that specific bacteria should be treated by specific antibiotics.

The use of antibiotics has greatly reduced deaths from infectious bacterial diseases. However, the emergence of strains resistant to antibiotics is of great concern.

Antibiotics cannot kill viral pathogens.

Painkillers and other medicines are used to treat the symptoms of disease but do not kill pathogens. It is difficult to develop drugs that kill viruses without also damaging the body's tissues.

9. Drug development

Traditionally drugs were extracted from plants and microorganisms.

- The heart drug digitalis originates from foxgloves.
- The painkiller aspirin originates from willow.
- Penicillin was discovered by Alexander Fleming from the Penicillium mould.

Most new drugs are synthesised by chemists. However, the starting point may still be a chemicals from plants.

New medical drugs have to be tested and trialled before being used to check that they are safe and effective.
New drugs are extensively tested for toxicity, efficacy and dose.
Preclinical testing is done in a lab. using cells, tissues & animals. Clinical trials use healthy volunteers & patients.

- Very low doses of the drug are given at the start of the clinical trial.
- If the drug is found to be safe, further clinical trials are carried out to find the optimum dose for the drug.
- In double blind trials, some patients are given a placebo.

Science: Trilogy Physics	P4: Atomic Structure (inc. Separate Physics only)	CYCLE 1	Year 10

1. Atoms and isotopes

Atoms are very small, having a radius of about 1×10^{-10} metres.
Atoms have a positively charged nucleus (protons and neutrons) surrounded by negatively charged electrons.
The nucleus is less than 1/10 000 of the radius of an atom. Most of the mass of an atom is in the nucleus.
The electrons are arranged at different distances from the nucleus (different energy levels).

In an atom the number of electrons ≡ number of protons in the nucleus. Atoms have no overall electrical charge.
The number of protons in an atom of an element is called its atomic number.
The total number of protons and neutrons in an atom is called its mass number.
Atoms can be represented as shown in this example:
Atoms of the same element can have different numbers of neutrons; these atoms are called isotopes.
Atoms turn into positive ions if they lose one or more outer electron(s).

2. History of the atom

Early model	Tiny spheres that could not be divided
Electron discovered	Plum pudding model – atom was ball of positive charge with negative electrons spread around inside it
Rutherford and Marsden scattering experiment	Plum pudding model is replaced with nuclear model – small central positive nucleus with negative electrons orbiting
Niels Bohr	Electrons orbit at specific distances
Later experiments	Positive charge in nucleus can be subdivided – protons
James Chadwick	Discovers neutron

3. Atoms and nuclear radiation

Some atomic nuclei are unstable. The nucleus gives out radiation as it changes to become more stable. This is a random process called radioactive decay.
Activity is the rate at which a source of unstable nuclei decays (measured in becquerel (Bq)).
Count-rate is the number of decays recorded each second by a detector (e.g. Geiger-Muller tube).
The nuclear radiation emitted may be:
- an alpha particle (α) – this consists of two neutrons and two protons, it is the same as a helium nucleus
- a beta particle (β) – a high speed electron ejected from the nucleus as a neutron turns into a proton
- a gamma ray (γ) – electromagnetic radiation from the nucleus
- a neutron (n).

4. Half-lives and radioactivity

Radioactive decay is random. The half-life of a radioactive isotope is the time it takes for the number of nuclei of the isotope in a sample to halve, or the time it takes for the count rate (or activity) from a sample containing the isotope to fall to half its initial level.

Radioactive contamination is the unwanted presence of materials containing radioactive atoms on other materials.

5. Hazards and uses of radioactivity

Background radiation is around us all of the time. It comes from:

- natural sources such as rocks and cosmic rays from space
- man-made sources such as the fallout from nuclear weapons testing and nuclear accidents. The level of background radiation and radiation dose may be affected by occupation and/or location.
- Radiation dose is measured in sieverts (Sv) 1000 millisieverts (mSv) = 1 sievert (Sv)

Radioactive isotopes have a very wide range of half-life values.

Nuclear radiations are used in medicine for the exploration of internal organs, and control or destruction of unwanted tissue.

6. Nuclear fission – is the splitting of a large and unstable nucleus (e.g. uranium or plutonium).

- Usually, for fission to occur the unstable nucleus must first absorb a neutron.
- The nucleus splits into two smaller nuclei, and emits two or three neutrons plus gamma rays.
- Energy is released by the fission reaction.
- The neutrons may go on to start a chain reaction.
- The chain reaction is controlled in a nuclear reactor to control the energy released.
- The explosion caused by a nuclear weapon is caused by an uncontrolled chain reaction.

7. Nuclear fusion

Nuclear fusion is the joining of two light nuclei to form a heavier nucleus.
In this process some of the mass may be converted into the energy of radiation.

RE	Christian Beliefs	Cycle 1	Year 10

Week	Key Knowledge to learn
1 – Christian beliefs: Nature of God	• Omnipotent – this means that God is all powerful. Nothing is impossible for God. • The creation story shows the power of God as does the story of Noah's flood in the Old Testament where God flooded the earth for 40 days. Some Christians see the stories as literal truth and others see them as metaphors • Omnibenevolent means all loving, so God is the source of all goodness and love in the world. • *"God so loved the world that He have His only son." John 3:16.* • *The Parable of the Prodigal Son* also shows the love of God. A spoiled son was welcomed home by his Father even though he doesn't deserve it. • Just means fair. God provides fair justice for all. • Christians believe that God does not discriminate. • *The 10 commandments* are rules given by God to Moses to ensure that people lived a good and fair life. • The *Parable of the Sheep and Goats* teaches that all people will be judged on how they have lived their life • These beliefs influence Christians by: -encouraging them to look after the world as stewards because their all powerful God has created it. -Praying for the sick because they believe a loving and powerful God might provide a cure. -Treating others as they want to be treated with love following the example of God.
2 – Christian Beliefs: The Trinity	• Christianity is monotheistic meaning that they only worship one God. • God's nature is explained through the mystery of the Trinity and its three persons. • The first person of the Trinity is God the Father who is the creator and sustainer of the Universe. • The second person of the Trinity is God the Son. He is the loving nature of God. The son was ever present but became man in the form of Jesus through the incarnation. • The third person is the Holy Spirit which is the presence of the God in the world. It gives them a source of strength in their lives. • During Jesus' baptism a voice from Heaven said, *"You are my beloved Son".* At the same time the Holy Spirit descended as a dove. All three persons of the Trinity were present at this time. • During baptism Christians are baptised *"in the name of the Father and of the Son and of the Holy Spirit."*
3 - Christian beliefs: Creation	• God created the universe in six days and rested on the seventh. • God took great care over creating the universe and all life on earth. • God created humans *"in his image"* to have dominion over the rest of his creatures. • The first humans were Adam and Eve according to the *Book of Genesis.* • God gave humans dominion over the earth. This means that they were in control of it. • Christian's should act as God's stewards. This means that they must care for and protect the earth. • Christians will care for the environment e.g. by giving to green charities or using low emission vehicles. • Christians will reflect on the beauty and wonder of nature as a reflection of God's almighty power. • Christians see humankind as a reflection of God so will care about every life and issues like human rights • Quote 1 Omnipotence: *'Great is our Lord and mighty in power.' (Psalm 147:5)* • Quote 2 "*God created the world from nothing in seven days."* (Genesis) • Quote 3 Benevolence: *'For God so loved the world that he gave his only Son, so that whoever believes in Him shall not die, but shall have eternal life.' (John 3:16)*

Week	Key Knowledge to learn
4 – Christian beliefs: Incarnation	• God became man in the form of Jesus. This is celebrated at the festival of Christmas. • Jesus was fully human AND fully God. *"He was begotten not made" Creed* • Jesus came to free humans from sin and death, this is called atonement. • Jesus came to show people how to live according to God's laws. • The incarnation shows that God loves humanity that he was prepared to become one of us and share our suffering. *"He came from heaven and by the Holy Spirit was made incarnate of the Virgin Mary." Creed* • The incarnation gives them hope that they can overcome temptation and sin and achieve salvation. • The incarnation means they will obey God's law/believe in Jesus/be active in the Church community, to gain eternal life opened up by Jesus' incarnation. • Quote 1 *"Jesus is inseparably true God and true man."* (Catechism of the Roman Catholic Church) • Quote 2 *"The Word became flesh and lived amongst us." (John 1:14)* • Quote 3 *'If anyone acknowledges that Jesus is Son of God, God lives in him and he in God." (1 John 4:15)*
5 – Jesus as Son of God	**Miracles** • A miracle is an extraordinary event that is not explainable by scientific law and is therefore attributed to God. • Christians believe that Jesus (God incarnate) performed many miracles in his lifetime. • Examples of Jesus' miracles recorded in the Bible include: 1. The Calming of the Storm 2. The healing of the Paralysed Man 3. The raising of Lazarus • For Christians, miracles are a sign that God exists because the miraculous event does not seem to be explainable by scientific law. • For Christians, miracles are a sign of what God is like e.g. all-powerful, caring, all loving and all-knowing. • They might give Christians reassurance that God will be there to help them when they need it. • It teaches Christians how they should act in difficult situations e.g. to help others that are ill. **Parables** • Jesus' teachings and parables can be found in the New Testament of the Bible in the gospels of Matthew, Mark, Luke and John. • A parable is a simple story used to tell a moral, spiritual or religious lesson. • Examples of Jesus parables are: 1. The Good Samaritan 2. The Rich Fool 3. The Sheep and the Goats.
6 - Christian Beliefs: Crucifixion	• Jesus died on a Friday. • Christians call this day Good Friday. • Crucifixion was a painful death. He was condemned to death by the Roman Governor Pontius Pilate. • One of Jesus own disciples called Judas betrayed him. • Jesus died asking God the Father to forgive his killers. • Christians believe that Jesus died to atone for the sins of humanity. Atone means to put right. • It was a painful death used for political prisoners as well as criminals. Jesus was crucified beside two common criminals. • Christians will be forgiving of others as Jesus forgave his persecutors/killers. • The crucifixion show's Jesus unconditional love for humankind as he was willing to suffer to save us from sin. • It encourages Christians to risk suffering to stand up for what they believe is right. • Quote 1 *"Truly I tell you today you will be with me in Paradise." Jesus to criminal crucified beside him. (Luke 23:42)* • Quote 2 *"Father forgive them, for they know not what they do." Jesus on the cross, speaking about his killers (Luke 23:34)*

RE	Christian Beliefs	Cycle 1	Year 10

Week	Key Knowledge to learn
7 – Christian beliefs: Resurrection	• Resurrection means rising from the dead. • Jesus rose from the dead three days after death on the cross. • Christians call this day Easter Sunday and it is one of the most important days of the Christian calendar. • Jesus was seen alive by many hundreds of witnesses according to the Bible. • The first to see the risen Jesus were the women who came to visit his tomb according to the Bible. Mary Magdalene was the first. (Mark 16) • Christians believe that Jesus then appeared to his disciples who he told must spread the word of God as he had commanded them too. *"Go into the world and spread the Good News." (Mark 16)* • One disciple called Thomas did not believe in the resurrection until he had seen him with his own eyes. • Two more disciples met the risen Jesus on the road to Emmaus. • The Resurrection proves to them that Jesus was God's son, so gives authority to his teaching and example. • Quote 1 *"See my hands and my feet, that it is I myself. Touch me, and see. For a spirit does not have flesh and bones as you see that I have." (Luke 24:39)*
8 – Christian Beliefs: Ascension	• Christians believe that after he rose from the dead Jesus later ascended (went up into) heaven. • Some believe that this was a physical ascent and others claim that it is symbolic to show that Jesus' time on earth was over. • It is significant because it marks the time when Jesus left earth in a physical way but the Holy Spirit was left behind to lead and guide Christians today. • Ascension Day celebrates Jesus' ascension to heaven after he was resurrected on Easter Day. • Quote 1: *"Then Jesus said to the apostles: 'Go forth to every part of the world, and proclaim the good news to the whole creation. Those who believe it and receive baptism will find salvation" Mark 16* • Quote 2:*"So after talking with them the Lord Jesus was taken up into heaven, and he took his seat at the right hand of God." Mark 16*
9 - Christian beliefs: Original Sin	• A sin is an action that goes against the teachings and will of God. • Christians believe that failure to believe in God is the biggest sin. • Christians believe that breaking God's law or Jesus teachings are sins. • Christians believe that all people are born and remain sinners. • Christians believe that sin separates humans from God. • Christians believe that the story of Adam and Eve tells them about Original Sin. • Original Sin is a Christian belief of that states that sin has existed since the fall of the first man. • In the book of Genesis, Adam and Even are said to have disobeyed God by eating from the Tree of Knowledge of Good and Evil. (Genesis 3) • This sin was the original sin which broke the relationship between God and humans. • God sent Adam and Eve from the Garden of Eden after their first sin and said that they would now die and return to dust.

Week	Key Knowledge to learn
10 – Atonement	• Jesus sacrificed himself to atone for our sins. • Jesus sacrificed himself by dying on the cross as a human. • Christians believe that Jesus paid the price for human sin and allowed the relationship between God and humanity to be healed. • Some Protestant Christians believe that humans atone for their sins through proclaiming a belief in Jesus as God and Saviour. • Roman Catholic Christians believe that atonement must come through active participation in the Sacraments. • Roman Catholics believe that there are seven sacraments. • The Church of England believes that there are two sacraments; Baptism and Eucharist. • Quote 1: *"My grace is all you need." Jesus (2 Corinthians 12)*
11 - Salvation	• Salvation is being saved from the consequences of our sin, ie death. • Salvation is given by God's grace because Jesus sacrificed himself for us by dying on the cross. • Salvation can be achieved through following God's law, relying on God's grace, or living according to the Holy Spirit within us. • Christians will pray for salvation and eternal life and show gratitude through worship / following God's law. • Christians know that we all have the spirit of God in us so have the ability to live as He wants and go to heaven. • Source 1: *Parable of the Prodigal Son.* • Source 2 "*For if you forgive other people when they sin against you, your heavenly Father will also forgive you." (Matthew 6:14)* • Source 3 *"For all have sinned and fall short of the glory of God." (Romans 3:23)* • Source 4 *"This is my blood of the covenant, which is poured out for many for the forgiveness of sins." (Matthew 26:28)*
12 - Judgement	• Everyone will be judged after death / resurrection. • Judgement Day decides if you go to heaven or hell. • Judgement is based on how you lived your life and followed Jesus' teachings/God's laws. • Christians believe that one of the natures of God is that he shows mercy and will therefore forgive. • Christians will try to follow Jesus' teachings and God's laws so that they go to heaven on Judgment Day. They believe that Jesus death atoned for their sins. *"Love God and Love your Neighbour" (Matthew 22)* • Christians will worship God to make sure he knows they love him and respect him and so will go to heaven. Only those that worship him and accept Jesus' salvation are assured a place in Heaven. • Christians know that God's grace and mercy will mean their sins can be forgiven and they can go to heaven. • *The Parable of the Sheep and Goats* (Matthew 25) explain that Christians will be judged based on their actions on earth. • *The Nicene Creed says that "Jesus will come again to judge the living and the dead."*
13 - Heaven & Hell	• Those who have achieved salvation will go to heaven for eternity. • Heaven is God's kingdom, reward for passing God's judgement – close to God. • Heaven is a place of peace and love, with no conflict or pain or suffering. • Heaven inspires Christians to follow God's law and repent of their sins. • Heaven gives them hope of justice in the afterlife for suffering in this life. Some believe Heaven is a physical place, others a spiritual state of being with God. • Hell is a place of suffering where unrepentant sinners go after judgement. Suffering is through being separated from God and physical torment e.g. burning. Hell is ruled by the devil and his angels. • Purgatory is the a Catholic belief. A place where souls go to wait before they can get to Heaven. • Hell Quote: *'A place of a fiery furnace, with weeping and gnashing of teeth" (Matthew 13:50).* • Heaven Quote *'My Kingdom is not of this world….' (John 18:36). "There are many places in my Fathers house and I have prepared a place for you." (John 14)*

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BOX A: Characters

Inspector	Priestley's mouthpiece; advocates social justice
Mr Birling	Businessman, capitalist, against social equality
Mrs Birling	Husband's social superior, believes in personal responsibility
Sheila	Young girl, comes to change views and pities Eva, feels regret
Eric	Young man, drinks too much, rapes Eva, regrets actions
Gerald	Businessman, engaged to Sheila, politically closest to Birling
Eva	Unseen in play, comes to stand for victims of social injustice

BOX C: Key Quotations

Birling's confidence	'We're in for a time of steadily increasing prosperity'
Birling on society	'the way some of these cranks talk and write now, you'd think everybody has to look after everybody else'
Sheila's recognition	'but these girls aren't cheap labour – they're *people*'
Sheila's regret	'it's the only time I've ever done anything like that, and I'll never, never do it again to anybody'
Sheila on the Inspector	'we all started like that – so confident, so pleased with ourselves until he began asking us questions'
Sheila on Eric	'he's been steadily drinking too much for the last two years'
Inspector on guilt	'I think you did something terribly wrong – and that you're going to spend the rest of your life regretting it'
Mrs Birling defends herself	'she was claiming elaborate fine feelings and scruples that were simply absurd in a girl in her position'
Eric explains	'I'm not very clear about it, but afterwards she told me she didn't want me to go in but that – well, I was in that state when a chap easily turns nasty – and I threatened to make a row'
The Inspector says	'but each of you helped to kill her. Remember that'
Inspector's message	'there are millions and millions and millions of Eva Smiths and John Smiths still left with us, with their lives, their hopes and fears, their suffering, and chance of happiness, all intertwined with our lives, with what we think and say and do. We don't live alone.'
Birling's confidence	'the famous younger generation who know it all'

BOX B: Plot

Act 1	Sheila and Gerald's engagement is celebrated
Act 1	Birling says there will be no war; references Titanic
Act 1	Inspector arrives; a young girl has committed suicide
Act 1	Birling threw her out after strike; Sheila had her fired for laughing
Act 2	Gerald had an affair with Daisy Renton
Act 2	Mrs Birling refused to give charity to Eva; blames father
Act 3	Eric's involvement revealed; possible rape hinted at
Act 3	Inspector leaves. Gerald returns; met policeman, no Inspector G
Act 3	Telephone rings; an inspector is coming

BOX D: Theatrical Stagecraft: Dramatic Devices

1. Dramatic irony	the audience knows what the characters don't
2. Stage directions	Instructions for the actors; often revealing
3. Setting	Constant throughout but subtle changes e.g. lighting
4. Tension	Builds up throughout the play
5. Cliff-hanger	The ending allows the audience to make up their minds

BOX E: Key Concepts and Context

1912	Play is set here; just before WWI and sinking of the Titanic
1945	Priestley wrote the play then; start of the welfare state and ideals of social equality made real
Social responsibility	Or socialism; we must all look after each other
Capitalism	Business should make money no matter the human cost; we are all responsible only for ourselves
Class	Upper and lower social classes are segregated
Age	Old vs young; new and old ideas counterposed
Attitudes to women	Patriarchal leading to misogyny
Wealth, Power, Influence	How should we use our wealth, power and influence?
Public versus Private	What appears private is shown to have influence outside
Morality and Legality	Priestley questions the morality of characters and audience

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Act — BOX F: Events of 'AIC'

ACT 1
1) The family are celebrating the engagement of Sheila and Gerald.
2) Inspector Goole arrives announcing the death of Eva Smith.
3) Mr Birling & Sheila are each responsible for Eva's dismissals.
4) Eva changed her name to Daisy Renton.

ACT 2
1) Gerald admits affair with Daisy.
2) We discover that Mrs Birling refused to offer Eva charity.
3) It is revealed that Eva was pregnant. Suspicion turns to Eric

ACT 3
1) Eric admits guilt and having stolen money.
2) The inspector leaves, lecturing the family on the consequences of social irresponsibility.
3) Gerald discovers the inspector was a fake and there is no recorded death of Eva Smith.

BOX G: Dramatic devices AO2:
- **Entrances and exits**
- **Interruptions:** Inspector interrupts Mr B's capitalist speech.
- **Dramatic irony**: audience knows more than the characters on stage do.
- **Proleptic irony**: events foreshadow what might happen later in the play, e.g. Mrs B = fool, unaware that Eric is father.
- **Pauses:** characters pause/ scene ends for dramatic effect, e.g. "The telephone rings sharply…"
- **Lighting:** "pink and intimate"
- "brighter and harder"

Characters

BOX H: Mr Birling
1) "hard-headed, practical man of business" **Manufacturer.**
2) "A man has to make his own way – has to look after himself – and his family too." **Capitalist/ proud/ individualistic/ social climber.**
3) "unsinkable". **Foolish/ overconfident.**
4) "mixed up together like bees in a hive – community and all that nonsense". **Selfish.**
5) "I can't accept any responsibility". **Does not learn from the Inspector/ stubborn.**
6) "the famous younger generation who know it all." **Older generation.**

BOX H: Mrs Birling
1) "about fifty, a rather cold woman and her husband's social superior." **Higher social status than her husband/ upper class.**
2) "I did nothing I'm ashamed of." **Unsympathetic/ doesn't learn from the Inspector.**
3) "She was claiming elaborate fine feelings and scruples that were simply absurd in a girl…" **This is ironic - she is supposed to help women in her role in the charity.**
4) "Girls of that class." **Prejudiced.**

Box H: Sheila
1) "I'm not a child." **Younger generation. She is not content with her role.**
2) "You and I aren't the same people who sat down to dinner here" **She learns the lesson of responsibility.**
3) "Yes – except for all last summer, when you never came near me, and I wondered what had happened to you." **She is quite naïve at the beginning.**
4) "Fire and blood and anguish." **Wise.**
5) "It was anything but a joke. You knew it then. You began to learn something."/ "I suppose we're all nice people now." **She quickly understands what the Inspector is saying about responsibility/ she is intelligent.**
6) "I was absolutely furious" **She is selfish in the beginning.**
7) "Mother, I think that was cruel and vile." / "But these girls aren't cheap labour – they're people". **Perceptive.**
8) "*Half-stifled sob*" **She makes a dramatic exit. She immediately feels guilt and remorse for her actions when confronted with the photograph.**

BOX H: Eric
1) "*uneasily*" **He doesn't fit in with the Edwardian upper middle class ideal family**.
2) "You're squiffy" **He has an alcohol problem. Represents the irresponsible younger generation.**
3) "You're beginning to pretend now that nothing's really happened at all." **Highlights the hypocritical nature of his parents.**
4) "the girl's dead and we all helped to kill her" **Takes collective responsibility.**
5) "You're not the kind of father a chap can go to when he's in trouble." **He doesn't have an open relationship with his parents.**

BOX I: Eva Smith/ Daisy Renton
1) She was "warm-hearted". She represents the lower classes. Moralistic**.**
2) "A nice little promising life there… and a nasty mess somebody's made of it" **Her death is used by the Inspector to make the other characters learn a lesson.**
3) "she died in misery and agony – hating life" **She had to commit suicide as her only way to escape the corrupt and immoral 1912 society.**
4) "She'd been turned out and turned down too many times." **Her death is the outcome of the others' irresponsibility/ selfishness.**

BOX I: Gerald
1) "She was young and pretty and warm-hearted – and intensely grateful." **He is superficial and hypocritical.**
2) "She told me she had been happier than she'd ever been before – but that she knew it couldn't last – hadn't expected it to last." **He is an aristocrat and an upper class 'gentleman' – he chooses to marry Sheila as this looks better in society.**
3) "How do you know it's the same photograph?" **He remains unchanged.**

BOX I : Inspector Goole
1) "I'm on duty" **Serious/ commanding**
2) "I warn you, you're making it worse for yourself" **Masterful/ systematic/ moral**
3) "*disconcerting habit of looking hard at the person he addresses before actually speaking.*" **Is he the mouthpiece of Priestley? A ghoul? God? Our own conscience?**
4) "if men will not learn that lesson, then they will be taught it in fire and blood and anguish." **Social responsibility.**

BOX I: Edna
1) She is voiceless
2) She represents the working class and the 'underdog.'

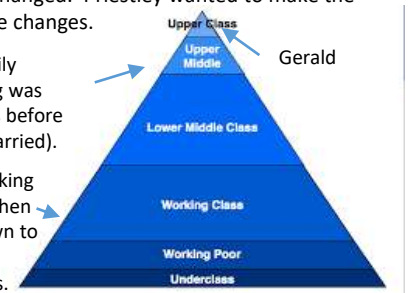
Context

BOX J: JB Priestley (1894-1984): born in Bradford, worked in a wool firm, socialist, fought in WW1, influential in setting up the Welfare State. His work is controversial and politically charged. AIC encourages people to seize the opportunity the end of war had given them, to build a better, more caring society.

BOX J: The play is set in 1912 but published in 1945. A 1945 audience would have recognised the huge changes that had taken place in the last 34 years (class distinctions were reduced, women had more rights, the Welfare State had been established. WW1: 1914-1918, WW2: 1939-1945.

BOX K: Capitalism:
-An economic system that is based on the private ownership of industry. It focuses on the individual and often leads to the few, who have money, exploiting the man – the poor.
Socialism:
- The belief that as a society we have to look our for one another. Rich have a responsibility to look out for the poor. They believe there should be a collapse of the class system.
Welfare State:
- The term for all the organisations designed to help people. Set up in 1945 because of the Labour Party (Priestley helped set this up.)

BOX K: Edwardian England:
- The period covering the reign of King Edward VII 1901 to 1910 but sometimes also includes the years leading up to WW1.
- In 1912, rigid class and gender boundaries seemed to ensure that nothing would change. Yet by 1945, most those class and gender divisions had been completely changed. Priestley wanted to make the most of these changes.



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BOX L: Character Vocabulary

Inspector	**Omniscient: Knowing everything** *J.B Priestley presents the Inspector as omniscient* **Commanding: Dominating; having a position of authority** *The Inspector has a commanding presence when interrogating the family* **Authoritative: Commanding and self-confident; respected and obeyed** *The Inspector questions Mr Birling with an authoritative tone*
Mr Birling	**Condescending: Having or showing an attitude of patronising superiority** *Mr Birling speaks in a condescending manner when delivering his speeches* **Obstinate: Stubborn, refuses to change opinion** *Faced with the reality of Eva Smith's death, Mr Birling remains obstinate.* **Pompous: Self-important, arrogant, opinionated** *In the initial stage directions, Mr Birling is presented as pompous*
Mrs Birling	**Supercilious: Behaving as though superior. Looking down on others.** *Mrs Birling speaks in a supercilious tone to the Inspector* **Haughty: Stuck up, arrogant, disdainful to those considered inferior** *In the opening, Mrs Birling is presented as 'cold' and haughty* **Affluent: Having a great deal of money; wealthy** *J.B Priestley uses Mrs Birling as a symbol of the affluent*
Sheila	**Infantile: Childish and immature in behavior and outlook.** *At the start of the play, Sheila is presented as infantile.* **Impressionable: Easily influenced** *Sheila is shown as impressionable and lacking independence at the start* **Repentant: Expressing or feeling sincere regret and remorse** *Sheila shows how repentant she is when she challenges her parents*
Eric	**Ostracised: Excluded from a group or treated differently; failing to fit in** *Eric appears an ostracised character who lacks voice at the start.* **Penitent: Feeling/ showing sorrow and regret for having done wrong** *In contrast to his father, Eric is a penitent character.* **Misguided: Having/showing faulty judgement or reasoning; lacking guidance** *Eric could be interpreted as misguided and a victim of his environment*
Gerald	**Sycophantic: Behaving in a fake and charming way in order to gain advantage.** *Gerald has a sycophantic manner when talking to his soon to be father in law.* **Deceptive: Giving an appearance/impression different from the truth; misleading** *Gerald was deceptive in his affair with Daisy Renton* **Charismatic: Exercising a compelling charm which inspires confidence** *Gerald has a charismatic aura*
Eva	**Emblematic: Serving as a symbol of a particular quality or idea** *Eva Smith is emblematic of the exploited, vulnerable working class in 1912.* **Anguished: experiencing/ expressing severe mental/ physical pain or suffering** *J.B Priestley presents the audience with the anguished life of Eva Smith.*

BOX M: Tier 2 Vocabulary

Altruistic	**Selfless concern for the well-being of others; unselfish.** *Towards the end of the play, Sheila displays an altruistic attitude*
Benevolent	**Well meaning and kindly.** *J.B Priestley encourages the audience to have a benevolent outlook to society*
Bourgeoisie	**The upper or middle classes, the capitalist class who own most of society's wealth and means of production.** *At the start of the play, the Birlings are representative of the bourgeoisie*
Hierarchy	**An ordering of members of an organization or society according to wealth, status or power.** *In writing the play, Priestley intends to criticise the societal hierarchy of 1912 Britain*
Microcosm	**A community, place, or situation regarded as encapsulating the characteristics of something much larger.** *The death of Eva Smith is a microcosm of the prevalent voiceless and vulnerable poor in society.*
Oppression	**Prolonged cruel or unjust treatment or abuse of power or authority.** *Societal oppression is seen in the play in terms of gender, class and wealth.*
Patriarchy	**A system of society or government in which men hold the power and women are largely excluded from it.** *Mr Birling is a symbol of traditional patriarchy. He expects to be unchallenged in everything he does, emulating the dominance men had in 1912*
Rampant Inequality	**A widespread, unchecked and flourishing lack of equality in terms of rights, opportunities and freedoms.** *Priestley highlights the rampant inequality in 1912 Britain in terms of class, gender and wealth.*
Superficial	**Something that appears to be true or real only until examined more closely; lacking authenticity or depth.** *The 'pink and intimate' lighting at the outset of the play represents the superficial nature of the Birling family*

BOX N: Essay vocabulary

Criticise	J. B. Priestley **criticises** the exploitative upper class in his play, through the use of the Birling family.
Expose	J. B Priestley uses the commanding presence of the Inspector to **expose** the upper classes.
Furthermore	**Furthermore**, it could also show the audience the lasting impact of the Inspector.
Highlights	Sheila returning the ring to Gerald **highlights** her increasing confidence.
Implies	The lighting becoming 'brighter and harder' **implies** an increase in intensity and focus.
Significantly	**Significantly**, Eric's role in her death is last to be revealed.

CYCLE 1-3	SUBJECT	History	TOPICS	LIVING UNDER NAZI RULE	YEAR GROUP	10

Section A - Women's Lives 1933-1939

Jobs:
- All female public service workers (doctors, teachers, civil servants) sacked.
- 1934, around 360,000 women had given up work.
- Numbers of women in university limited to 10% of male intake.

Marriage:
- 1000 mark loan given for marrying Aryan man.
- The more children they had, the less they paid back.
- Contraception banned.
- Loan abolished in 1937.

Children:
- Medals awarded for having lots of children gold for 8 children.
- Compulsory sterilisation for those with inherited disease or 'weaknesses' such as colour blindness.

Propaganda:
- Posters encouraged the idea of the perfect Aryan family.
- Women *encouraged* to wear traditional clothing, NOT to wear trousers or dye their hair OR smoke.
- Slimming *discouraged* – women had to be strong for childbirth.

Success of policies:
- Number of marriages increased slightly 1933-39
- birth rate increased 1933 (15 per thousand) to 1939 (20 per thousand)
- Divorce rate rose after 1938, 'duty year' introduced in 1939

When women were called back to work in 1943… Only 1 million responded to the call – many had welcomed the initial return to traditional values and domestic life

Section B - Lives 1933-1939

Workers:

DAF:
- Replaced Trade Unions
- Strikes were banned.
- Wages went down and hours went up.
- Unemployment reduced by 96% in 1936.
- BUT Jews and women taken off register.

Public works:
- building autobahns and schools / hospitals
- provided **manual work** for many unemployed young men.

RAD:
- Compulsory **work camps** for 18-25 year olds
- Digging ditches and planting forests.
- Low wages; military style regime.

Military service:
- 1935 2 years compulsory military service for young men

Leisure time:
- **KdF** ('Strength Through Joy')– organised activities (hikes, theatre, sports) after work
- **SdA**: 'Beauty of Labour' aimed to make workplaces more attractive (canteens, toilets).
- Workers might have ***felt*** better off.

'Winterhilfswerk':
- charity drive in winter months 1933-1945 – aimed to ensure 'no-one shall be hungry or cold'
- BUT workers could be sacked/harassed by others for not donating

Section C - Young People's Lives 1933-1939

Schools:
- School textbooks rewritten.
- Non-Nazi teachers sacked.
- Jewish teachers sacked.

Curriculum:
- History: WW1 loss the fault of Jews and Communists. Treaty of Versailles was Diktat.
- Geography: Lebensraum. German empire needed to expand.
- Maths: Maths problem had underlying anti-semitic and pro-Nazi messages.
- Science: Learnt about angles by plotting bomb trajectories.
- Race Studies: All students learned to identify the difference between Aryans and Jews.
- PE: Compulsory to create a fit Aryan race.

Youth groups
- Hitler Youth (HJ) for boys
- League of German Maidens (BDM) for girls.
- HJ activities: hiking, running, jumping, singing, competitive, violent games.
- BDM activities: physical fitness, housework and childcare skills.
- Groups collected money for Nazi charities (like Winterhilfswerk)
- BOTH groups promoted **obedience to Hitler**.
- *Membership* high but *attendance dropped* by late 1930s.
- Made compulsory 1939.

Overall aims:
- Boys to be fit and ready for war
- Girls to be fit and ready for childbirth and motherhood
- Total loyalty to Germany and Hitler through indoctrination.

Section D - Jewish Lives 1933-1939

Undesirables
Anyone who didn't fit the **Nazi Aryan ideal**: Jews, Gypsies, homosexuals, 'workshy', political opponents (e.g. Communists), people with inherited illnesses, the mentally or physically disabled.

The Nazis used two terms to separate Aryans from non-Aryans:

1. **Ubermenschen:** White, northern Europeans. The Aryan race. 'Super humans'

2. Untermenschen: Jews, Roma, Gypsies, Slavs. Non-Aryan. 'Sub-human'.

1933
- Nazi encouraged boycott of Jewish shops; SA threaten shoppers outside
- Jewish public officials (judges, lawyers and teachers) sacked

1935
- Nuremberg Laws:
- Jews could not be German citizens; Jews could not marry or have sex with non-Jews

1938
- Jewish children banned from state schools; Jews not allowed to practice as doctors
- **Kristallnacht** – night of Nazi encouraged violence against Jews. 30,000 Jews arrested.

1939
- Jews not allowed to work as dentists, chemists or nurses. Curfew: to be indoors by 9pm.
- 6 million more Jews come under Nazi control as a result of invading Poland (1939) and Russia (41)
- **First use of yellow insignia**

CYCLE 1-3	SUBJECT	History	TOPICS	LIVING UNDER NAZI RULE	YEAR GROUP	10

Section E -Polish Occupation

Occupation:

- Under Lebensraum Nazi leaders believed in was Germanys right to take back Poland after it had been lost to them after WWI
- Poland invaded in September 1939, this was the official beginning of WW2
- Nazi leaders split the country into different regions, the largest region was called General Government
- The Nazi leaders aim was to 'Germanise' Poland

Removal of Polish Culture:

- Himmler drew up a plan to decide how to occupy countries in Eastern Europe, called the Eastern General Plan. It aimed to remove as many Slavic people as possible and replace them with Germans
- From 1940 hundreds of thousands of native polish citizens were replaced with 500,000 'ethnic Germans'
- Hans Frank was placed in charge of this process, he aimed to destroy Polish culture
- School and universities were closed
- 30,000 of most talented Polish people were arrested many tortured and murdered
- 1.9 million non Jewish Citizens were murdered
- 1.5 million Poles were deported and worked in labour camps
- In 1939 the Jewish population of Germany was 3.5 million by the end of the war 3 million had been murdered

Resistance

- The Polish Government which had escaped to London helped to establish the Delegatura, a secret state within Poland
- In August 1944, their was an uprising in Warsaw lasting two months.
- The Germans eventually took control but ordered the complete destruction of Warsaw and its people

Section F - Occupation of the Netherlands

Occupation

- Begins in 10 May 1940
- Luftwaffe attack the port of Rotterdam, 800 people killed and 25,000 buildings were destroyed
- The Dutch government surrendered out of fear of similar loss of life in other cities

Experiences of Occupation

- Civil Servants were allowed to continue to work, although many resigned
- Dutch Education was not changed and the Dutch at first co-operated with Germans

Changing Experiences

- February 1941, the first Dutch Jews began to rounded up
- Dutch Communists began to go on strike, resulting in violent reaction from German authorities
- 1943 107,000 Dutch Jews were deported or sent to concentration camps
- 300,000 ex Dutch soldiers were transported to Germany to work in Labour Camps
- By 1944 all men between 16-60 had to report for forced labour across Germany

Resistance:

- June 1940, many Dutch wore carnations in support of the exiled royal family
- Dutch organised a resistance movement operating in secret, 300,000 people were in hiding
- Illegal printing presses were established

Section G – Total War Germany

War Economy :

- After invasion of Poland and other Eastern European countries Hitler declared a war economy in December 1939
- All industries would focus on the producing products to support war effort
- Military budget rose dramatically
- By 1941 55% of German workforce were employed in war related industries
- Albert Speer was to be in charge of this and introduced 'Industrial self responsibility'
- 1940 10200 aircraft produced by 1944 this had risen to 39,600
- 1940 1600 tanks were produced by 1944 this had risen to 19,000

Impact of War :

- By Spring 1940 Germany was beginning to experience food shortages
- Rationing was introduced
- Jews were given much more rationing than Germans
- Germans would spend hours queuing for low quality foods
- Complaining would be dealt wit5h harshly
- Women had a varied experience many leading Nazi still felt their role should be in the home, but as the war progressed some were encouraged to return to work. From 1939 women under 25 were expected to complete 6 months Labour Service before entering full employment
- From 28 August 1940 RAF began a bombing campaign against the important German cities
- Children were voluntarily evacuated out of the towns and cities
- Older children were placed in camps run by the Hitler Youth, this allowed the Nazi to increase their indoctrination programm

Section H - Holocaust

First Solution – Persecution and Emigration

- In German occupied countries the Nazi's would force Jews to leave the country
- Jews were beaten and humiliated, their property attacked and belongings looted
- He Nazi's created a Central Office for Jewish Emigration

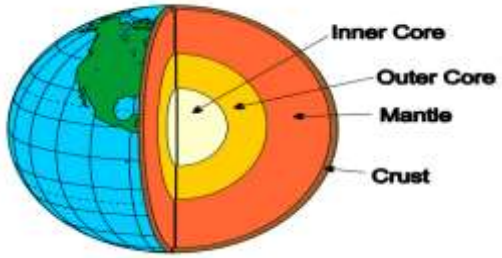
Second Solution – Concentration in Ghettos

- As Germany occupied more countries in the East with higher Jewish populations emigration would become harder to manage
- Jews were instead forced into Ghettos, which were enclosed areas in cities were Jews could be isolated
- The Warsaw Ghetto hard a 3 metre high wall, and held 445,000 people
- Disease and death were common amongst young and elderly

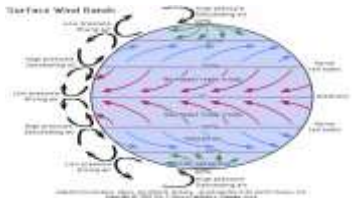
Final Solution – Mass Murder

- Einsatzgruppen, an elite German force carried out mass murders of Jewish communities. They were made up of SS and police
- The Einsatzgruppen would follow the German army as they entered new territory
- They would round up men, women and children take them to secluded wooded areas. The victims would be forced to dig a large pit, stand at the edge of it and then be shot.
- At Chelmo near the Polish town of Lodz, Jews were bing murdered by exhaust fumes in a van, allowing more to be killed at the same time
- This idea was expanded on and in 1941 Operation Reinhard allowed the building of extermination or death camps
- By 1942, these were built in Belzec, Sobibor, Treblinka and later Austwitz.
- Jews were herded into gas chambers under the pretence of having a shower, but then would be murdered with gas – 1.7 million by end of WW2

Geography | Natural Hazards | CYCLE 1 | YEAR 10

Quiz	Key Knowledge to learn
1	**What are Natural Hazards?** Natural hazards are physical events such as earthquakes and volcanoes that have the potential to do damage humans and property. Hazards include tectonic hazards, tropical storms and forest fires. **What affects hazard risk?** ✓ Population growth ✓ Global climate change ✓ Deforestation ✓ Wealth - LICs are particularly at risk as they do not have the money to protect themselves 
2	**Structure of the Earth** <u>The earth has 4 layers</u> ✓ **The inner core** ✓ **The outer core** ✓ **The mantle** ✓ **The crust**  The crust is split into major fragments called **tectonic plates**. There are 2 types: **Oceanic** (thin and younger but dense) and **Continental** (old and thicker but less dense) These plates move and where they meet you get tectonic activity (volcanoes and earthquakes).
3	**Volcanoes and earthquakes** **Volcanoes** • **Constructive** margins – Hot magma rises between the plates eg. Iceland. Forms Shield volcanoes • **Destructive** margins – an oceanic plate subducts under a continental plate. Friction causes oceanic plate to melt and pressure forces magma up to form composite volcanoes eg the Pacific Rim **Earthquakes** • **Constructive** margins – usually small earthquakes as plates pull apart. • **Destructive** margins – violent earthquakes as pressure builds and is then released • **Conservative** margins – plates slide past each other. They catch and then as pressure builds it is released eg San Andreas fault. . 

Quiz	Key Knowledge to learn
4	**Effects of Tectonic Hazards** Primary effects happen immediately. Secondary effects happen as a result of the primary effects and are therefore often slightly later. **Primary - Earthquakes** • Property and buildings destroyed • People injured or killed • Ports, roads, railways damaged • Pipes (water and gas) and electricity cables broken **Secondary - Earthquakes** • Business reduced as money spent repairing property • Blocked transport hinders emergency services • Broken gas pipes cause fire • Broken water pipes lead to a lack of fresh water **Primary - Volcanoes** • Property and farm land destroyed • People and animals killed or injured • Air travel halted due to volcanic ash • Water supplies contaminated **Secondary - Volcanoes** • Economy slows down. Emergency services struggle to arrive • Possible flooding if ice melts Tourism can increase as people come to watch • Ash breaks down leading to fertile farm land
5	**Responses to Tectonic Hazards** **Immediate (short term)** • **Issue warnings if possible** • **Rescue teams search for survivors** • **Treat injured** • **Provide food and shelter, food and drink** • **Recover bodies** • **Extinguish fires** **Long-term** • **Repair and re-build properties and infrastructure** • **Improve building regulations** • **Restore utilities** • **Resettle locals elsewhere** • **Develop opportunities for recovery of economy** • **Install monitoring technology**
6	**Preparing for a tectonic hazard** **Monitoring** – Seismometers measure earth movement. Volcanoes give off gases **Prediction** – by observing monitoring data, this can allow evacuation before an event **Protection** – Reinforced buildings and making building foundations that absorb movement. Automatic shut offs for gas and electricity **Planning** – Avoid building in at risk areas. Training for emergency services and planned evacuation routes and drills.

Quiz	Key Knowledge to learn
7	***An event example of the effects and responses - Nepal Earthquake (LIC)*** 2015 Epicentre was Barpak, 80 km (50 miles) northwest of the capital, Kathmandu. 7.8 on Richter scale. Destructive plate margin. Indo-Australian plate is colliding with the Eurasian plate at a rate of 45mm per year. **Primary Effects** – 9,000 people killed; 17,000 people injured, and 25 hospitals destroyed **Secondary Effects** – Earthquake triggered an avalanche killing tourists on Mount Everest; Rice seed stores in homes were destroyed; tourism industry affected I**mmediate Responses** – Red Cross provided 225,000 tents; Helicopters rescued people from mountainous regions; 500,000 people migrated from Kathmandu to seek shelter **Long term responses** – 7,000 schools were rebuilt; stricter building controls on new housing; Mountain Everest region reopened again for tourists.
8	***An event example of the effects and responses*** **- L'Aquila Earthquake (HIC)** L'Aquila Earthquake in Italy occurred on the 6th April 2009 and It reached 5.8 on the richter scale. The earthquake occurred on a destructive boundary between the African and Eurasian plate. **Primary Effects** – 300 people killed; 1,500 were injured; 67,500 were made homeless; 15,000 buildings collapsed **Secondary Effects** – A landslide and mudflow caused by a burst water pipe near the town of Pagenio; Students of L'Aquila University has decreased; Lack of housing for all residents meant house prices and rents increased I**mmediate Responses** – Hotels provided shelter for 10,000 people and 40,000 tents were given out; Italian Red Cross was searching for survivors; The Italian Post Office offered free mobile calls and raised donations **Long term responses** – Students were given free public transport and were exempt from university fees for three years; 6 scientists were found guilty of manslaughter as they had not predicted the earthquake 
9	**Global Atmospheric Circulation and Distribution of tropical storms** At the equator, the sun's rays are most concentrated. This means it is hotter. This one fact causes global atmospheric circulation at different latitudes. High pressure = dry ow pressure = wet As the air heats it rises – causing low pressure. As it cools, it sinks, causing high pressure. Winds move from high pressure to low pressure. They curve because of the Coriolis effect (the turning of the Earth). **Tropical Storms** occur in low latitudes between 5 and 30 degrees north and south of the equator. Ocean temperature needs to be above 27 degrees. They happen between summer and autumn.  

Quiz	Key Knowledge to learn
10	**Sequence of a Tropical storm** 1. Air is heated above warm tropical oceans 2. Air rises under low pressure conditions 3. Strong winds form as rising air draws in more air and moisture causing torrential rain 4. Air spins due to Coriolis effect around a calm eye of the storm 5. Cold air sinks in the eye so it is clear and dry 6. Heat is given off as it cools powering the storm 7. On meeting land, it loses source of heat and moisture so loses power  **Preparing for a Tropical Storm** **Prediction** – Monitoring wind patterns allows path to be predicted. Use of satellites to monitor path to allow evacuation. **Planning** – Avoid building in high risk areas; Emergency drills; Evacuation routes **Protection** – Reinforced buildings and stilts to make safe from floodwater; Flood defences e.g. Levees and sea walls
11	**Typhoon Haiyan, Philippines, Category 5 storm, Winds reach 170 mph** **Primary Effects** – 6, 300 people killed; 600,000 people displaced; 40,000 homes destroyed; 30,000 fishing boats destroyed; 400mm rain caused severe flooding **Secondary Effects** – 14 million people affected; 6 million lost their income; landslides and blocked roads; power supply was cut off for a month in some areas; ferry and airport services were disrupted for weeks I**mmediate Responses** – Aid agencies sent water, food and shelter aid; US sent in helicopters and search and rescue teams; UK government sent shelter kits. **Long term responses** – The UN and countries such as the UK sent financial support; re-Buidling of major roads , bridges and airports; 'Cash for work' programme set up – people were paid to help clear roads etc; Oxfam sent replacement fishing boats. 
12	**Extreme weather in the UK** **UK weather is getting more extreme due to climate change. Temperatures are more extreme, and rain is more frequent and intense leading to more flooding events. Since 1980, average temperature has increased by 1 degree and winter rainfall has increased.** **Rain** – can cause flooding damaging homes and businesses **Snow and ice** – causes injuries and disruption to schools and businesses. Destroys farm crops. **Hail** – causes damage to property and crops **Drought –** limited water supply. Can damage crops **Wind** – damage to property and damage to trees potentially leading to injury **Thunderstorms** – lightening can cause fires or even death **Heat waves** – causes breathing difficulties and can disrupt travel.
13	Cumbria Floods, 2009 **Social effects** ✓ Pc Bill Barker was killed when a bride in Workington collapsed. ✓ 1,500 homes were flooded. **Economic Effects** ✓ Many businesses had to close and did not open for months after, losing valuable income from Christmas tourism **Environmental Effects** ✓ Debris from the River Cocker and River Derwent destroyed 6 bridges ✓ Landslides were triggered ✓ Hundreds of trees torn down

CYCLE 1		SUBJECT	MATHS		YEAR GROUP	10

BOX 1: Key facts

Properties of shapes

A polygon is a 'many sided shape' with at least three straight sides. A circle is not a polygon as it has no straight sides. Polygons include triangles (3 sides), quadrilaterals (4 sides), pentagons (5 sides), hexagons (6 sides), heptagons (7 sides), octagons (8 sides), nonagons (9 sides), decagons (10 sides), hendecagons (11 sides), dodecagons (12 sides) and so on.

In a regular polygon every side is equal and all interior angles are equal.

A triangle has 3 sides. An equilateral triangle is a regular triangle. In an equilateral triangle all the angles are 60° and all the sides are equal length. In an isosceles triangle the base angles are equal. An isosceles triangle has 2 sides of equal length. In a scalene triangle no angles and no sides are equal in length.

A quadrilateral is a four sided shape. The main types of quadrilateral are square, rectangle, rhombus, parallelogram, kite and trapezium. A square is a regular quadrilateral. A square has four equal sides and four angles of 90°. A rectangle has two pairs of equal sides and four angles of 90°. A rhombus has four equal sides and the opposite angles are equal. A parallelogram has two pairs of equal sides and opposite angles are equal. A kite has two pairs of equal sides and one set of equal angles. There are no parallel sides. A trapezium has one set of parallel sides. In a regular trapezium there are two sets of equal angles.

Symbols

= means equal to
≠ means not equal to
≡ means identical to
≤ means less than or equal to
< means less than
≥ means more than or equal to
> means more than
$\sqrt{\ }$ means square root

Drawing facts

Diagrams and graphs should always be drawn with a pencil and ruler. NOT TO SCALE means the diagram has not been drawn accurately and so you can't make assumptions about lengths and angles. A protractor is used to measure angles. A compass is used to construct arcs and circles.

Area and Volume conversions

$1cm^2 = 100mm^2$

$1m^2 = 10{,}000cm^2 = 1{,}000{,}000mm^2$

$1cm^3 = 1000mm^3$ = 1ml

$1m^3 = 1{,}000{,}000cm^3 = 1{,}000{,}000{,}000mm^2$ = 1000 litres

Command word	Definition
Add/Label	Show information or name something on a graph, diagram or table.
Calculate	Work out an answer using numbers from the question. Show working out (e.g. equation and substitution) and units.
Comment on	Review data/information and say what you think it shows.
Compare	Look for the similarities or differences of two (or more) things. Use more, less, similar etc and –er words e.g. slower, longer
Complete	Add missing information to a table/diagram.
Describe	Describe a process, object or method. Ideas need to be linked in a logical order but do not need to explain.
Determine	Show how the answer can be reached mathematically.
Draw	Produce a diagram either using a ruler or using freehand. Use a pencil.
Estimate	Find an approximate number from a table or graph. May need to use a calculation or the line of best fit.
Justify	Give evidence to support an answer.
Give/State/ Name/Write	Recall a piece of information such as a keyword or equation.
Give a reason/ reasons	Say why something happens.
Identify	Select key information from a given question/ diagram/situation.
Measure	Use ruler or protractor to determine the dimensions or angle from a diagram.
Plot	Mark points on a graph (X's) accurately from the data and graph provided. Draw a line of best fit. Label axes and add a scale if these are not given in the question.
Show that	Prove the statement given in the question is right. May require a calculation.
Sketch	Produce a freehand drawing and label key features e.g. sketch a graph: Draw rough axis and axis labels and line of best fit.
State and explain	Make a point and link ideas to justify that point. This can include mathematical explanations.

CYCLE 1		SUBJECT	MATHS		YEAR GROUP	10

BOX 2: Trigonometry

PYTHAGORAS' THEOREM	
Pythagoras's Theorem	A relationship between the **3 sides** on a **right angled triangle**
Pythagoras' Theorem	$a^2 + b^2 = c^2$
Pythagoras's Theorem in 3D	$a^2 + b^2 + c^2 = h^2$

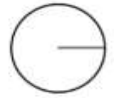
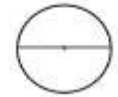
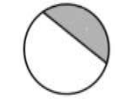
TRIGONOMETRIC RATIOS	
Sin, Cos, Tan	Use with **right angled triangles.** Ratios between **2 lengths and an angle.**
Hypotenuse	The **longest** side on a right angled triangle. It is always **opposite the right angle.**
Opposite side	This side depends on the angle you are using (θ) It is the angle **opposite** θ
Adjacent side	This side depends on the angle you are using (θ) It is the angle **next to** θ
Sin	$sin\theta = \frac{opposite}{hypotenuse}$
Cos	$cos\theta = \frac{adjacent}{hypotenuse}$
Tan	$tan\theta = \frac{opposite}{adjacent}$

TRIGONOMETRIC RULES (HIGHER)	
Sine rule	Use with **non right angled** triangles. Use when the question involves **2 sides and 2 angles.**
Sine Rule (for an angle)	$\frac{SinA}{a} = \frac{SinB}{b} = \frac{SinC}{c}$
Sine Rule (for a side)	$\frac{a}{SinA} = \frac{b}{SinB} = \frac{c}{SinC}$
Cosine rule	Use with **non right angled** triangles. Use when the question involves **3 sides and 1 angle.**
Cosine Rule (for a side)	$a^2 = b^2 + c^2 - 2bcCosA$
Cosine Rule (for an angle)	$CosA = \frac{b^2 + c^2 - a^2}{2bc}$
Area of a triangle (trig)	$Area = \frac{1}{2}abSinC$

EXACT TRIG VALUES

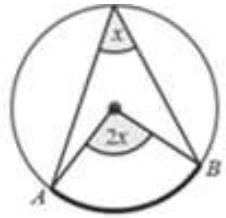
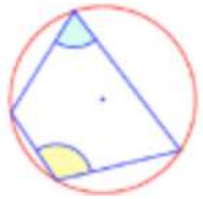
	0°	30°	45°	60°	90°
sin	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
tan	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	----

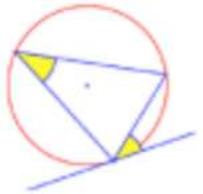
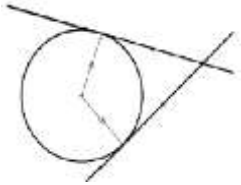
BOX 3: Working with circles

CIRCLE DEFINITIONS		
Pi	The ratio between a circle's circumference and it's diameter. It is an irrational number: **3.1415….**	π
Radius	The distance from the **centre** of a circle to the **edge.** (it is **half** the diameter)	
Chord	A **straight line** whose end points lie on a circle.	
Diameter	The total distance across the **width** of a circle through the **centre**. (it is **double** the radius)	
Circumference	The total **distance** around the **outside** of a circle.	
Tangent	A **straight line** which touches a circle at **exactly one point**, never entering the circle's interior	
Arc	A part of the **circumference** of a circle.	
Sector	The **region** of a circle enclosed by two **radii** and an **arc.**	
Segment	The region bounded by a **chord** and an **arc**	

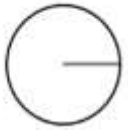
CYCLE 1		SUBJECT	MATHS		YEAR GROUP	10

BOX 3: Working with circles

CIRCLE THEOREMS	
The angle in a semicircle is **90°**	
Angles in the same segment are **equal**	
The angle at the centre of a circle is **twice** the angle at the circumference	
Opposite angles in a cyclic quadrilateral add to **180°**	

Alternate segment theorem: Angles in **alternate segments** are **equal**	
A tangent meets a radius at **90°**	
Tangents from an external point are **equal in length**	

Links to: CIRCLE DEFINITIONS

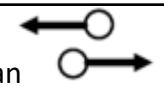
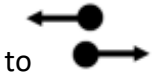
Radius	The distance from the **centre** of a circle to the **edge.**	
Tangent	A **straight line** which touches a circle at exactly **one point**, never entering the circle's interior	
Segment	The **region** bounded by a **chord** and an **arc**	

CYCLE 1		SUBJECT	MATHS		YEAR GROUP	10

BOX 4: Equations and inequalities

INSTRUCTIONS: EQUATIONS	
Solve	**Find the value** of an unknown or variable. We use **inverse** operations and the **balance** method.
Iterate	**Repeatedly** carry out a process. When solving using iteration, it gives an **approximate solution.**
Rearrange	**Changing the subject** of a formula. Sometimes called **transposing.** We use **inverse** operations and the **balance** method, like when we solve an equation.
Inverse	The **opposite.**
Balance *an equation*	Do the **same** to **both sides of the "="** We use this to **solve** an equation, or **rearrange** an equation.

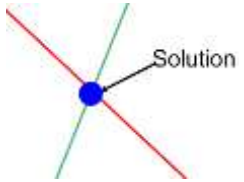
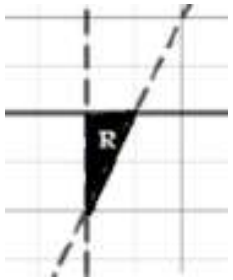
FURTHER EQUATIONS VOCABULARY	
Subject *of an equation*	A **single** unknown or variable that everything else is **equal** to.
Solution *of an equation*	A **value** we can put in place of a variable that makes the equation **true.**
Simultaneous	Occurring at the **same time.**
Elimination	To **remove** or **get rid** of something.

EXPRESSIONS, EQUATIONS, IDENTITIES AND FORMULA		
Expression	A set of **terms** combined using the 2 operations +, -, x or ÷. There is **no "=" sign**. *e.g. 4x-3, 5a - 3xy + 17*	
Equation	Where two expressions are **equal** in value – there is always an **"=" sign**. *e.g. 4b = 18.*	
Inequality	Where two expressions are **not equal** in value.	
	Strict	< **less** than > **greater** than 
	Non-strict	≤ **less** than or **equal** to ≥ **greater** than or **equal** to 
Formula	A special type of equation, used to **find the value** of a specific thing. *e.g. $F = ma^2$*	
Identity	An equation that is **true for all** of its variables. *e.g. b + b = 2b*	
Function	A special type of equation where each input has a **single output.**	
	Input – A variable you **choose**. Output – A variable that is **calculated.**	

SOLVING QUADRATIC EQUATIONS	
Quadratic	A polynomial where the highest power of x is $\mathbf{x^2}$
Solving a quadratic	Finding the **roots** of the graph. There are usually **two** roots / solutions.
General quadratic equation	A quadratic expression is of the form $\boldsymbol{ax^2 + bx + c = 0}$ Where a, b and c are numbers, a ≠ 0.
The quadratic formula	$x = \frac{-\boldsymbol{b} \pm \sqrt{\boldsymbol{b^2 - 4ac}}}{\boldsymbol{2a}}$
Factor	A quantity which **divides equally** into a number. *E.g. factors of 8 are* ***1, 2, 4 and 8.***
Factorising a general quadratic	*E.g. Quadratic: $x^2 + bx + c$* *Factorised form:* ***(x + ?)(x + ?)***
Difference of two squares	*E.g. $a^2 - b^2$* *Factorised form:* ***(a – b)(a + b)***
Completing the square	A quadratic in the form $x^2 + bx + c$ can be written in the form $(\boldsymbol{x + p})^2 + \boldsymbol{q}$ The turning point of the quadratic is **(-p,q)**

CYCLE 1		SUBJECT	MATHS		YEAR GROUP	10

BOX 5: Simultaneous equations

Links to: LINEAR GRAPHS		
y = mx + c	The general equation of a linear graph, where **m** is the **gradient** and **c** is the **y-intercept.**	
Simultaneous equations (graphically)	Simultaneous inequalities can be solved graphically by plotting the two lines and finding the **point where they cross.**	
Simultaneous inequalities (graphically)	**Regions** can be shaded that satisfy inequalities: Strict (< or >) are a dashed line -------) Non-strict (≤ or ≥) are a solid line _____)	

Use the elimination method to solve the given simultaneous equations.

$-3x + 4y = 6$ (×2)
$-2x - 3y = -13$ (×3)

$-6x + 8y = 12$ ①
$-6x - 9y = -39$ ②

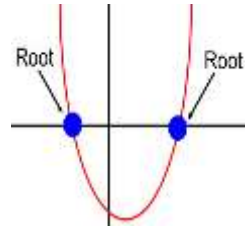
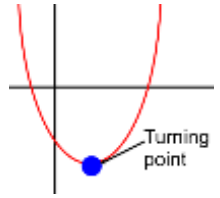
$17y = 51$ (÷17) (÷17)

$y = 3$

substitute $y = 3$ into equation ①

$-6x + 8(3) = 12$
$-6x + 24 = 12$ (+6x) (+6x)
$24 = 6x + 12$ (−12) (−12)
$12 = 6x$ (÷6) (÷6)

$2 = x$

Links to: QUADRATIC GRAPHS		
Quadratic graph	A graph where the highest power of x is x^2 It is always a **parabola** (a **U-shape**)	
Roots (of graphs)	The 'solutions' of a graph. Where a function equals zero. Can be found in a graph where the curve meets the x axis.	
Turning point	The point where a graph turns, from negative to positive gradient or positive to negative gradient.	

Quadratic simultaneous equation:

$x^2 + y^2 = 25$ (1)
$y = x + 1$ (2)

Sub (2) into (1)
$x^2 + (x+1)^2 = 25$
$x^2 + (x+1)(x+1) = 25$
$x^2 + x^2 + x + x + 1 = 25$
$2x^2 + 2x + 1 = 25$
$2x^2 + 2x - 24 = 0$

Divide equation by 2
$x^2 + x - 12 = 0$

Factorise
$(x+4)(x-3) = 0$

Solve
$x + 4 = 0$ $\quad x - 3 = 0$
$x = -4$ $\quad x = 3$

Sub x values into (2) to find y
$y = -4 + 1$ $\quad y = 3 + 1$
$y = -3$ $\quad y = 4$

Answers
$x = -4, y = -3$
$x = 3, y = 4$

French	Key Information	CYCLE 1	All Years

Les jours de la semaine

- lundi
- mardi
- mercredi
- jeudi
- vendredi
- samedi
- dimanche

Les mois

- janvier
- février
- mars
- avril
- mai
- juin
- juillet
- août
- septmebre
- octobre
- novembre
- décembre

Les nombres en français

0	zero	10	dix	20	vingt	30	trente
1	un	11	onze	21	vingt-et-un	31	trente-et-un
2	deux	12	douze	22	vingt-deux	32	trente-deux
3	trois	13	treize	23	vingt-trois	33	trente-trois
4	quatre	14	quatorze	24	vingt-quatre	34	trente-quatre
5	cinq	15	quinze	25	vingt-cinq	35	trente-cinq
6	six	16	seize	26	vingt-six	36	trente-six
7	sept	17	dix-sept	27	vingt-sept	37	trente-sept
8	huit	18	dix-huit	28	vingt-huit	38	trente-huit
9	neuf	19	dix-neuf	29	vingt-neuf	39	trente-neuf
40	quarante	50	cinquante	60	soixante	70	soixante-dix
41	quarante-et-un	51	cinquante-et-un	61	soixante-et-un	71	soixante-onze
42	quarante-deux	52	cinquante-deux	62	soixante-deux	72	soixante-douze
43	quarante-trois	53	cinquante-trois	63	soixante-trois	73	soixante-treize
44	quarante-quatre	54	cinquante-quatre	64	soixante-quatre	74	soixante-quatorze
45	quarante-cinq	55	cinquante-cinq	65	soixante-cinq	75	soixante-quinze
46	quarante-six	56	cinquante-six	66	soixante-six	76	soixante-seize
47	quarante-sept	57	cinquante-sept	67	soixante-sept	77	soixante-dix-sept
48	quarante-huit	58	cinquante-huit	68	soixante-huit	78	soixante-dix-huit
49	quarante-neuf	59	cinquante-neuf	69	soixante-neuf	79	soixante-dix-neuf

80	quatre-vingt	90	quatre-vingt-dix
81	quatre-vingt-et-un	91	quatre-vingt-onze
82	quatre-vingt-et-deux	92	quatre-vingt-douze
83	quatre-vingt-et-trois	93	quatre-vingt-treize
84	quatre-vingt-et-quatre	94	quatre-vingt-quatorze
85	quatre-vingt-et-cinq	95	quatre-vingt-quinze
86	quatre-vingt-et-six	96	quatre-vingt-seize
87	quatre-vingt-et-sept	97	quatre-vingt-sept
88	quatre-vingt-et-huit	98	quatre-vingt-dix-huit
89	quatre-vingt-et-neuf	99	quatre-vingt-dix-neuf

100	cent	600	six cents	105	cent cinq	1,001	mille et un	74,000	soixante-quatorze mille
200	deux cents	700	sept cents	149	cent quarante-neuf	1,500	mille cinq cents	100,000	cent mille
300	trois cents	800	huit cents	181	cent quatre-vingt-un	1,766	sept cent soixante-six	1,000,000	un million
400	quatre cents	900	neuf cents	501	cinq cent un	2,001	deux mille un	3,000,000	trois millions
500	cinq cents	1,000	mille	565	cinq cent soixante-cinq	40,000	quarante mille	1,000,000,000	un-millard

French	Marking Sticker	CYCLE 1	All Years

Title:					
Detail	**WWW**	**EBI**	**Tenses**	**WWW**	**EBI**
Connectives	1 2 3		Present tense	1 2 3	
Opinions	1 2 3		Past Perfect	1 2 3	
Reasons (adjectives)	1 2 3		Imperfect	1 2 3	
Intensifiers	1 2 3		Conditional	1 2 3	
Time expressions	1 2 3		Simple Future	1 2 3	
Adverbs	1 2 3		Pluperfect	1 2 3	
Negatives	1 2 3		Perfect Conditional	1 2 3	
			Subjunctive	1	
Comparatives	plus moins		Modal Verbs	1	
Superlatives	le plus le moins le pire le meilleur		Other Persons	1 2 3	
			Quality of Work	Si j'avais le choix	
Si clause	1 2 3				
Openers	1 2 3		**1 Excellent**	Quand j'étais plus jeune	
Exclamation	1 2 3		**2 Good**	Pour que je sois contente	
Questions	1 2 3			Quand je serai plus âgé	
Total:			**4 Poor**	vu que	
				tandis que	
				Si je pourrais	
				Pour que je puisse	

French	French Literacy Mat	CYCLE 1	All Years

Connectives
car / parce que = because
mais = but
puisque = since
aussi = also
donc = therefore
puis = then
après = after
Ensuite = next/then
ou = or
cependant = however
par conséquent = as a result
étant donné que = given that
tandis que = whereas
vu que = considering that
Malgré = despite
Afin que = so that
Pourvu que = given that
Sauf = except
En outre = furthermore
Pour que = so that

Openers
D'abord = Firstly
Par contre = On the other hand
Premièrement = Firstly
Deuxièment = Secondly
Troisièmement = Thirdly
Finalement = Finally
Pour moi = As for me

Subjunctive
Pour que je sois = so that I am
Pour que je puisse = so that I can
Il faut que = It is necessary that
Il est essential qu'il aie = it is essential that there is…
Il est necessaire qu'on fasse = it is necessary that we do

Questions
Pourquoi? = Why
Qui? = Who?
Quand? = When?
Comment? = How?
Quel (le) = What?
N'est-ce pas? = Isn't it?
As-tu / Avez-vous? = Do you have?

Intensifiers
très = very
assez = quite
un peu = a little
vraiment = really
beaucoup = a lot

Complex Opinions
Je pense que = I think that
J'estime que = I consider that
Je crois que = I believe that
Il me semble que = It seems to me that
Je trouve que = I find that
À mon avis = In my opinion
En ce qui me concerne = Concerning me
Je suis d'accord car = I agree because

Time Expressions
Aujourd'hui = Today
Hier = Yesterday
Demain = Tomorrow
En été = In summer
En hiver = In winter
L'année dernière = Last year
L'année prochaine = Next year
À l'avenir = In the future
La semaine dernière = Last week
Le mois prochain = Next month

Adjectival Agreement
un garçon intelligent = a clever boy
une fille intelligente = a clever girl
un pull bleu = a blue jumper
une veste grise = a grey blazer
une cravate violette = a purple tie
une chemise blanche = a white shirt

Adverbs
d'habitude = usually
normalement = normally
quelquefois = sometimes
tous les jours = every day
généralement = generally

Superlatives
le / la moins = the least
le / la plus = the most
le / la pire = the worst
le / la meilleur (e) = the best

Exclamation
Quelle surprise! = What a surprise!
Quelle chance! = What luck!
Quel dommage! = What a shame!
Quelle horreur! = What horror!

Negatives
ne… pas = not
ne… jamais = never
ne… que = only
ni… ni = neither… nor
ne… plus = no longer/not anymore

Comparatives
plus… que = more… than
moins… que = less… than
mieux que = better than
pire que = worse than

Reasons (Adjectives)
c'est… = it is…
c'était… = it was…
ce sera… = it will be…
ce serait…=it would be…

intéressant = interesting
passionnant = exciting
sympa = nice
époustouflant = mind-blowing
triste = sad
affreux = terrible
épouvantable = dreadful
bizarre = strange
sale = dirty
propre = clean
bruyant = noisy
tranquille = calm
beau/joli = nice
cher = expensive
différent = different
ennuyeux = boring
mauvais/mal = bad
paresseux = lazy
vieux = old
propre = clean
facile = easy
moche/ laid = ugly
grand = big
petit = small

French	Tense Timeline	CYCLE 1	All Years

= MINUS tense

= PLUS tense

Imperfect

I used to play

Je jouais

Present

I play

Je joue

Simple Future

I will play

Je jouerai

Conditional Perfect

I would have played

J'aurais joué

Pluperfect

I had played

J'avais joué

Past Perfect

I played

J'ai joué

Near Future

I am going to play

Je vais jouer

Conditional

I would play

Je jouerais

French	Verbs	CYCLE 1	All Years

Present Tense Regular Verbs

ER verb habiter = to live			**IR verb** finir = to finish			**RE verb** attendre = to wait		
Je (J')	habit **e**	*I live*	**Je (J')**	fin **is**	*I finish*	**Je (J')**	attend **s**	*I wait*
Tu	habit **es**	*You live (s/informal)*	**Tu**	fin **is**	*You finish (s/informal)*	**Tu**	attend **s**	*You wait (s/informal)*
Il	habit **e**	*He lives*	**Il**	fin **it**	*He finishes*	**Il**	attend **_**	*He waits*
Elle	habit **e**	*She lives*	**Elle**	fin **it**	*She finishes*	**Elle**	attend **_**	*She waits*
On	habit **e**	*We live*	**On**	fin **it**	*We finish*	**On**	attend **_**	*We wait*
Nous	habit **ons**	*We live*	**Nous**	fin **issons**	*We finish*	**Nous**	attend **ons**	*We wait*
Vous	habit **ez**	*You live (pl/formal)*	**Vous**	fin **issez**	*You finish (pl/formal)*	**Vous**	attend **ez**	*You wait (pl/formal)*
Ils	habit **ent**	*They live (m/mixed)*	**Ils**	fin **issent**	*They finish (m/mixed)*	**Ils**	attend **ent**	*They wait (m/mixed)*
Elles	habit **ent**	*They live (f)*	**Elles**	fin **issent**	*They finish (f)*	**Elles**	attend **ent**	*They wait (f)*

Present Tense Irregular Verbs

avoir = to have			**être = to be**			**faire = to do**			**aller = to visit**		
Je (J')	**ai**	*I have*	**Je (J')**	**suis**	*I am*	**Je (J')**	**fais**	*I do*	**Je (J')**	**vais**	*I go*
Tu	**as**	*You have (s/informal)*	**Tu**	**es**	*You are (s/informal)*	**Tu**	**fais**	*You do (s/informal)*	**Tu**	**vais**	*You go (s/informal)*
Il	**a**	*He has*	**Il**	**est**	*He is*	**Il**	**fait**	*He does*	**Il**	**va**	*He goes*
Elle	**a**	*She has*	**Elle**	**est**	*She is*	**Elle**	**fait**	*She does*	**Elle**	**va**	*She goes*
On	**a**	*We have*	**On**	**est**	*We are*	**On**	**fait**	*We do*	**On**	**va**	*We go*
Nous	**avons**	*We have*	**Nous**	**sommes**	*We are*	**Nous**	**faisons**	*We do*	**Nous**	**allons**	*We go*
Vous	**avez**	*You have (pl/formal)*	**Vous**	**êtes**	*You are (pl/formal)*	**Vous**	**faites**	*You do (pl/formal)*	**Vous**	**allez**	*You go (pl/formal)*
Ils	**ont**	*They have (m/mixed)*	**Ils**	**sont**	*They are (m/mixed)*	**Ils**	**font**	*They do (m)*	**Ils**	**vont**	*They go (m/mixed)*
Elles	**ont**	*They have (f)*	**Elles**	**sont**	*They are (f)*	**Elles**	**font**	*They do (f)*	**Elles**	**vont**	*They go (f)*

French	Verbs	CYCLE 1	All Years

Pluperfect	Past Imperfect	Past Perfect	Present Tense	Near Future	Simple Future	Conditional	Perfect Conditional
INFINITIVE: porter = to wear (Regular er)							
I had worn	I used to wear	I wore	I am wearing/I wear	I am going to wear	I will wear	I would wear	I would have worn
Je (J') avais **porté**	**Je (J')** port **ais**	**Je (J')** ai **porté**	**Je (J')** port **e**	**Je (J')** vais **porter**	**Je (J')** porter **ai**	**Je (J')** porter **ais**	**Je (J')** aurais **porté**
Tu avais **porté**	**Tu** port **ais**	**Tu** as **porté**	**Tu** port **es**	**Tu** vas **porter**	**Tu** porter **as**	**Tu** porter **ais**	**Tu** aurais **porté**
Il / **Elle** / **On** avait **porté**	**Il** / **Elle** / **On** port **ait**	**Il** / **Elle** / **On** a **porté**	**Il** / **Elle** / **On** port **e**	**Il** / **Elle** / **On** va **porter**	**Il** / **Elle** / **On** porter **a**	**Il** / **Elle** / **On** porter **ait**	**Il** / **Elle** / **On** aurait **porté**
Nous avions **porté**	**Nous** port **ions**	**Nous** avons **porté**	**Nous** port **ons**	**Nous** allons **porter**	**Nous** porter **ons**	**Nous** porter **ions**	**Nous** aurions **porté**
Vous aviez **porté**	**Vous** port **iez**	**Vous** avez **porté**	**Vous** port **ez**	**Vous** allez **porter**	**Vous** porter **ez**	**Vous** porter **iez**	**Vous** auriez **porté**
Ils / **Elles** avaient **porté**	**Ils** / **Elles** port **aient**	**Ils** / **Elles** ont **porté**	**Ils** / **Elles** port **ent**	**Ils** / **Elles** vont **porter**	**Ils** / **Elles** porter **ont**	**Ils** / **Elles** porter **aient**	**Ils** / **Elles** auraient **porté**
INFINITIVE: finir = to finish (ir)							
I had finished	I used to finish	I finished	I am finishing/ I finish	I am going to finish	I will finish	I would finish	I would have finished
Je (J') avais **fini**	**Je (J')** finiss **ais**	**Je (J')** ai **fini**	**Je (J')** fin **is**	**Je (J')** vais **finir**	**Je (J')** finir **ai**	**Je (J')** finir **ais**	**Je (J')** aurais **fini**
Tu avais **fini**	**Tu** finiss **ais**	**Tu** as **fini**	**Tu** fin **is**	**Tu** vas **finir**	**Tu** finir **as**	**Tu** finir **ais**	**Tu** aurais **fini**
Il / **Elle** / **On** avait **fini**	**Il** port **ait** / **Elle** / **On** finiss **ait**	**Il** / **Elle** / **On** a **fini**	**Il** / **Elle** / **On** fin **it**	**Il** / **Elle** / **On** va **finir**	**Il** / **Elle** / **On** finir **a**	**Il** / **Elle** / **On** finir **ait**	**Il** / **Elle** / **On** aurait **fini**
Nous avions **fini**	**Nous** finiss **ions**	**Nous** avons **fini**	**Nous** fin **issons**	**Nous** allons **finir**	**Nous** finir **ons**	**Nous** finir **ions**	**Nous** aurions **fini**
Vous aviez **fini**	**Vous** finiss **iez**	**Vous** avez **fini**	**Vous** fin **issez**	**Vous** allez **finir**	**Vous** finir **ez**	**Vous** finir **iez**	**Vous** auriez **fini**
Ils / **Elles** avaient **Fini**	**Ils** / **Elles** finiss **aient**	**Ils** / **Elles** ont **fini**	**Ils** / **Elles** fin **issent**	**Ils** / **Elles** vont **finir**	**Ils** / **Elles** finir **ont**	**Ils** / **Elles** finir **aient**	**Ils** / **Elles** auraient **fini**
INFINITIVE: attendre = to wait (re)							
I had waited	I used to wait	I waited	I am waiting/ I wait	I am going to wait	I will wait	I would wait	I would have waited
Je (J') avais **attendu**	**Je (J')** attend **ais**	**Je (J')** ai **attendu**	**Je (J')** attend **s**	**Je (J')** vais **attendre**	**Je (J')** attendr **ai**	**Je (J')** attendr **ais**	**Je (J')** aurais **attendu**
Tu avais **attendu**	**Tu** attend **ais**	**Tu** as **attendu**	**Tu** attend **s**	**Tu** vas **attendre**	**Tu** attendr **as**	**Tu** attendr **ais**	**Tu** aurais **attendu**
Il / **Elle** / **On** avait **attendu**	**Il** / **Elle** / **On** attend **ait**	**Il** / **Elle** / **On** a **attendu**	**Il** / **Elle** / **On** attend _	**Il** / **Elle** / **On** va **attendre**	**Il** / **Elle** / **On** attendr **a**	**Il** / **Elle** / **On** attendr **ait**	**Il** / **Elle** / **On** aurait **attendu**
Nous avions **attendu**	**Nous** attend **ions**	**Nous** avons **attendu**	**Nous** attend **ons**	**Nous** allons **attendre**	**Nous** attendr **ons**	**Nous** attendr **ions**	**Nous** aurions **attendu**
Vous aviez **attendu**	**Vous** attend **iez**	**Vous** avez **attendu**	**Vous** attend **ez**	**Vous** allez **attendre**	**Vous** attendr **ez**	**Vous** attendr **iez**	**Vous** auriez **attendu**
Ils / **Elles** avaient **attendu**	**Ils** / **Elles** attend **aient**	**Ils** / **Elles** ont **attendu**	**Ils** / **Elles** attend **ent**	**Ils** / **Elles** vont **attendre**	**Ils** / **Elles** attendr **ont**	**Ils** / **Elles** attendr **aient**	**Ils** / **Elles** auraient **attendu**

French	Verbs	CYCLE 1	All Years

Past Pluperfect	Past Imperfect	Past Perfect	Present	Near Future	Simple Future	Conditional	Perfect Conditional
INFINITIVE: aller = to go **(Irregular)**							
I had gone	I was going / I used to go	I have gone / I went	I am going / I go	I am going to go	I will go	I would go	I would have gone
Je (J') étais **allé(e)**	**Je (J')** all **ais**	**Je (J')** suis **allé(e)**	**Je (J')** v **ais**	**Je (J')** vais **aller**	**Je (J')** ir **ai**	**Je (J')** ir **ais**	**Je (J')** serais **allé(e)**
Tu étais **allé(e)**	**Tu** all **ais**	**Tu** es **allé(e)**	**Tu** v **as**	**Tu** vas **aller**	**Tu** ir **as**	**Tu** ir **ais**	**Tu** serais **allé(e)**
Il / Elle / On était **allé(e)**	**Il / Elle / On** all **ait**	**Il / Elle / On** est **allé(e)**	**Il / Elle / On** v **a**	**Il / Elle / On** va **aller**	**Il / Elle / On** ir **a**	**Il / Elle / On** ir **ait**	**Il / Elle / On** serait **allé(e)**
Nous étions **allé(e/s)**	**Nous** all **ions**	**Nous** sommes **allé(e/s)**	**Nous** all **ons**	**Nous** allons **aller**	**Nous** ir **ons**	**Nous** ir **ions**	**Nous** serions **allé(e/s)**
Vous étiez **allé(e/s)**	**Vous** all **iez**	**Vous** êtes **allé(e/s)**	**Vous** all **ez**	**Vous** allez **aller**	**Vous** ir **ez**	**Vous** ir **iez**	**Vous** seriez **allé(e/s)**
Ils / Elles étaient **allé(e/s)**	**Ils / Elles** all **aient**	**Ils / Elles** sont **allé(e/s)**	**Ils / Elles** v **ont**	**Ils / Elles** vont **aller**	**Ils / Elles** ir **ont**	**Ils / Elles** ir **aient**	**Ils / Elles** seraient **allé(e/s)**
INFINITIVE: faire = to do / make **(Irregular)**							
I had done	I was doing / I used to do	I have done / I did	I am doing/ I do	I am going to do	I will do	I would do	I would have done
Je (J') avais **fait**	**Je (J')** fais **ais**	**Je (J')** ai **fait**	**Je (J')** f **ais**	**Je (J')** vais **faire**	**Je (J')** fer **ai**	**Je (J')** fer **ais**	**Je (J')** aurais **fait**
Tu avais **fait**	**Tu** fais **ais**	**Tu** as **fait**	**Tu** f **ais**	**Tu** vas **faire**	**Tu** fer **as**	**Tu** fer **ais**	**Tu** aurais **fait**
Il / Elle / On avait **fait**	**Il / Elle / On** fais **ait**	**Il / Elle / On** a **fait**	**Il / Elle / On** f **ait**	**Il / Elle / On** va **faire**	**Il / Elle / On** fer **a**	**Il / Elle / On** fer **ait**	**Il / Elle / On** aurait **fait**
Nous avions **fait**	**Nous** fais **ions**	**Nous** avons **fait**	**Nous** f **aisons**	**Nous** allons **faire**	**Nous** fer **ons**	**Nous** fer **ions**	**Nous** aurions **fait**
Vous aviez **fait**	**Vous** fais **iez**	**Vous** avez **fait**	**Vous** f **aitez**	**Vous** allez **faire**	**Vous** fer **ez**	**Vous** fer **iez**	**Vous** auriez **fait**
Ils / Elles avaient **fait**	**Ils / Elles** fais **aient**	**Ils / Elles** ont **fait**	**Ils / Elles** f **ont**	**Ils / Elles** vont **faire**	**Ils / Elles** fer **ont**	**Ils / Elles** fer **aient**	**Ils / Elles** auraient **fait**

DR/MRS VANDERTRAMP verbs take <u>être</u> not <u>avoir</u>

Descendre – je suis descendu(e)(s) - to come down (stairs)
Rester – je suis resté(e)(s) - to stay
Monter – je suis monté(e)(s) - to climb
Revenir – je suis revenu (e)(s) - to return
Sortir – je suis sorti(e)(s) - to go out
Venir – Je suis venue (e)(s) - to come
Aller – je suis allé(e)(s) - to go
Naître - je suis né(e)(s) - to be born

Devenir – je suis devenu(e)(s) - to become
Entrer – je suis entré(e)(s) - to enter
Rentrer – je suis rentré(e)(s) - to re-enter
Tomber – je suis tombé(e)(s) - to fall
Retourner – je suis retourné(e)(s) - to return
Arriver- je suis arrivé(e)(s) - to arrive
Mourir – je suis mort(e)(s) - to die
Partir – je suis parti(e)(s) - to leave

Sport Science	R180 –Reducing the risk of injury	CYCLE 1,2 & 3	All Years

Box A

Extrinsic and intrinsic factors which influence the risk of injury

Extrinsic factors that can increase the chance of injury are factors that you cannot control. These are outside of a player's control.	Examples of extrinsic factors are: environment; equipment; coaching/instructing/leading; types of sports.	Coaching can cause injury by a player being taught the incorrect technique, for example, being taught a bad tackle technique at rugby.
Protective Equipment can help reduce injury by players having the correct protective equipment for example shin pads, gum shields and helmets if required. Lack of these can contribute to injuries	Intrinsic factors are things that a player can control and these can then reduce the chance of injury to the player.	Examples of intrinsic factors are: wearing protective equipment, warming up correctly and wearing the correct clothing/ footwear.
Individual variables are what makes a person unique and impact the sport they can participate or make the susceptible to injuries.	Examples of individual variables are: Gender; age; ;experience; weight; fitness levels; techniques/abilities; nutrition/hydration; medical condition; sleep; previous injuries.	If a participant has an injury, such as shin splints. Competing before it has healed will cause more damage and poor technique/performance. It will cause lasting damage too.

Box B

Psychological factors which increase the risk of injury

There are four psychological factors that impact on an athletes performance: Motivation, Aggression (Direct and Channelled, Arousal and Anxiety.	Arousal is a player's level of excitement and readiness to perform.	There are three mental strategies that can support a performer: Mental Rehearsal; imagery; selective attention.
Direct aggression is any form of behaviour that directed towards the goal of harming another player or person such as a two footed tackle in football.	Channelled aggression such as a boxer can assist with a successful outcome for a boxer. It can also be channelled to support a performance to win.	Reasons for aggression can be: Level of performance; retaliation; pressures to win; officials decisions; performance enhancing drugs.
Over arousal is when a player feels over 'psyched' up for a game. This can be harmful to a player's performance and technique at performing skills in a game.	Under arousal is the opposite where a player feels 'sluggish' or 'lazy' – this can lead to a player not fully preparing and this can lead to injury.	Anxiety is the feeling of being nervous or worrying about a performance. This can lead to poor performance or injury as a player is not fully focussed.

Box C

Warm up and Cool Down

Warming up and cooling down routines can help prevent injuries to players.	Four phases of a warm up are: pulse raiser, mobility, dynamic movement, and skill rehearsal. This is the same regardless of the sport you are playing.	Pulse raiser: exercises that slowly increase the heart rate and body temperature of a player. Examples of a pulse raiser are: jogging, skipping cycling.
Mobility: exercises that take the joint through the full range of movement. Examples of dynamic movements are arm swings and hip circles.	Dynamic movements: this is changing of speed and direction. For example, sprinting towards a cone and changing direction then sprinting to another. Dynamic examples – walking lunges, high knees.	The use of suitable components and examples, in the design of the warm up routines and exercises/stretches that target different muscles/joints in the body.
Skill rehearsal: This is rehearsing common skills and movements that will be used in a game situation or the activity. For example passing in football, dribbling in basketball or shooting in netball.	Physical benefits of a warm up include: increased body temperature, increased blood flow, increased flexibility of muscle, increase in pliability of ligaments, s and increased range of movement in joints.	Psychological benefits of a warm up include: heightens arousal, settles nerves, improves concentration, increases confidence and gets players in the 'zone' through mental strategies.

Sport Science	R180 –Reducing the risk of injury	CYCLE 1,2 & 3	All Years

Box D

Types, causes and treatments of common sports injuries

Acute injuries are injuries that happen because of an immediate impact or trauma and cause immediate pain. For example, a fracture, a strain or sprain.
A sprain is when a ligament has been stretched twisted or torn. Symptoms of a sprain are; swelling, pain and bruising. Treat with R.I.C.E.
A strain is when muscles tendon have been torn or stretched. Symptoms of a strain are; swelling, pain, loss of movement and bruising. Treat with R.I.C.E.

Open (Bone pierces the skin), closed (bone doesn't pierce the skin) and stress (tiny fracture occurred over time) are different types **fractures**. **Dislocations** are where the bone detaches from it's joint.
Hard (skeletal) Vs Soft tissue (Muscular)
Concussion is a sudden trauma to the head that causes a short loss of mental functions. It can also cause unconsciousness. Can lead to Dementia & Alzheimer's.
Skin damage – Abrasions, Contusions (bruises) and blisters are examples of acute injuries.

Chronic injuries are injuries that happen over a long period of time that causes pain. They are also known as overuse injuries.
Examples of chronic injuries are; **shin splints**
Tendonitis – In the; Achilles, Shoulder (rotator cuff) or Knee (Patellar).
Epicondylitis – Lateral (tennis elbow) Medial (Golfer's elbow)
Stress Fractures – Repetitive strain on an area can lead to a stress fracture. There are lots of treatments for chronic injuries including, rest, message, electrolysis, but be specific, physiotherapy, **support** such as kinesiology taping & **immobilisation** (Casts/splints/slings).
There are **Different psychological effects** of dealing with injuries and medical conditions including treatment and long term rehabilitation.

Box E

Measures taken to prevent injury

There are **Safety Checks** taken to decrease the risk of injury these include– Risk assessments, level of risk. Control measures, medicals, screening, NGB policies.
Emergency Action Plans prevent injury and include emergency personnel (people who are identified to support in case of an emergency such as first aiders), emergency communication (the telephone numbers and email addresses of who to contact such as the local police, the CEO or the hospital) and emergency equipment (defibrillator , evacuation chair)
SALTAPs (on field assessment routine)– See, Ask, Look, Touch, Passive, Strength **DRABC – Danger, Response, Airways, Breathing, Circulation**. **Place in Recovery position** if unconscious but breathing. **PRICE – Protect, rest, Ice, Elevate. Use of X-rays to detect injury**
Treatment & Therapies: Massage, Ultrasound, Electrotherapy, Hydrotherapy, Cryotherapy (Ice chamber), Contrast therapy (Hot/Cold), painkillers, Support (Kinesiology tape, neoprene), Immobilization (Cast etc)

Box F

Medical Condition & Cause	Symptom	Treatment
Asthma – Environment, intense exercise, cold weather	Coughing, wheezing, shortness of breath	Inhaler/nebulizer, reassurance.
Diabetes: Age (type 1) Lifestyle (type 2). Type 1 (unable to produce insulin. Type 2 does not produce enough insulin.	Increased thirst, urinating often, extreme tiredness, weight loss, cuts take a long time to heal.	Insulin/Glucose intake, lifestyle changes, diet, exercise. Monitoring blood levels (Hyperglycemia is high, hypoglycemia is low blood sugar levels).
Epilepsy – Severe head injury, anxiety/stress/lack of sleep	Eyes/Mouth/Limbs.	AED's (Anti-epileptic drugs that can reduce the amount seizures) or Ketogenic diet (High fat diet)
SCA (Sudden Cardiac Arrest) Is a heart attack caused by a malfunction in electrical impulses sent to the heart.	Unconscious or breathing difficulties.	Need to call 999, defibrillator and lifestyle changes.
Hypothermia – When the body drops below 35 degrees. If the body is exposed to cold/wet conditions for a long time.	Shivering, blue lips, pale skin, slurred speech, tiredness/confusion, slow breathing.	Remove wet clothing, wrap in blanket, DO NOT use hot bath. Give warm or sugary drink.
Heat Exhaustion – When body is above 38 degrees, strenuous activity, not enough water intake.	Excessive sweating, headache/dizziness, being thirsty, feeling or being sick, rapid pulse or breathing.	Move to a cool place, cool skin, drink plenty of water.
Dehydration – Loss of bodily fluids	Feeling thirsty, fatigued, dark yellow urine and infrequent urination, dry mouth and lips.	Drink water before exercise, keep hydrated. If diabetic drink lots of water to make up for losses.

CYCLE 1	SUBJECT	IT	TOPICS	COMPONENT 1	YEAR GROUP	10

BOX 1: User Accessibility Needs

Visual: Limited vision can give many individual requirements for an interface.

- High contrast colour schemes aid limited vision & colour blindness.
- Resizable icons etc. makes it easier to see & read content.
- Text to speech software supports total vision loss – provide image alt text.
- Avoid using colour alone to provide user feedback. E.g. red for an error.

BOX 2: User Accessibility Needs

Speech: While GUI interfaces don't rely on speech, some interfaces do. Notably speech interfaces.

- Provide alternative options to speech-only input.
- Allow control over microphone sensitivity and speech rate.
- Use literal language for the voice commands and short simple sentences.
- Allow for pauses in speech and shaky/broken speech.

BOX 3: User Accessibility Needs

Hearing: Those with limited or total loss of hearing are still affected by your user interface.

- Ensure transcripts/captions are available for audio/video content.
- Provide sign language options or use simple language.
- Avoid having content that is solely expressed through time-based media.

BOX 4: User Accessibility Needs

Motor: People with a mobility impairment may require certain features to a user interface.

- Provide resizable/larger icons to make it easier to actually point at & select.
- Provide input options other than mouse/keyboard, e.g. speech input.
- Don't use timed tasks or allow for pausing to not discriminate unfairly.
- Ensure functionality can be accessed through the keyboard without a mouse.

BOX 5: User Accessibility Needs

Cognitive: Interfaces should make sensible alterations for those with cognitive disabilities.

- Avoid the use of complicated language and large blocks of text.
- Provide text to speech software so text can be read out.
- Ensure simplicity of navigation & interaction in the interface for ease-of-use.
- Ensure time-based media or timed events can be slowed or paused.

CYCLE 1	SUBJECT	IT	TOPICS	COMPONENT 1	YEAR GROUP	10

BOX 6: User Skills

Users will have different levels of experience with IT. | This will affect their ability to use new interfaces.

Expert: Lots of experience with lots of tech. Confident in use & able to intuit the functionality.

Regular: Good experience with common tech. May need some help but generally able to figure out new interfaces.

Occasional: Some experience with common tech. Will need support & experience to use effectively.

Novice: Little experience with most tech. Likely to need training & ongoing support to use.

BOX 7: Demographics

The individual characteristics of your target audience should affect the interface design.

Age: The very young & old are less likely to be experienced IT users. An interface should consider its target audience's age.

Beliefs/Values: Some groups beliefs or values may mean less IT experience. Some content may offend values.

Culture: Some symbols may mean different things to different cultures. Languages will vary between cultures too.

Experiences: Past experiences will make certain interfaces easier to adapt to.

E.g. If you've used Word, the Excel interface is simpler.

BOX 8: Design Principles

Colours: Your colour scheme is extremely important. It must look nice & represent the business' brand image.

- Use a limited range of colours- Too many colours can be distracting & unattractive.
- Use the business house style- Most business' have chosen colours that represent their image.
- Ensure colours don't clash- Certain colours that highly contrast can be unpleasant to view.
- Use textures appropriately- The right texture can add to the aesthetic style of your interface.

BOX 9: Design Principles

Font Style/Size: The font is important in ensuring text is attractive & readable. It also can represent the brand image.

- Ensure text is readable- Some fonts may look good but be confusing to read. Your font must be legible, even in large blocks of text.
- Use sans serif fonts- Sans serif fonts (those without the little ticks at the end of strokes e.g. Text) are better for reading on screen.
- Avoid decorative fonts- These fonts may look interesting and cool, but are usually very difficult to read. E.g. *This text is difficult to read.*

CYCLE 1	SUBJECT	IT	TOPICS	COMPONENT 1	YEAR GROUP	10

BOX 1: Design Principles

Language: The language used in an interface should be understandable by your users.

Use Appropriate Language for User Needs

- The age, experience & accessibility needs should be considered in language used.
- Language aimed at children should be simple & with as few words as possible.

Use Language Appropriate for User Skill Level

- Not all users will be technical users who know complex terminology.
- Technical language should be minimised to ensure users don't become confused.

BOX 2: Design Principles

Amount of Information: We need to keep our users well informed. However, too much information can be overwhelming.

Provide an Appropriate Amount of Information for the Task

- An interface should provide relevant information & clear guidance.
- Excessive information can be overwhelming/confusing. Only provide what is needed.

Make Appropriate Use of White Space

- Whitespace is areas that don't have text/images, just the background.
- Whitespace & text should be balanced as the eye needs an area to rest when reading.

BOX 3: Design Principles

Layout: This is how the different elements (text, images, etc.) are positioned. It hugely affects interface usability.

Consistency

- There should be a consistent layout across different screens of the interface.
- For example, the menu should always be in the same position.

Keep close to user expectations

- Matching our interface with ones that users have experience helps make it intuitive to use.

Place important items prominently

- We read from top left to bottom right automatically.
- Position most important items high & left of the page is best.

BOX 4: Design Principles

Layout Cont.: Some further considerations when designing the layout of the interface include the following.

Group related tasks

- Items that relate to each other should be positioned next to each other.
- This way it's easy to find what you want.

Use navigational components

- Search boxes, breadcrumbs & icons aid navigation to make the interface easier to use.

Use input controls

- Appropriate input methods for forms (e.g. dropdown lists, tick boxes & toggles) make the interface faster/easier to use & reduces errors.

CYCLE 1	SUBJECT	IT	TOPICS	COMPONENT 1	YEAR GROUP	10

BOX 5: Design Principles

User Perception: Many users see certain colours & sounds to have certain meanings.

Colours

- Colours are often used provide certain information or to set a mood.
- Green can mean go/success, Amber can mean a warning, Red can mean stop/error.

Sounds

- Different types of sounds will be interpreted in different ways & react instinctively.
- Positive high-pitched sounds for success, Negative low-pitched sounds for failure.

BOX 6: Design Principles

User Perception: Users also perceive certain symbols & visuals to have certain meanings.

Symbols

- Different symbols provide clear feedback to the user that they easily understand.
- We know that green ticks mean correct/success, red crosses mean incorrect/failure.

Visuals

- Images, like photographs, icons and other graphics can provide specific feedback.
- See how in these slides graphics were used to identify the topic of each point.

BOX 7: Design Principles

Retaining Attention: We need our interface to help keep our audience engaged. We'll look at some techniques for this below.

Grabbing attention

- Popup messages, flashing graphics, sound & animation help grab user attention.
- E.g. presentation slide transitions/animation.

Ensuring the screen is uncluttered

- Too much information on screen will overwhelm or bore users, leading them to lose attention.

Clear labelling

- Items & features should be clearly labelled to show their purpose.
- E.g. input boxes should be labelled to show what input is expected.

BOX 8: Design Principles

Retaining Attention Cont.: Some further methods of retaining user attention include the following.

Use default values

- Common user inputs should have default values to save time & prevent errors.
- E.g. set a newsletter signup input to "no" by default.

Use autofill

- Where possible, provide autofill for user inputs to save time & prevent errors.
- E.g. filling out someone's address based on their postcode.

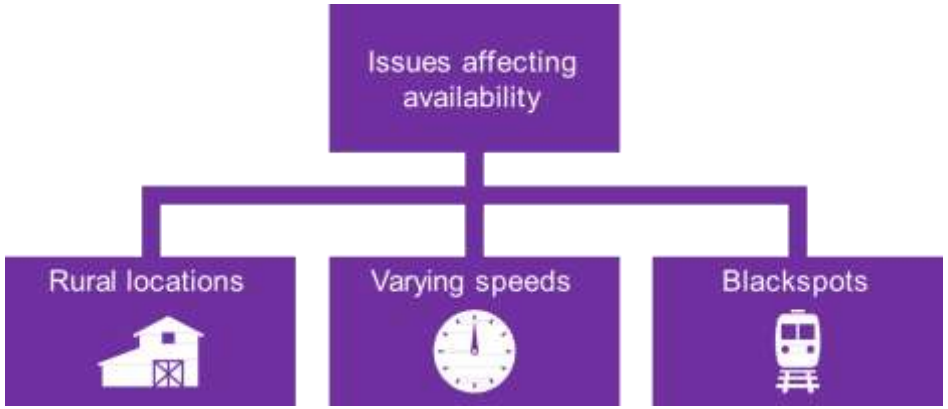
Use tip text for help

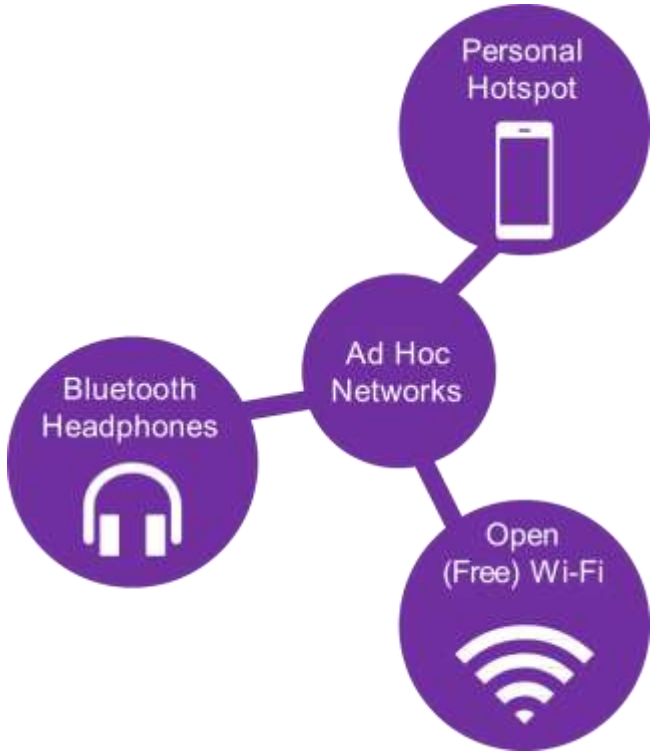
- Tip text can be used to ensure users know what buttons/tools do.
- This often is a popup when hovering over the button.

CYCLE 1	SUBJECT	IT	TOPICS	COMPONENT 3	YEAR GROUP	10

BOX 1: Ad Hoc Networks

Key Terms	
Bluetooth	A short range technology that connects multiple devices.
Ad Hoc Network	A wireless network that does not require fixed hardware.
Personal Area Network	A network of computers based on or around a person.
Tethering	Where a smartphone acts as an internet access point.
Personal Hotspot	Using a phone's internet connectivity on another device.
PIN	'Personal Identification Number'
Encrypted	Means that data cannot be read without a key.
USB	A standard for connection sockets on computers.
Insecure	A connection vulnerable to interception.
Streaming	A continuous flow of data sent over the internet.





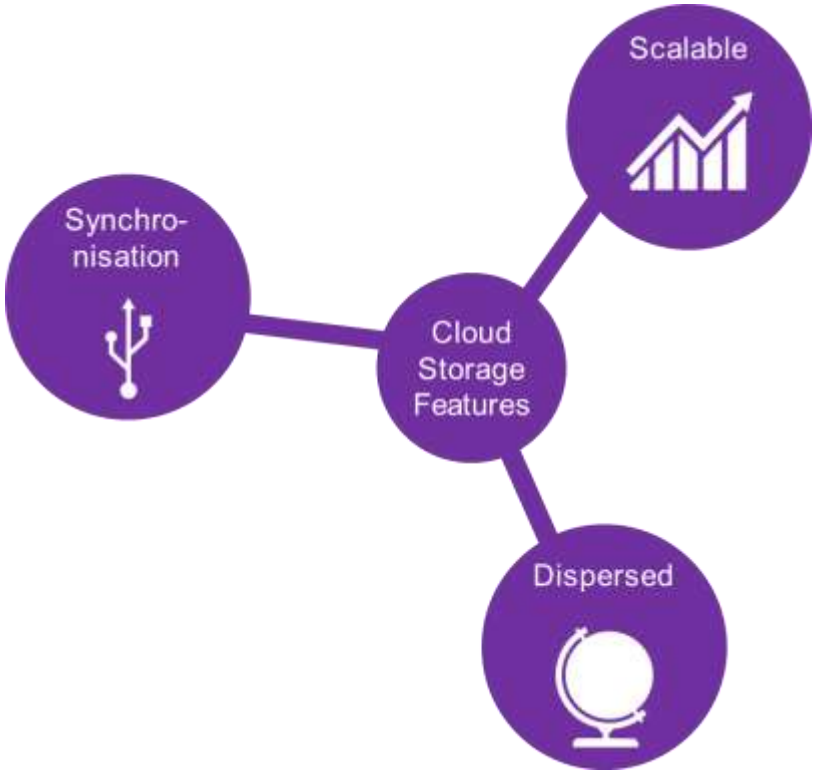
Advantages	Disadvantages
More devices can be added any time.	More open, so they are less secure.
Can be set-up anywhere.	Unorganised, with no device in control.
They require limited set-up.	The more devices, the slower the speed.

CYCLE 1	SUBJECT	IT	TOPICS	COMPONENT 3	YEAR GROUP	10

BOX 2: Cloud Storage

Key Terms	
Server	A computer that delivers data over a network (the internet).
Downloading	The process of transferring from a server to computer.
Uploading	The process of transferring from a computer to a server.
Synchronising	When files on two devices are updated to be the same.

Cloud storage is where files created and used on one or more computers or devices are **stored and managed remotely**. The files are stored on **servers** so that they can be accessed **via the internet**.



What can be stored in the cloud?

- Data back-ups
- Photos and videos
- Documents

Advantages	Disadvantages
You can access your data from any device on the internet.	You cannot access your files without the internet.
It is scalable, meaning more storage can be added easily.	You have no control over how your data is stored by providers.

Health & Social Care	Component 1 Human Lifespan Development	CYCLE 1	YEAR 10

1. Life Stages: '*Are distinct phases of life that each person passes through'.*

Infancy - (0-2 years)	Still dependent on parents/carers but growing quickly and developing physical skills.
Early Childhood (3-8 years)	Becoming increasingly independent, improving thought processes and learning how to develop friendships.
Adolescence (9-18 years)	Onset of puberty, which brings growth spurts and emotional changes.
Early adulthood (19-45 years)	Leaving home, making own choices about a career and may start a family.
Middle adulthood (46-65 years)	Having more time to travel, socialise and take up hobbies as any children may be leaving the home, beginning of the menopause and aging process.
Later adulthood (65 + years)	The aging process continues, which may affect memory and mobility.

2. Areas of Development – 'Human growth is broken into four classifications, or areas of development'.

- **Physical development –** Physical growth in height or weight.
- **Intellectual development –** Developing thinking, memory and language skills.
- **Emotional development –** Developing feelings about self and other, self-esteem.
- **Social development –** Forming relationships, socialisation and isolation.

3. Factors affecting growth and development.

Physical Factors
- Inherited conditions
- Illness and Disease
- Mental Illness
- Disabilities
- Sensory Impairment

Cultural Factors
- Religion
- Gender Identity
- Gender Roles
- Sexual Orientation
- Community & Race

Emotional Factors
- Fear
- Anxiety/worry
- Upset/Sadness
- Grief/Bereavement
- Happiness/Contentment
- Security
- Attachment

Social Factors
- Supportive/Unsupportive relationships
- Social inclusion/exclusion
- Bullying
- Discrimination

Environmental Factors
- Housing
- Home environment
- Pollution

Lifestyle Factors
- Nutrition
- Physical activity
- Smoking
- Alcohol
- Substance use

Economic Factors
- Employment situation
- Financial resources

4. Different types of life event *(Expected and Unexpected).*

Life events can be grouped under different types relating to **health and wellbeing**, **relationship changes** or **life circumstances**. Some events happen to most people such as starting school. Other events, such as a serious accident, don't happen to everyone, and come as a shock. All events have some impact on growth and development. **Health & wellbeing** events cause changes to the body, physical or mental health or mobility. **Relationship changes** are the building or breakdown of friendships or relationships. **Life circumstances** refer to the way a person lives, their day-to-day life and choices they make.

Health and Wellbeing events
- Accident/injury.
- Physical illness
- Mental and emotional wellbeing.

Relationship Changes
- New relationships
- Marriage and civil partnerships
- Divorce and separation
- Parenthood
- Bereavement

Life Circumstances
- Moving school or job
- Exclusion
- Redundancy
- Imprisonment
- Changes to living standards
- Retirement.

5. Coping with change caused by *life events*.

Character traits that influence how to cope with life events.
- Resilience
- Self esteem
- Emotional intelligence
- Disposition

Sources of support
- Family
- Friends
- Partners
- Community groups
- Multi-disciplinary and agencies

Types of support
- Emotional
- Information and advice
- Practical help.

How will I be assessed?

A **PSA** is a **P**earson **S**et **A**ssessment.

- You will complete ***'A Set Assessment'*** under examination conditions.
- After all assignments in the PSA are complete **Pearson** will check all tasks have been marked fairly.

Health & Social Care	Component 2: Health and Social Care Services and Values	CYCLE 1	YEAR 10

1. Health Conditions

Type 2 diabetes	Type 2 diabetes is a condition that causes the level of sugar (glucose) in the blood to become too high. It is caused by problems with a hormone in the body called insulin.
Arthritis	Arthritis is a condition that affects joints (especially the hands, spine, knees and hips). People with arthritis can have difficulty moving joints and this may lead to loss of function.
Coronary Heart Disease (CHD)	CHD occurs when fatty substances build up in the coronary arteries (the main vessels that supply blood to the heart muscle). These arteries become narrower, and blood cannot get to the heart easily.
Dementia	There are different types of dementia, which is a condition that reduces brain function. All people with dementia experience memory loss. As the condition progresses, they may struggle to understand and process information.
Cerebral Vascular Accident (CVA)	A CVA interrupts the flow of blood to the brain and can be caused by a stroke or a traumatic brain injury. How badly a person is affected by a CVA depends upon its severity, which part of the brain is affected, how quickly someone receives treatment and their access to on-going support.
Obesity	Obesity is the term used to describe a person who has a high level of body fat. Body Mass Index (BMI) is a measure of whether someone is a healthy weight for their height.
Asthma	Asthma is a chronic (long term), potentially life-threatening condition that affects the lungs. On average , every 10 seconds someone has an asthma attack and 3 people die from asthma every day in the UK. Symptoms of asthma include breathless, wheezing and coughing. include
Chronic Obstructive Pulmonary disease (COPD)	COPD can cause breathing difficulties and is a condition that mainly affects people in middle and older adulthood. 9 out of 10 cases of COPD are caused by smoking, but exposure to harmful fumes and dust are also causes.

2. Types of Healthcare Services

There are lots of different health and Social care services that can meet the needs of a patient.

Healthcare services can be divided into four groups;

- Primary
- Secondary
- Tertiary
- Allied Health professionals

Multidisciplinary working

Health care services often work together

GP --> Respiratory medicine --> tests for cancer --> Oncology for treatment --> Physiotherapists

3. Health Care Services

Primary Care Services

This service are a person's **first contact** if they had a health issue. They have a **broad knowledge** of many health problems and can provide advice and treatment or refer to specialists Primary care example: GP, dentist, optometry, out-of-hours, telephone services, A&E.

Secondary Care Services

Secondary care services provide **specialist medical** care. They have **in-depth knowledge** in **specific** areas. Examples include; Rheumatology (bones, joints, muscles), Respiratory (lungs), Cardiology (heart and blood vessels), Endocrinology (hormonal)

Tertiary Care Services

Tertiary care services provide even more **specialised medical** care. Patients are **referred** by either primary or secondary care services. They are **experts** in a specified medical area and provide **complex treatments. Examples include; Oncology – diagnosing and treating cancer, Transplant services – help donors and patients through transplantation process.**

Allied Health Professionals

Allied health professionals **help people recover** from, or adapt to, injuries and health conditions. Examples include; Physiotherapists (help with mobility issues), Speech and language therapists (help with communication difficulties), Occupational therapists (help overcome difficulties with everyday tasks)

4. Social Care Services

Social care services help people who are ill, vulnerable or disabled with day-to-day living.

Services for children/young people

- Foster care
- Residential Care
- Youth work

Services for adults/specific needs

- Residential care
- Respite care
- Domiciliary care

Services for older adults

- Residential care
- Domiciliary care

Additional care

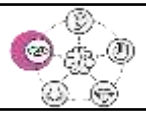
Additional care can be provided by carers who are not paid for what they do. This includes INFORMAL and VOLUNTARY care.

Informal care - Provided by family, friends, relatives and neighbours – help with household tasks and personal care. This can prevent loneliness

Voluntary care -Provided by community groups, faith-based organisations and charities e.g. Age UK

Health & Social Care	Component 2: Barriers and Skills/Attributes required to give care	CYCLE 1	YEAR 10

1. Barriers to accessing service

Physical 	Physical barriers make it difficult for people to get in to and around buildings that provide health and social care services (GP services or care homes). This particularly effects elderly or those with physical impairments.
Sensory 	The main two types of sensory impairment are visual and hearing difficulties. These can make it difficult for a person to access a service as well as making it more difficult to provide information clearly.
Social, Cultural & Psychological	People from different social and cultural backgrounds can experience different barriers due to; lack of awareness, differing cultural beliefs, social stigma and fear of loss of independence.
Language 	Language barriers mainly affect those who do not have English as their first language, or speech impairments.
Geographical 	Geographical barriers make it difficult for people to get from their home to the services they need, usually because the service is too far from the person's home.
Financial 	People living in the |UK have access to lots of free services through the NHS. However, some services are not available through the NHS and the patient needs to pay for these themselves, e.g, dental care, prescriptions and domiciliary care.
Learning Disability 	Learning disabilities are caused by something affecting the brains development. Some people with learning disabilities are born with them, and others develop them in life (e.g., after an accident).

2. Overcoming Barriers to accessing service

Physical 	• Having parking spaces close to entrance (disabled parking) • Installing ramps and/or stair lifts for easy access • Having doorways/corridors/toilet facilities wide enough for wheelchair access
Sensory 	**Visual** • Large print leaflets/leaflets in Braille **Hearing** • Hearing loops • BSL interpreters
Social, Cultural & Psychological 	• Awareness campaigns • Collaborating and communicating with faith groups • Leaflets/poster on mental/sexual health • Allowing individuals to make own choices, e.g meals/outfits.
Language 	• Using interpreters/an advocate for appointments • Having longer appointment times • Providing leaflets in multiple languages.
Geographical 	• Community transport schemes to get patients to appointments • Home/Community visits for those that struggle to travel • Having community clinics.
Financial 	• NHS exemption certificates to pay for eye tests/prescriptions etc • Charitable community transport schemes – free transport/childcare • NHS Vouchers – helps to reduce costs for those on low income or regular prescriptions.
Learning Disability	• Having 'quiet clinics' to help people focus when reading • Having support workers/nurses to provide specialist care. • Longer appointment times to allow extra time to explain key information

3. Skills – needed to deliver care.

Problem Solving	Allow a person to work out the cause of a problem and find ways to overcome them, e.g. financial support/transportation services.
Observation	A person's ability to pay attention to what's going on and notice changes.
Dealing with difficult situations	Being able to keep calm during difficult situations and dealing with challenging behaviours.
Organisation	Being able to plan their time and workload.

4. Attributes – a characteristic of a person.

Empathy	The ability to understand and relate to another person's feelings
Patience	The ability to deal with delays or difficult situations without becoming annoyed
Trustworthiness	To be able to take care of needs whilst being honest and listening to concerns - respecting choices and avoiding judgement
Honesty	Providing correct information about conditions or situations so patients can be involved with decisions about their care.