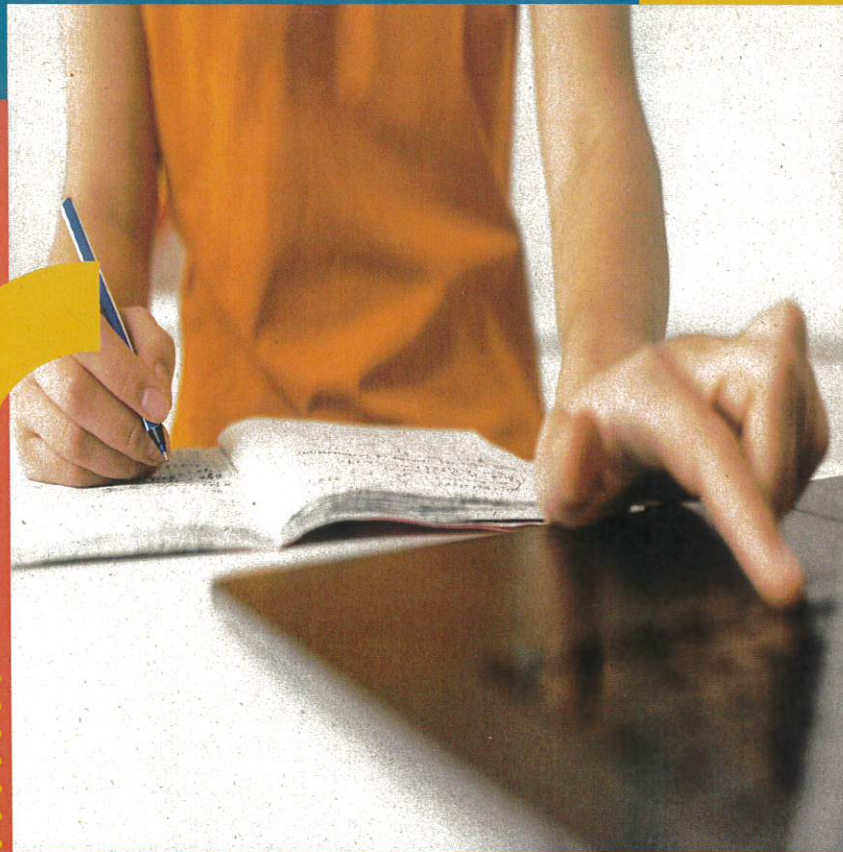




SMITHILLS SCHOOL
SUCCESS FOR ALL

HOMework BOOKLET



YEAR 11
AUTUMN TERM 1

www.smithillsschool.net



CONTENTS PAGE

1. Guidance on how to use the homework strategy: Look, cover, write, check, correct
2. Student guide to logging into Sparx Maths.

Subject Knowledge Organisers and Tasks:

Core Subjects:

[REDACTED]

[REDACTED]

Science – 3-15

Geography -16

History - 17

Options Subjects:

Art – 18

Computer Science – 19

Dance – 20

[REDACTED]

[REDACTED]

Hair and Beauty – 21

[REDACTED]

Hospitality and Catering – 22

Photography - 23-24

[REDACTED]

Religious Education (RE) – 25

[REDACTED]

[REDACTED]

Urdu – 26-27

YEAR 11

7-8

French- 28-34

Drama - 35

Homework Timetable:

	Monday	Tuesday	Wednesday	Thursday	Friday
Green	Maths	Science	English	Maths	Science
	Option W/X	Humanities	Science	Option Y/Z	
	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader
Orange	English	Maths	Science	English	Maths
	Science	Option Y/Z	Humanities	Option W/X	
	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader

Instructions on how to complete your homework:

1. Write the subject and date in your homework exercise book
2. If you have been given tasks to complete, please do this in your exercise book. If you have been asked to recall information from a knowledge organiser, please use the steps below.



- Look at box/es that your teacher has assigned to you. Repeatedly read the information until you are confident you can remember it. You might find saying them out loud helps you.



- Cover each box so that you cannot see the text.



- Next, in your homework exercise book, write down everything you can remember from each box



- Uncover the box and check your answers, correct any you got wrong or missed
- Repeat this one more time as you should be able to remember more from each box on the second round.

3. Rule a line under the homework you have completed.

4. Repeat the process for your next subject/s.

5. Use the QR link below if you would prefer a visual reminder of how to complete this.



Student Guide to Logging In

- 1 Go to **sparxmaths.com**
- 2 Select **Student Login**
- 3 Carefully select your school from the list
- 4 Select **New Sparx user**
- 5 Enter your:
 - First Name
 - Last Name
 - Date of Birth
- 6 Click **Submit**
- 7 You will be prompted to set your own password. The password must be at least 6 characters long and you will need to remember it
- 8 Confirm your username and password, then click **Check your details**
- 9 You can now log in to Sparx using your username and password
- 10 If a password is lost, you can select the option to request a new password from your teacher

Use your Sparx login

Username:

Password:

[Show](#)

[Forgotten Sparx login details?](#)

New Sparx user?

Fill in your details below to create your account

Your first name:

David

Your last name:

Smith

Your date of birth:

01 February 2010

Submit

Now set a password, make sure you choose one that you will remember

Choose your password

.....

[Show](#)

Your password needs to:

✓ Be 6 or more characters

Back

Confirm your details >

Let's check you have remembered your log in details

Enter your username:

dave.smith

Enter your password:

.....

[Show](#)

Back

Check your details >

Year 11 Science Autumn Term Forces

Big Picture: Why are we studying this now?

1.Types of forces

Force	Push or pull	Stretch, squash, turn.
Contact force	Exerted between two objects when they touch	Friction, air resistance, tension.
Non-contact force	Exerted between two objects without touching	Gravity, electrostatic forces, magnetic forces.

Scalar	A quantity that only has magnitude (size)	e.g. mass, time, speed, temperature, energy,
Vector	A quantity that only has magnitude and direction	e.g. force, velocity, momentum

2. Force diagrams

An arrow can be used to show vectors	Length of arrow =
	magnitude of vector
	Direction of arrow =
	direction of vector



Resultant force	The overall effect of all of the forces acting upon an object	
	Two forces acting in the same direction are added.	Two forces acting in the opposite direction are taken away.

Velocity	Speed + direction	The speed of a car is 30m/s. A car moves forward with a velocity of 30m/s
Distance	How far	The table is 1m long
Displacement	Distance + direction	The beach is 1km due east of the town

3. Mass and weight

Weight	Force acting upon an object due to gravity	Newton (N)
Mass	How much matter	Kilograms (kg)

Weight = mass X gravitational field strength

Each Kg has a gravitational pull of 9.8N.

$$W = m \times g$$

Gravitational field strength	Gravity exerted around an object.	Earth's gfs = 9.8N/kg
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Unit	Newton (N)	1N
Kilo	Kiloneutron (kN) = 1000	1X 10 ³
Mega	Meganeutron (MN) = 1000,000	1 X 10 ⁶

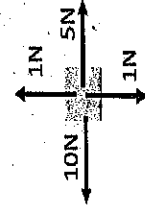
The weight of an object acts through a single point

4. More force diagrams

Area	Metres squares (m ²)
Weight	Newton (N)
Mass	Kilograms (kg)
Gravitational field strength	Newton per kilogram (N/kg)
Force	Newton (N)
Work done	Joules (J)
Distance	Metres (m)
Moment	Newton-metres (Nm)

Free body diagram

The component forces combined have the same effect.



Object moves left with a force of 5N

A single force can be split into two components acting at right angles to each other.

An object pulled with a force at an angle

Resolving forces

Year 11 Science Autumn Term Forces

Big Picture: why are we studying this now

5. Work done

Work done	When work is done, energy is transferred	Work done = force X distance moved $W = F \times s$
	1J of work is done when 1N of force moves an object through a distance of 1m, in the direction of the force.	
	Work done against frictional forces, temperature of object rises.	If force is at right angles to direction of movement, NO work is done.

7. Speed and velocity

Speed = distance ÷ time		
Walking	1.5m/s	Car on motorway
Running	3m/s	Train
Cycling	6m/s	Jet plane
		200m/s

Speed	How fast an object moves	Scalar	Speed of sound 330m/s.	Vector
Displacement	Includes the distance and direction an object moves	vector		
Distance	How far an object moves	scalar		

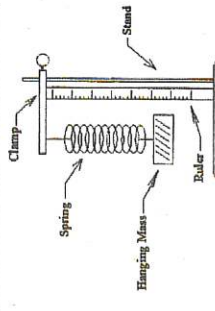
Distance-time graph	Shows how far an object moves along a straight line		
Speed of object	Use the gradient of graph		

Changing velocity	Objects in a circular motion, change direction but keep a constant speed	
Aeroplane banks to change direction	Velocity changes.	
Car travelling around a bend	Constant speed, direction changes.	
Satellite orbiting the Earth	Constant speed, direction changes.	

6. Elastic forces RPA

Elastic deformation	The object has been stretched but returns to its original length
Inelastic deformation	The object has been stretched but does not return to its original length
Extension	The difference between stretched and unstretched lengths

Limit of proportionality
Beyond this point the spring is permanently deformed



1. Attach a spring to a clamp stand
2. Set up a second clamp stand with a meter ruler attached next to the original stand

This prevents a possible source of inaccuracy of not measuring the extension correctly due to the ruler not being in the right place, another source of inaccuracy here could be a parallax error (misreading the value due to the angle that you are looking at it from)

3. Measure the original length of the spring and record this
4. Add a 100 g mass to the spring and measure the stretched length of the spring
5. Calculate the extension of the spring by finding the difference between the stretched and original lengths
- A lot of people will only plot stretched length and not extension, if your graph does not start at 0, you have made this error
6. Repeat this process, increasing the mass by 100 g each time until you reach 800 g or the spring deforms.
7. Calculate the weights of the masses using the equation weight = mass x gravity

8. Plot a graph of weight (force) vs extension

Force	Newton (N)
Spring constant	Newton per metre (N/m)
Extension	Metres (m)
EPE	Joules (J)

Elastic Potential energy (EPE)	Energy stored in a stretched spring
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Year 11 Science Autumn Term Forces

Big Picture: why are we studying this now

8. Acceleration

Acceleration	Change in velocity	Vector	Acceleration = change in velocity ÷ time taken
Accelerating	Object getting faster		
Decelerating	Object slowing down		
Velocity-time graph	Shows speed of an object		
It takes time for objects to reach top speed	Draw a tangent to the curve, work out gradient.	Distance travelled	Area under the graph shape
Constant acceleration $(\text{final velocity})^2 - (\text{initial velocity})^2 = 2 \times \text{acceleration} \times \text{distance}$ $V^2 - U^2 = 2 \times a \times s$			
Terminal velocity	Weight of an object is balanced by resistive forces	Object moves at a constant velocity. Resultant force = 0.	Speed or direction only changes if a resultant force acts on the object
Falling objects accelerate due to gravity.	In no air resistance, objects accelerate at 9.8m/s^2	Air resistance slows falling objects down.	
When objects continue in the same state of motion			

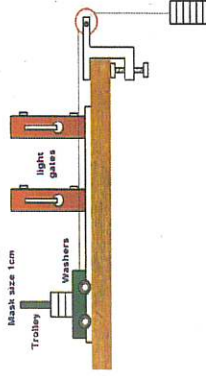
9. Newton's laws

Inertial mass	How difficult it is to change the velocity of an object
Inertial mass = force ÷ acceleration	
If the mass is large, to change velocity a big force is needed.	

Acceleration is proportional to resultant force.
 Acceleration is inversely proportional to mass.

Acceleration RPA

An investigation into the relationship between force, mass and acceleration



1. Attach a piece of string to the trolley and to the weights which will hang over the side of the bench via the pulley
2. Hold the trolley still and make sure that it is lined up with the light gates
3. Let go of the trolley so that it accelerates towards the end of the bench
 Bear in mind health and safety at this point so that the masses do not fall on the feet of a person
4. Use the readings from the light gate and the data logger in order to calculate the acceleration of the trolley (acceleration = change in velocity / time)
 A technique with either ticker tape or chalk on a bench can be used, but data loggers improves the accuracy of the investigation as it removes an aspect of human error
5. Repeat with different masses hanging over the side of the bench

Year 11 Science Autumn Term Forces

Big Picture: why are we studying this now

10. Stopping Distances

Thinking distance	Distance travelled whilst the driver reacts	
Braking distance	Distance travelled whilst the car is stopped by the brakes	
Stopping distance	Total thinking and braking distances	
Factors affecting stopping distances	Drivers reaction times	Drinking alcohol, taking drugs, tired.
	Braking distances	Weather conditions, worn brakes or tyres, road surface, size of braking force.

Typical reaction time = 0.7s

Speed affects both thinking and braking distances..

Braking and kinetic energy

Work done by braking force, reduces kinetic energy

kinetic energy decreases, temperature of brakes increases due to frictional forces.

Frictional forces decelerate a moving object and bring it to rest.

Speed / velocity	Metres per second (m/s)
Distance	Metres (m)
Time	Seconds (s)
Acceleration	Metres per second squared (m/s ²)
Force	Newton (N)
Mass	Kilogram (kg)
Momentum	Kilograms metres per second (kgm/s)

11. Momentum higher

Key Terms	Definitions
Momentum	A property of any moving object, calculated as the product of mass and velocity. Measured in kg m/s.
System	Systems are how physicists divide up the universe. Systems involve an object or objects and their interactions. They can be very simple (e.g. a falling object) or very complicated (e.g. our whole galaxy).
Closed system	A system where objects are not thought to be affected by external forces or other objects outside the system. We only think about the objects inside the system, which means the quantities momentum and energy are conserved.
Conservation	Simply means 'keeping the same.' To add detail, conservation of a quantity means that the total amount of it is the same before and after an event. In any closed system, the total amount of energy and momentum before and after an event is equal.

$$\text{Momentum} = \text{mass} \times \text{velocity}$$

$$p = m \times v$$

Conservation of momentum

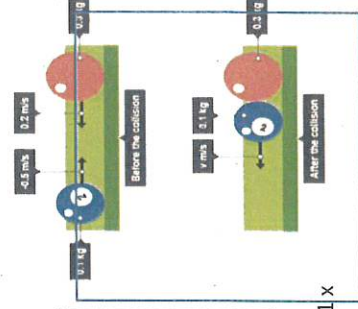
When two objects collide, the momentum they have before the collision = the momentum they have after the collision

Closed system = no external forces acting on it.

The '2' ball has a negative velocity because it is moving in the opposite direction of the other ball. The total momentum before they collide = $(0.1 \times -0.5) + (0.2 \times 0.3) = 0.01 \text{ kg m/s}$. According to the rule of conservation of momentum, the total momentum after the collision is also 0.01 kg m/s . Also, by looking at the diagram, you can see that both balls are now moving to the left, together. The total mass is $0.1 + 0.3 = 0.4 \text{ kg}$. Rearranging to make velocity the subject,

$$v = 0.01 / 0.4 = 0.025 \text{ m/s}$$

is the velocity after the collision



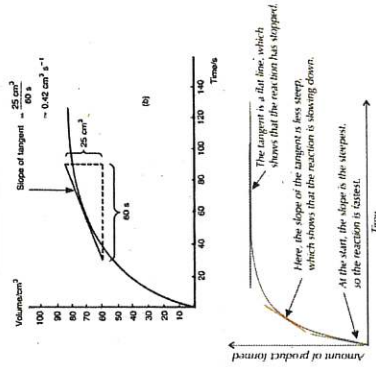
Year 11 Science Autumn Term The rate and extent of chemical change

Big Picture: why are we studying this now builds on all the year 10 chemistry topics

1. Measuring Rates

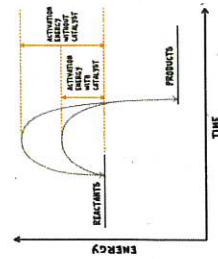
Rate of chemical reaction	<i>This can be calculated by measuring the quantity of reactant used or product formed in a given time.</i> Rate = $\frac{\text{quantity of reactant used}}{\text{time taken}}$ Rate = $\frac{\text{quantity of product formed}}{\text{time taken}}$
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Quantity	Unit
Mass	Grams (g)
Volume	cm ³
Rate of reaction	Grams per cm ³ (g/cm ³) HT: moles per second (mol/s)



3. Catalyst

Catalyst	A catalyst changes the rate of a chemical reaction but is not used in the reaction.
Enzymes	These are biological catalysts.
How do they work?	Catalysts provide a different reaction pathway where reactants do not require as much energy to react when they collide.

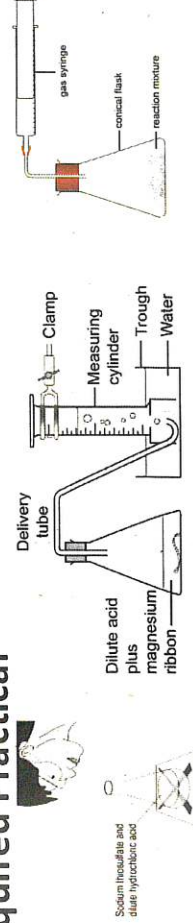


If a catalyst is used in a reaction, it is not shown in the word equation.

2. Factors effecting rate (RPA skills)

Collision theory	Chemical reactions can only occur when reacting particles collide with each other with sufficient energy.	Increasing the temperature increases the frequency of collisions and makes the collisions more energetic, therefore increasing the rate of reaction.
Activation energy	This is the minimum amount of energy colliding particles in a reaction need in order to react.	Increasing the concentration, pressure (gases) and surface area (solids) of reactions increases the frequency of collisions, therefore increasing the rate of reaction.
Factors affecting the rate of reaction		
Temperature	The higher the temperature, the quicker the rate of reaction.	
Concentration	The higher the concentration, the quicker the rate of reaction.	
Surface area	The larger the surface area of a reactant solid, the quicker the rate of reaction.	
Pressure (of gases)	When gases react, the higher the pressure upon them, the quicker the rate of reaction.	

Required Practical



1. Place 10cm³ of sodium thiosulfate into a conical flask and place the conical flask onto the cross.
2. Put 10cm³ of hydrochloric acid into a measuring cylinder.
3. Put the acid into the conical flask and start timing.
4. Stop the clock when you can no longer see the cross.
5. Repeat with different concentrations or temperatures.

Year 11 Science Autumn Term The rate and extent of chemical change

Big Picture: why are we studying this now builds on all the year 10 chemistry topics

1. Reversible Reactions

Reversible reactions	In some chemical reactions, the products can react again to re-form the reactants.
Representing reversible reactions	$A + B \rightleftharpoons C + D$
The direction	The direction of reversible reactions can be changed by changing conditions: $A + B \xrightleftharpoons[\text{cool}]{\text{heat}} C + D$

If one direction of a reversible reaction is exothermic, the opposite direction is endothermic. The same amount of energy is transferred in each case.

For example:

Hydrated copper sulfate $\xrightleftharpoons[\text{exothermic}]{\text{endothermic}}$ Anhydrous copper sulfate + Water



2. Equilibrium (HT)

Equilibrium in reversible reactions	When a reversible reaction occurs in apparatus which prevents the escape of reactants and products, equilibrium is reached when the forward and reverse reactions occur exactly at the same rate.
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The relative amounts of reactants and products at equilibrium depend on the conditions of the reaction.

Le Chatelier's Principles	States that when a system experiences a disturbance (change in condition), it will respond to restore a new equilibrium state.
Changing concentration	If the concentration of a reactant is increased, more products will be formed. If the concentration of a product is decreased, more reactants will react.
Changing temperature	If the temperature of a system at equilibrium is increased: - Exothermic reaction = products decrease - Endothermic reaction = products increase
Changing pressure (gaseous reactions)	For a gaseous system at equilibrium: - Pressure increase = equilibrium position shifts to side of equation with smaller number of molecules. - Pressure decrease = equilibrium position shifts to side of equation with larger number of molecules.

Year 10 Science - Inheritance, Variation and Evolution

Big Picture: why are we studying this now building on Year 1 and 9 Variation generated by mutations and sexual reproduction is the basis for natural selection; this is how species evolve

1. DNA and Genome



Genetic material in the nucleus is composed of a chemical called DNA.

DNA structure

Polymer made up of two strands forming a double helix.

Contained in structures called chromosomes. A gene is a small section of DNA on a chromosome. Each gene codes for a sequence of amino acids to make a specific protein.

The whole human genome has now been studied.

It is of great importance for future medical developments

Searching for genes linked to different types of disease.
Understanding and treatment of inherited disorders.
Tracing migration patterns from the past.

The genome is the entire genetic material of an organism.

2. Sexual and asexual reproduction

Sexual reproduction involves the fusion of male and female gametes.	Sperm and egg in animals.	Produced by meiosis. There is mixing of genetic information which leads to a variety in the offspring.
	Pollen and egg cells in flowering plants.	
Asexual reproduction involves only one parent and no fusion of gametes.	e.g. cloning of females only in an aphid population.	Only mitosis is involved. There is no mixing of genetic information. This leads to genetically identical clones.

Characteristics of individuals in a population may be due to

Genetic causes (inheritance)

Environmental causes (condition they have developed in)

A combination of genes and environment

There is usually extensive genetic variation within the population of a species e.g. hair colour, skin colour, height that can also be affected by environment e.g. nutrition, sunlight.

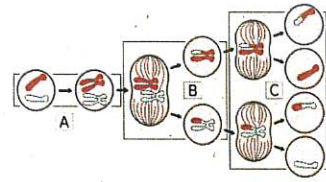
All genetic variation arises in mutation, most have no effect on phenotype, some influence but very few determine phenotype.

Very rarely a mutation will lead to a new phenotype which if it is suited to environmental change can lead to rapid change in the species.

The genome and its interaction with the environment influence the development of phenotypes

3 Meiosis

Gametes are made in reproductive organs (in animals ovaries and testes)	Cells divide by meiosis to form gametes	Copies of the genetic information are made. The cell divides twice to form four gametes each with single set of chromosomes. All gametes are genetically different from each other.
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Meiosis leads to non-identical cells being formed while mitosis leads to identical cells being formed

The new cell divides by mitosis. The number of cells increase. As the embryo develops cells differentiate.

Meiosis halves the number of chromosomes	Gametes join at fertilisation to restore the number of chromosomes
--	--

4. Mutations occur continuously (HT only)

A sequence of 3 bases is the code for a particular amino acid. The order of bases controls the order in which each amino acid is assembled to produce a specific protein.

Most mutations do not alter the protein so that its appearance or function is not changed.

Some mutations change the shape and affect the function of proteins e.g. and enzyme active site will change or a structural protein loses its strength

When the protein chain is complete it folds to form a unique shape. This allows proteins to do their job as enzymes, hormones or new structures such as collagen.

Year 10 Science - Inheritance, Variation and Evolution

Big Picture: why are we studying this now building on Year 1 and 9 Variation generated by mutations and sexual reproduction is the basis for natural selection; this is how species evolve

5.

Define terms linked to genetics	
Gamete	Sex cells produced in meiosis.
Chromosome	A long chain of DNA found in the nucleus.
Gene	Small section of DNA that codes for a particular protein.
Allele	Alternate forms of the same gene.
Dominant	A type of allele – always expressed if only one copy present and when paired with a recessive allele.
Recessive	A type of allele – only expressed when paired with another recessive allele.
Homozygous	Pair of the same alleles, dominant or recessive.
Heterozygous	Two different alleles are present 1 dominant and 1 recessive.
Genotype	Alleles that are present for a particular feature e.g. Bb or bb
Phenotype	Physical expression of an allele combination e.g. black fur, blonde hair, blue eyes.

7. Genetic Inheritance

Some characteristics are controlled by a single gene e.g. fur colour, colour blindness.		The alleles present, or genotype operate at a molecular level to develop characteristics that can be expressed as a phenotype.		Most characteristics are as a result of multiple genes interacting.	
Using a punnet square (using mouse fur colour as an example)					
Parent phenotype	Black fur 	White fur 			
Parent genotype	BB	bb			
What gametes are present	In each egg  	In each sperm  			
Gametes					
The probability of black fur offspring phenotype is 100%. All offspring genotypes are heterozygous (Bb).					
Embryonic screening / genetic therapy issues	Economic	Costly and not 100% reliable.			
	Social	Not available to everyone (due to cost).			
	Ethical	Should only 'healthy' embryos be implanted following screening.			
Embryo screening: small piece of developing placenta removed to check for presence of faulty genes		Gene therapy: replacing the faulty allele in somatic cells with a normal allele			

Dominant and recessive allele combinations		
Dominant	Recessive	
Represented by a capital letter e.g. B.	Represented by a lower case letter e.g. b.	
3 possible combinations: Homozygous dominant BB Heterozygous dominant Bb Homozygous recessive bb		
Crossing two heterozygous mice (Bb)		
Gametes	B	b
B	BB	Bb
b	Bb	bb
The probability of black fur is 75% and white fur 25%. The ratio of black to white mice is 3:1		
Some disorders are inherited. They are caused by the inheritance of certain alleles		
Polydactyly	Cystic fibrosis	
Caused by inheriting a dominant allele.	Caused by inheriting a recessive allele (both parents have to at least carry it).	
Causes a person/animal to have extra toes or fingers.	A disorder of the cell membrane. Patients cannot control the viscosity of their mucus.	

Dominant and recessive allele combinations

Dominant	Recessive
Represented by a capital letter e.g. B.	Represented by a lower case letter e.g. b.
3 possible combinations: Homozygous dominant BB Heterozygous dominant Bb Homozygous recessive bb	
Crossing two heterozygous mice (Bb)	
Gametes	B b
B	BB Bb
b	Bb bb

6. Sex determination

Ordinary human body cells contain 23 pairs of chromosomes	One pair of chromosomes carry the genes that determine sex	
	Female	Male
	XX	XY
The probability of a male of female child is 50%. The ratio is 1:1	Gametes	X Y
	X XX XY	XX XY

8. Family Tree

Using a family tree: If the father was homozygous dominant then all of the offspring would have the disorder. He must be heterozygous

Mother  Father 

Amy  Peter  Sam 

Key
 Female without disorder
 Female with disorder
 Male without disorder
 Male with disorder

Year 10 Science - Inheritance, Variation and Evolution

Big Picture: why are we studying this now building on Year 1 and 9 Variation generated by mutations and sexual reproduction is the basis for natural selection; this is how species evolve

9. Evolution

A change in the inherited characteristics of a population over time through the process of natural selection.

The theory of evolution by natural selection.

Species of all living things have evolved from simple life forms that first developed 3 billion years ago.

Over time this results in the formation of new species.

Through natural selection of variants (genotypes) that give rise to phenotypes best suited to their environment or environmental change e.g. stronger, faster. This allows for variants to pass on their genotype to the next generation.

If two populations of one species become so different in phenotype that they can no longer interbreed to produce fertile offspring they have formed two new species.



Darwin's finches

10. Selective Breeding

The process by which humans breed plants/animals for particular genetic characteristics

Humans have been doing this for thousands of years since they first bred food from crops and domesticated animals.

Selective breeding can lead to 'inbreeding' where some breeds are particularly prone to disease or inherited defects e.g. British Bulldogs have breathing difficulties.

Selective breeding

Choosing parents with the desired characteristics from a mixed population

Chosen parents are bred together.

From the offspring those with desired characteristics are bred together.

Repeat over several generations until all the offspring show the desired characteristics.



11. Genetic Engineering

Genes from the chromosomes of humans or other organisms can be 'cut out' and transferred to the cells of other organisms.

Modern medical is exploring the possibility of GM to overcome inherited disorders e.g. cystic fibrosis

Choosing characteristics

Desired characteristics are chosen for usefulness or appearance

Disease resistance in food crops.



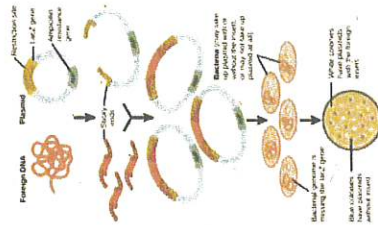
Animals which produce more meat or milk.



Domestic dogs with a gentle nature.



Large or unusual flowers.



Genetic engineering process (HT only)

1. Enzymes are used to isolate the required gene.

2. Gene is inserted into a vector – bacterial plasmid or virus.

3. Vector inserts genes into the required cells.

4. Genes are transferred to plants/animals/microbes at an early stage of development so they develop the required characteristics.

Concern: some people have ethical objections to adult cell cloning e.g. welfare of the animals.

Concern: effect of GMO on wild populations of flowers and insects.

Concern: effect of GMO on human health not fully explored

Genetically modified crops (GMO)

Crops that have genes from other organisms

To become more resistant to insect attack or herbicides.

To increase the yield of the crop.

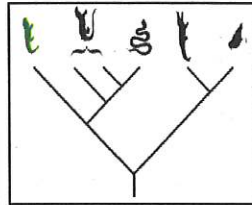
Year 10 Science - Inheritance, Variation and Evolution

Big Picture: why are we studying this now building on Year 1 and 9 Variation generated by mutations and sexual reproduction is the basis for natural selection; this is how species evolve

12. Classification

Evolutionary trees are a method used by scientists to show how organisms are related

Use current classification data for living organisms and fossil data for extinct organisms



Carl Linnaeus classified living things	
Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Primates
Family	Hominidae
Genus	<i>Homo</i>
Species	<i>sapiens</i>

Organisms are named by the binomial system of genus and species.
Humans are *Homo sapiens*

Due to improvements in microscopes, and the understanding of biochemical processes, new models of classification were proposed.

Carl Woese

3 domain based on chemical analysis.

Archaea (primitive bacteria), true bacteria, eukaryota.

Evolution is widely accepted. Evidence is now available as it has been shown that characteristics are passed on to offspring in genes.

13. Evidence for evolution

Fossils and antibiotic resistance in bacteria provide evidence for evolution.

Fossils

'remains' of ancient organisms which are found in rocks

Parts of organism that have not decayed as necessary conditions are absent.

Parts of the organism replaced by minerals as they decay.

Preserved traces of organisms such as footprints, burrows and rootlet traces.



Fossils tell scientists how much or how little different organisms have changed over time.

Early forms of life were soft bodied and few traces are left behind and have been destroyed by geological activity, cannot be certain about how life began.

Antibiotic resistant bacteria

Mutations produce antibiotic resistant strains which can spread

Resistant strains are not killed.

Strain survives and reproduces.

People have no immunity to strain and treatment is ineffective.

Extinction

When no members of a species survive

Due to extreme geological events, disease, climate change, habitat destruction, hunting by humans.

Year 11 Science Summer Term Ecology

Big Picture: why are we studying this now building on year 7 and 9 , Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms

1. Interdependence and Competition

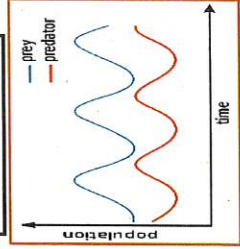
Ecosystem		Environment	The conditions surrounding an organism; abiotic and biotic.
	Habitat		Place where organisms live e.g. woodland, lake.
	Population		Individuals of a species living in a habitat.
	Community		Populations of different species living in a habitat.
Surviving and reproducing	Competition		Plants in a community or habitat compete with each other for light, space, water and mineral ions. Animals compete with each other for food, mates and territory.
	Interdependence		Species depend on each other for food, shelter, pollination, seed dispersal etc. Removing a species can affect the whole community

3. Food Chains

Food chains			
Feeding relationships in a community			
Producer	Primary consumer	Secondary consumer	Tertiary consumer
			
Grass → Grasshopper → Mouse → Owl All food chains begin with a producer e.g. grass that is usually a green plant or photosynthetic algae. Consumers that kill and eat other animals are predators and those eaten are prey.			

In a stable community the numbers of predators and prey rise and fall in cycles.

EXAMPLE:
Introduction of grey squirrels to UK increased competition for food for red squirrels. The greys also carry a pathogen that kills reds.



2. Abiotic and Biotic Factors

Abiotic	Biotic
Non-living factors that affect a community	Living factors that affect a community
Living intensity.	Availability of food.
Temperature.	
Moisture levels.	New predators arriving.
Soil pH, mineral content.	
Wind intensity and direction.	New pathogens.
Carbon dioxide levels for a plant.	One species outcompeting so numbers are no longer sufficient to breed
Oxygen levels for aquatic organisms.	

EXAMPLE: climate change is leading to more dissolved CO₂ in oceans lowering the pH of the water affecting organisms living there.

4. Adaptations

Adaptations may be structural, behavioural or functional.

Organisms adapt to survive in conditions where they normally live.

Adaptations		
Plants	Animals	Extremophiles
Cactus in dry, hot desert	Polar bear in extreme cold arctic	Deep sea vent bacteria
		
No leaves to reduce water loss, wide deep roots for absorbing water.	Hollow hairs to trap layer of heat. Thick layer of fat for insulation.	Populations form in thick layers to protect outer layers from extreme heat of vent.

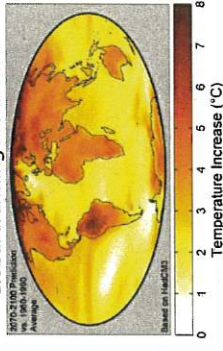
Year 11 Science Summer Term Ecology

Big Picture: why are we studying this now building on year 7 and 9, Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms

5. Global Warming

Global Warming	Levels of CO₂ and methane in the atmosphere are increasing.	Decreased land availability from sea level rise, temperature rise damages delicate habitats, extreme weather events harm populations of plants and animals.
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Global Warming Predictions



There is a global consensus about global warming and climate change based on systematic reviews of thousands of peer reviewed publications.

7. Maintaining Biodiversity

Scientists and concerned citizens
<i>Put in place programmes to reduce the negative impacts of humans on ecosystems and biodiversity</i>
Breeding programmes for endangered species.
Protection and regeneration of rare habitats.
Reintroduction of field margins and hedgerows in agricultural areas where farmers grow only one type of crop.
Reduction of deforestation and CO ₂ emissions by some governments.
Recycling resources rather than dumping waste in landfill.

Human activity can have a positive impact on biodiversity

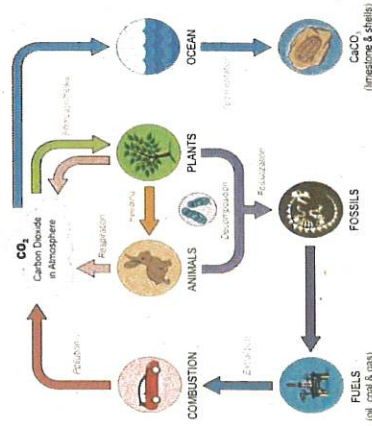
Some of the programmes potentially conflict with human needs for land use, food production and high living standards.

6. Cycles

Organisms require a supply of materials from their surroundings and from the other living organisms.

Materials are recycled to provide the building blocks for future organisms

Carbon Cycle



Water Cycle



8. Biodiversity

Biodiversity is the variety of all different species of organisms on Earth, or within an ecosystem

Human activity can have a negative impact on biodiversity

Maintain a great biodiversity	Ensures the stability of ecosystems	By reducing the dependence on one species on another for food, shelter, maintenance of the physical environment.
	Future of human species	Many human activities are reduction biodiversity and only recently measures have been taken to stop it.

Year 11 Science Summer Term Ecology

Big Picture: why are we studying this now building on year 7 and 9, Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms

9. Waste Management

Waste management	Rapid growth in human population and higher standard of living	More resources used and more waste produced.
		Pollution in water; sewage, fertiliser or toxic chemicals.
		Pollution in air; smoke or acidic gases.
		Pollution on land; landfill and toxic chemicals.
		Pollution kills plants and animals which can reduce biodiversity.

10. Land Use

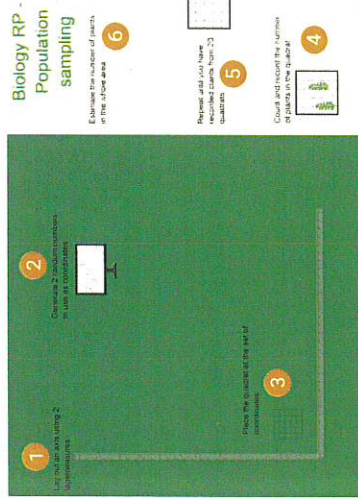
Land use	Large scale deforestation
Humans reduce the amount of land and habitats available for other plants, animals and microorganisms.	In tropical areas (e.g. rain forest) has occurred to:
Building and quarrying.	Provide land for cattle and rice fields, grow crops for biofuels.
Farming for animals and food crops.	Deforestation reduces biodiversity and removes a sink for increasing the amount CO ₂ in the atmosphere.
Dumping waste.	
Destruction of peat bogs to produce cheap compost for gardeners/farmers to increase food production.	
The decay or burning of peat release CO ₂ into the atmosphere.	This conflicts with conserving peat bogs and peatlands as habitats for biodiversity and reduce CO ₂ emissions.

11. Sampling (RPA)

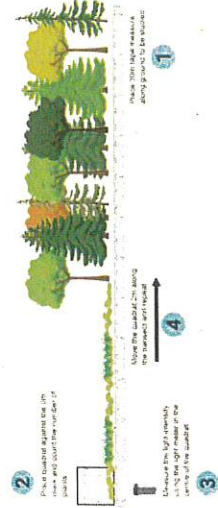
Experimental methods are used to determine the distribution and abundance of a species.



Sampling techniques	
Quadrats	Organisms are counted within a randomly placed square
Transects	Organisms are counted along a belt (transect) of the ecosystem.



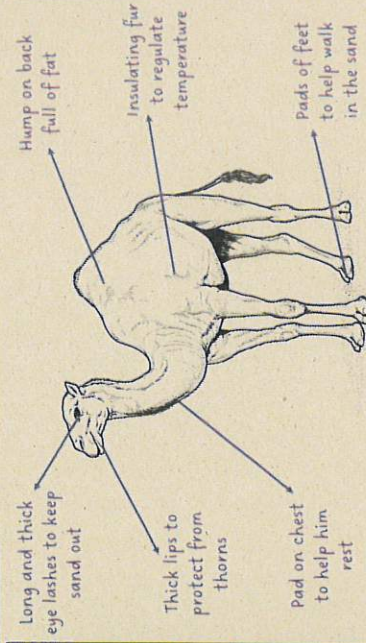
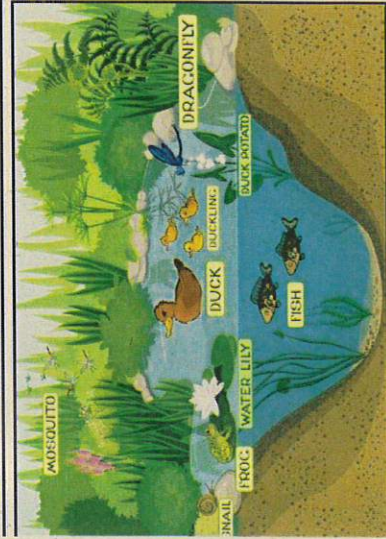
Biology RP - Sampling (transect)



SUSTAINABILITY KNOWLEDGE ORGANISER YR 11: ECOSYSTEMS

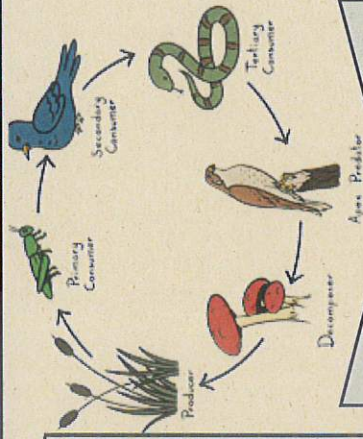
1. COMPONENT KNOWLEDGE

- Know that stewardship is looking after or caring for something, in this an ecosystem
- Know that an ecosystem is a community of plants, animals and the non-living environment that surrounds them
- Know that living things are commonly known as being biotic
- Know that non-living things are known as being abiotic
- Know that a small scale ecosystem can constitute a pond, hedgerow or sand dune.
- Know that there are interactions between different elements of the abiotic (non-living) and biotic (living) elements of the ecosystem studied
- Know that deserts have a unique set of climate conditions, to include arid and hot conditions.
- Know that this has a direct influence upon the living and non living environment in the desert
- Know that savanna grassland have a unique set of climate conditions, to include a wet and dry season each year
- Know that this has a direct influence upon the living and non living environment in the savanna grasslands
- Know that savanna grassland have a unique set of climate conditions, to include a wet and dry season each year
- Know that this has a direct influence upon the living and non living environment in the savanna grasslands



2. KEY VOCABULARY

- Ecosystem- an area where biotic and abiotic features interact
- Food chain-a series of organisms each dependent on the next as a source of food
- Food web- consists of all the food chains in a single ecosystem. Each living thing in an ecosystem is part of multiple food chains.
- Adaptation- changes in the body to fit a location e.g. a camel has adapted to the desert
- Desert- an area of very dry land which receives very little precipitation
- Desertification- the process in which fertile land becomes infertile
- Savannah-a grassy plain in tropical and subtropical regions, with few trees.
- Stone bunds- a way to reduce desertification by placing lines of stones of the same height on gentle slopes. They allow water to soak into the soil.



Producer: an organism which produces its own food through photosynthesis

Consumer: an organism which eats a plant (herbivore) or another animal (carnivore)

Predator: an organism usually at the top of the food chain which eats other animals

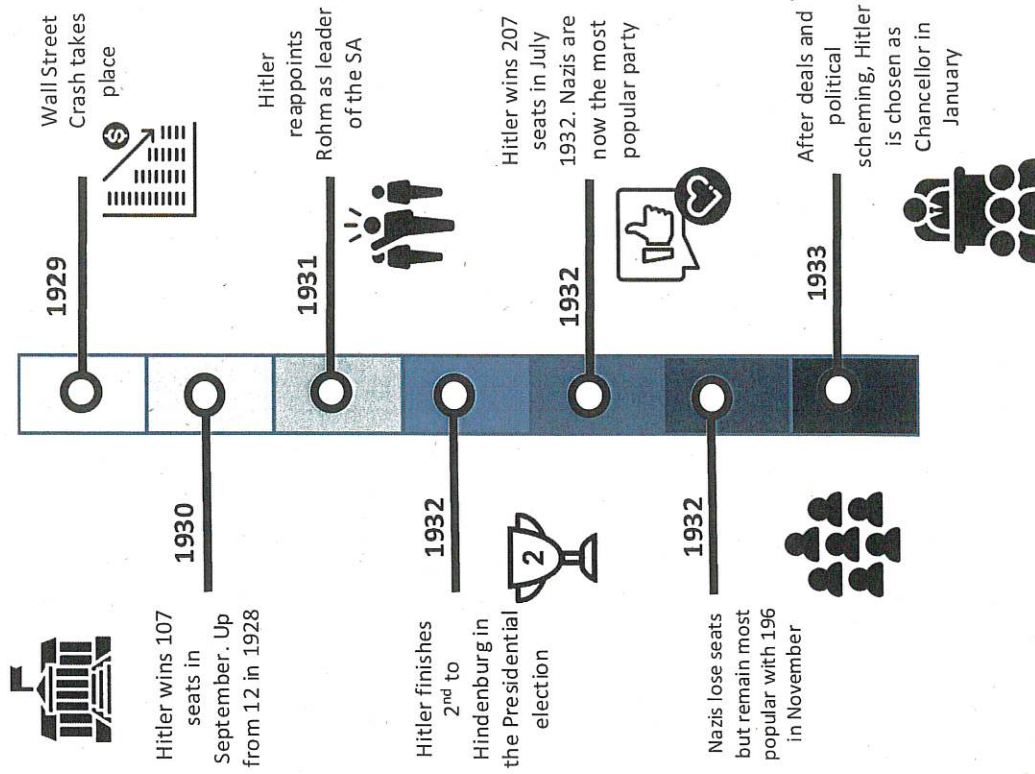
Decomposer: an organism which breaks down organic material e.g. fungus

Omnivore: an organism which eats both plants and animals

History: Year 11

Germany: Rise of the Nazis

1. Key content	2. Vocab								
- After the Wall Street Crash in 1929 extremist parties like the Nazis and Communists attempted to take advantage of the weaknesses of Weimar Republic. - Unemployment reached over 6 million (30% of the workforce) whilst votes for the Nazis increased. Hitler spread fears about the potential of a Communist government. - Hitler used the SA to intimidate voters, to disrupt opposition groups and to help spread Nazi propaganda that focused on things that Germans wanted to hear. - He blamed their issues on the Weimar Republic and Jews, promising work and food, supporting both the working class, farmers and industrialists at the same time. - Hitler was finally offered the opportunity to form a government in January 1933. he made an agreement with Hindenburg that Von Papen could be Vice Chancellor. They thought that they would be able to control Hitler.	<table border="1"> <tr> <td>Wall Street Crash</td><td>The US Stock Market crashes.</td></tr> <tr> <td>SA</td><td>Sturmabteilung or brownshirts. Hitler's loyal group who were used to intimidate people.</td></tr> <tr> <td>SS</td><td>Schutzstaffel – Hitler's fanatically loyal protection group.</td></tr> <tr> <td>Chancellor</td><td>Leader of the Reichstag, appointed by the President.</td></tr> </table>	Wall Street Crash	The US Stock Market crashes.	SA	Sturmabteilung or brownshirts. Hitler's loyal group who were used to intimidate people.	SS	Schutzstaffel – Hitler's fanatically loyal protection group.	Chancellor	Leader of the Reichstag, appointed by the President.
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Chancellor	Leader of the Reichstag, appointed by the President.								
3. People									
Hindenburg - The President Von Papen – Former chancellor of Germany. Temporarily Hitler's Vice-chancellor Von Schleicher – Former Chancellor of Germany Ernst Rohm – Leader of the SA Josef Goebbels – would later become minister for Propaganda and Enlightenment									





A01
Develop

Develop ideas through Research

- Create artist research pages linking to the title 'Food' – such as Sarah Graham, Georgina Luck, Wayne Thiebaud and CJ Hendry
- Visit exhibitions and galleries throughout your years in art – go to Manchester art gallery, Liverpool: Tate Museum, or pop-up galleries around the UK
- Read articles and watch clips on the artist and take notes – just type in the artist name onto youtube or google and see what you find to make your work different to other's in the class
- Annotate your work linking it to the artist and what you are doing in class – explain why you have made decisions and choices

A03
Record

Record ideas, observations and insights

- Create a title page – explaining what you are doing this term and what starting points you could use
- Print photos from your gallery and from google to get your book full of visual prompts of what we are looking at.
- Take notes everywhere about what you are doing and why you are doing it.
- Draw sketches based on the title 'Food' – take photos and draw them. It always looks good when going through student's work.
- Try doing some simple edits on photoshop. Tutorials are available to do some extension tasks.

A02
Refine

Refine work by exploring

- Experiment with the media and try to create the styles we are looking at in lesson – do things others in the class are not doing to make yours unique
- Do not stick to just one media because you are good at it – explore watercolours, oil pastels, acrylics and sculpture.
- Keep practising! Explain what you are doing best and what you need to improve on – if you are using watercolours for example, take risks! Do not keep everything simple and straight forward.

A04
Present

Present a personal Response

- Plan out your artwork first – create mini sketches showing what you plan and intend to draw, paint and sculpt
- Try and do a test run of your artwork first (such as mini paintings and mini sculptures) – include photos or prints of these in your book
- Create work that is personal to you. Do not copy someone in class – try and make your work stand out and be completely different to everyone else's.
- Write about your piece and explain what you like and dislike about it

Big Picture: Big Picture: You will develop a deeper understanding of different programming languages, how they are linked and the tools needed to develop them

Key Concepts:														
1. High-Level Languages (Python, Java, C++, JavaScript)		2. Low-Level Languages												
- The majority of programmers write programs in high level programming languages. These languages are close to the spoken and written language of the programmer. For example, Python uses 'print', 'if', 'input' and 'while' statements - all words from the English language - to form instructions - Programmers write in high level languages because they are easier to understand and are less complex than machine code. They allow the programmer to focus on what needs to be done, rather than on how the computer actually works. - For example, in many high level languages, to place a message on the screen, a programmer would use the statement 'print'. The programmer might not know how the computer actually generates the message. They just need to know how to use the 'print' statement. - High level languages have a disadvantage - they are restricted to the number of statements built into them. If the programmer wants a program to do something, but a statement does not exist to do so, the task cannot be done. - Any program written in a high level language is known as source code. Source code must be translated into machine code before the computer can understand and execute it. - High level languages are known as one-to-many languages as each high level instruction is translated into many machine code instructions.	2a. Machine Code - Machine code is the instructions that a processor understands and can act upon. <u>Advantages of using machine code:</u> - Writing in machine code allows programmers to do things that might not be possible in a high level language. For example, many high level languages do not allow the programmer to specify items such as the screen's refresh rate. However, it is usually possible to specify this using machine code. <u>Disadvantages of using machine code:</u> - Machine code is notoriously difficult to write in, understand and debug, simply because it consists of either binary or hexadecimal numbers. Instead, when programmers need direct control, they use another type of low level language called assembly language.	2b. Assembly Language - Assembly language sits between machine code and high level language. While high level languages use statements to form instructions, assembly language uses mnemonics (short abbreviations). Each mnemonic directly corresponds with a machine code instruction. As a result, assembly language is known as a one-to-one language. - In assembly language, programmers write programs as a series of mnemonics. Mnemonics are much easier to understand and debug than machine code, giving programmers a simpler way of directly controlling a computer. - Writing in mnemonics is easier for programmers because they are usually brief representations of the actual commands. They are quicker to write than binary or hexadecimal, and it is easier to spot mistakes e.g. <table><thead><tr><th>Mnemonic</th><th>Action</th></tr></thead><tbody><tr><td>LDA</td><td>Loads a value from a memory address</td></tr><tr><td>STA</td><td>Saves a value in a memory address</td></tr><tr><td>ADD</td><td>Adds the value held in a memory address to the value held in the accumulator</td></tr><tr><td>SUB</td><td>Subtracts the value held in a memory address from the value held in the accumulator</td></tr><tr><td>MOV</td><td>Moves the contents of one memory address to another</td></tr></tbody></table>	Mnemonic	Action	LDA	Loads a value from a memory address	STA	Saves a value in a memory address	ADD	Adds the value held in a memory address to the value held in the accumulator	SUB	Subtracts the value held in a memory address from the value held in the accumulator	MOV	Moves the contents of one memory address to another
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3. Translators Any program written in a high level language is known as source code. However, computers cannot understand source code. Before it can be run, source code must first be translated into a form which a computer understands - this form is called object code. A translator is a program that converts source code into object code. Generally, there are three types of translator: Compilers, Interpreters, Assemblers														
3a. Interpreter - An interpreter translates source code into object code one instruction at a time. It is similar to a human translator translating what a person says into another language, sentence by sentence, as they speak. The resulting object code is then executed immediately. <u>Interpreters have several advantages:</u> - Instructions are executed as soon as they are translated. - Errors can be quickly spotted - once an error is found, the program stops running and the user is notified at which part of the program the interpretation has failed. This makes interpreters extremely useful when developing programs. <u>Interpreters also have several disadvantages:</u> - Interpreted programs run more slowly as the processor has to wait for each instruction to be translated before it can be executed. - Additionally, the program has to be translated every time it is run. - Interpreters do not produce an executable file that can be distributed. As a result, the source code program has to be supplied, and this could be modified without permission.	3b. Compiler - A compiler takes the source code as a whole and translates it into object code all in one go. Once converted, the object code can be run unassisted at any time. <u>Compilers have several advantages:</u> - Compiled programs run quickly, since they have already been translated. - A compiled program can be supplied as an executable file. An executable file is a file that is ready to run. Since an executable file cannot be easily modified, programmers prefer to supply executables rather than source code. - Compilers optimise code. Optimised code can run quicker and take up less memory space. <u>Compilers have several disadvantages:</u> - Compilers do not usually spot errors - the program has to be compiled and run before errors are encountered. This makes it harder to see where the errors lie. - The source code must be re-compiled every time the programmer changes the program. - Source code compiled on one platform will not run on another - the object code is specific to the processor's architecture.													
4. Integrated Development Environments (IDE's) - To help programmers write clear, maintainable code, various tools exist - Some (or all) of these tools are often gathered together in software known as an integrated development environment (IDE) e.g. - editors - run-time environments - automatic line numbering - error trapping - colour coding - auto-indent - breakpoints - variable tracing - auto-correct - auto-suggestion - auto-indent - interpreters - Editors are software which allow programmers to write and edit code. Editors are often fairly simple, but usually offer facilities such as: - A runtime environment (RTE) is special software that allows a program to run on a computer, even if it is not designed to run on it. It works on different platforms, meaning a program can be developed on different systems and still work. - Debugging tools help programmers to locate and fix errors - Some IDEs pinpoint exactly where a syntax error occurs, or at which line in a program an error is generated. This is known as error trapping. - Variable tracing lets the programmer see the changing values of variables as the program runs. Again, this enables the programmer to check if the program is functioning as expected.														

Component 2

Component 2

Component 3

Big Picture: This term you will be working towards the completing of Component 2: developing skills and techniques in the performing arts. You will be studying and demonstrating the professional work of Matthew Bourne's 'Romeo and Juliet' the work section. This knowledge organiser outlines the key information you will need to support you when completing written work both in the classroom and at home, please use it to guide you.

2. Key concept - Component 2

Learners will develop their performing arts skills and techniques through the reproduction of dance repertoire as performers. In this component, you will develop performing skills and techniques. You will have the opportunity to specialise as a performer. You will take part in workshops and classes where you will develop technical, practical and interpretative skills through the rehearsal and performance process. You will work from existing performing arts repertoire, applying relevant skills and techniques to reproduce performance elements of the work.

A1 Rehearsal process

Learners will participate in rehearsal practices, continuing the development of skills and techniques with reference to existing performance types, styles and repertoire. They will complete all the content appropriate for a dance performer.

B1 Application of skills and techniques in a dance performance

Performance skills needed by performers, including:

- Technical, physical expressive skills relevant to the performance discipline
- Mental skills
- other performance and interpretative skills

C1 Review rehearsal processes C2 Review performance/outcomes

Learners must track their progress during this component, reflecting on their development of skills and working practices in workshops, through to rehearsals and performances.

Smithills School
Performing Arts

Matthew Bourne and his professional work 'Romeo and Juliet'

Key features

- Re-imagined work of the story of Romeo and Juliet
- Theme of power in the 'work section' the power of an imposed environment
- Marching gestures to show conformity
- Theme of unforbidden love
- Costumes all in white to demonstrate a sense of uniform
- Powerful classical music to support the strong movement

Matthew Bourne and his professional work 'Romeo and Juliet'

Key themes, skills and techniques

- Ballet techniques
- Contemporary techniques
- Gestured actions to support characterisation
- Use of unison to show control
- Use of space, through formations and pathways within a confined area

Understand marketing and its role in the promotion of hair and beauty products and services

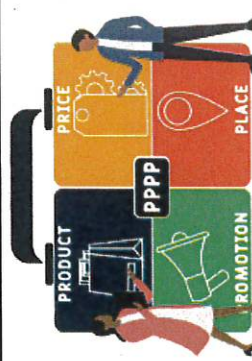
Definition of marketing

- Role of marketing in achieving customer retention and satisfaction
- Market segmentation (how segmentation works – gender, age, race, location, income), marketing mix, marketing communication methods

The 4 Ps and how they are used in marketing

- **Product** – nature of the product or service (product, tool, equipment, hair and/or beauty service), unique selling points (USPs), key features and benefits (convenience, comfort, added value, product differentiation)
- **Price** – pricing strategies (discounted launch, competitor pricing/undercutting, and seasonality)
- **Place** – location (in-store, outlets, internet, exhibitions)
- **Promotion** – methods (direct and indirect marketing, advertising, public relations, sales promotions, joint activities), materials (brochures, adverts, signs and displays, press releases), links with other industries

- The consequences of false advertising – trade descriptions, myths, exaggerations, falsehoods

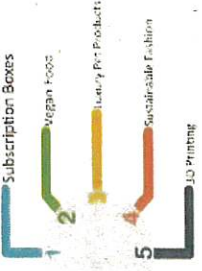


Mass market – high number of sales, large number of competitors, wide customer base, low profit margins
Niche market – sales volume low, small number of customers, specialised products, high profit margins

Mass or niche markets?

- Mass market** – products and services that will appeal to the whole market.
- Examples include:
- drinks
 - mobile devices
 - toiletries.
- Niche market** – products and services that are intended for a specific group.
- Examples include:
- medical equipment
 - specialist food
 - software for accountants.

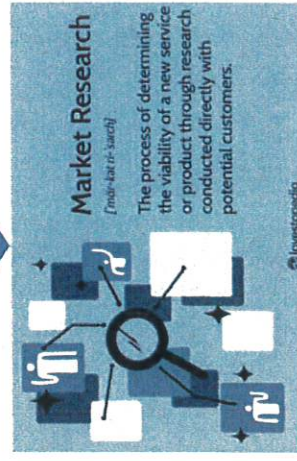
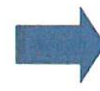
Examples of successful niche markets



Internal and external factors influencing marketing objectives

- **Internal factors** – financial, human resources, technology, company strategies
- **External factors** – competitors, economy, market dynamics, legal factors, ethical factors, social demographics

- Purpose of market research** – used to identify competition in the market, business opportunities, gaps in the market, level of demand for products/services, clients' needs and preferences
- **Approaches** to researching current competition – qualitative and quantitative data, primary research (observations, surveys, interviews, feedback cards), secondary research (statistics, websites, published information)
 - **Analysis** of market research findings and results to inform future marketing and business activities



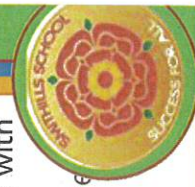
SUCCESS FOR ALL

1. Key Concepts – Understanding the importance of nutrition

Macro-nutrients	Micro-nutrients
Carbohydrates - Carbohydrates are mainly used in the body for energy. There are two types of carbohydrates which are: • Starch - Examples include bread, pasta, rice, potatoes and cereals. • Sugar - Examples include sweets, cakes, biscuits & fizzy drinks. Fat - This is needed to insulate the body, for energy, to protect bones and arteries from physical damage and provides fat soluble vitamins. There are two main types of fat which are: • Saturated fat - Examples include butter, lard, meat and cheese. • Unsaturated fat - Examples include avocados, plant oils such as sunflower oil, seeds and oily fish. Protein - Protein is mainly used for growth and repair in the body and cell maintenance. There are two types of protein which are: • High biological value (HBV) protein - Includes meat, fish, poultry, eggs, milk, cheese, yogurt, soya and quinoa. • Low biological value (LBV) protein - Includes cereals, nuts, seeds and pulses.	Vitamins • Fat soluble vitamin A - Main functions include keeping the skin healthy, helps vision in weak light and helps children grow. Examples include leafy vegetables, eggs, oily fish and orange/yellow fruits. • Fat soluble vitamin D - The main function of this micro-nutrient is to help the body absorb calcium during digestion. Examples include eggs, oily fish, fortified cereals and margarine. • Water soluble vitamin B group - Helps absorb minerals in the body, release energy from nutrients and helps to create red blood cells. Examples include wholegrain foods, milk and eggs. • Water soluble vitamin C - Helps absorb iron in the body during digestion, supports the immune system and helps support connective tissue in the body which bind cells in the body together. Examples include citrus fruits, kiwi fruit, cabbage, broccoli, potatoes and liver. Minerals • Calcium - Needed for strengthening teeth and bones. Examples include dairy products, soya and green leafy vegetables. • Iron - To make haemoglobin in red blood cells to carry oxygen around the body. Examples include nuts, beans, red meat and green leafy vegetables. • Sodium - Controls how much water is in the body and helps with the function of nerves and muscles. Examples include salt, processed foods and cured meats. • Potassium - Helps the heart muscle to work correctly and regulates the balance of fluid in the body. Examples include bananas, broccoli, parsnips, beans, nuts and fish. • Magnesium - Helps convert food into energy. Examples include wholemeal bread, nuts and spinach. • Dietary fibre (NSP) - Helps digestion and prevents constipation. Examples include wholegrain foods (wholemeal pasta, bread and cereals), brown rice, lentils, beans and pulses. • Water - Helps control temperature of the body, helps get rid of waste products from the body and prevents dehydration. Foods that contain water naturally include fruits and vegetables, milk and eggs.

2. Key Concepts – Nutrition at different life stages & special dietary needs

Nutrition at different life-stages	Special Dietary needs
Adults: • Early – Growth in regard to height of the body continues to develop until 21 years of age. Therefore, all micro-nutrients and macro-nutrients especially carbohydrates, protein, fats, vitamins, calcium and iron are needed for strength, to avoid diseases and to maintain being healthy. • Middle – The metabolic rate starts to slow down at this stage, and it is very easy to gain weight if the energy intake is unbalanced and there isn't enough physical activity. • Elderly – The body's systems start to slow down with age and a risk of blood pressure can increase as well as decrease in appetite, vision and long-term memory. Because of this, it is essential to keep the body strong and free from disease by continuing to eat a healthy, balanced diet. Children: • Babies – All nutrients are essential and important in babies, especially protein as growth and development of the body is very quick at this stage. Vitamins and minerals are also important. You should try to limit the amount of salt and free sugars in the diet. • Toddlers – All nutrients remain very important in the diet at this stage as growth remains. A variety of foods are needed for toddlers to have all the micro-nutrients and macro-nutrients the body needs to develop. • Teenagers – The body grows at a fast pace at different times at this stage as the body develops from a child to an adult; therefore all nutrients are essential within proportions. Girls start their menstruation which can sometimes lead to anaemia due to not having enough iron in the body.	Different energy requirements based on: • Lifestyles / Occupation / Age / Activity level The amount of energy the body needs is determined with each of the above factors e.g. active lifestyle or physical activity level would need more energy compared to a person being sedentary. Medical conditions: • Allergens – Examples of food allergies include milk, eggs, nuts and seafood. • Lactose intolerance – Unable to digest lactose which is mainly found in milk and dairy products. • Gluten intolerance – Follows a gluten free diet and eats alternatives to food containing wheat, barley and rye. • Diabetes (Type 2) – High level of glucose in the blood, therefore changes include reducing the amount of fat, salt and sugar in the diet. • Cardiovascular disorder – Needing a balanced, healthy diet with low levels of salt, sugar and fat. • Iron deficiency – Needing to eat more dark green leafy vegetables, fortified cereals and dried fruit. Dietary requirements: • Religious beliefs – Different religions have different dietary requirements. • Vegetarian – Avoids eating meats and fish but does eat dairy products and protein alternatives such as quorn and tofu. • Vegan – Avoids all animal foods and products but can eat all plant-based foods and protein alternatives such as tofu and tempeh. • Pescatarian – Follows a vegetarian diet but does eat fish products and seafood.



Ansel Adams

- What do you like about his work?
- Known for taking black and white images based on nature
- Discuss his wide range of subjects he has looked at throughout his career
- Your homework task is – Try taking pictures of landscapes such as bushes, trees, parks, sunrises



Rachel Levy

- Takes pictures of colourful flowers that are dying and showing decay throughout
- Very simple compositions
- In class we will be photographing – dying flowers
- Your homework task is - Take 20 images of single items on a white backdrop to emphasize the colour. This can be a flower or a piece of food. Think about contrasting colours.



Portfolio construction

Artist research – Compare artists to each other; discuss what they have in common or what is very different and refreshing about them

Contact sheets – Do not forget to include re shoots and why you had to re do?

Edited images – Explain examples of your work and how you did them; ie a step by step.

Celebration image (pictured) – Put it next to one of their work and explain the links

Composition: use perspective, movement, and light to transform the world we see and create an unrecognizable image.

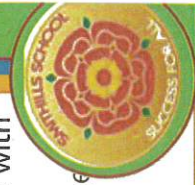
Birdseye view: an elevated view of an object or location from a very steep viewing angle, creating a perspective as if the observer were a bird in flight looking downward

Grayscale: A range of grey shades that are used in a monochrome display (black and white)

Focal point: What you are looking at and what you are focusing on.

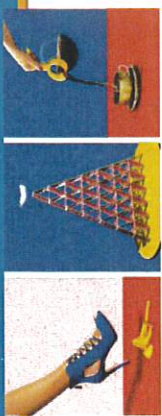
High Contrast: A high contrast between your light and dark areas with not much grayscale in between

Framing: The process of composing a picture eg. Up close or framed within a frame



Gregory Reid

- Born in Brooklyn, New York, USA
- Known for taking bright, vibrant photographs of a variety of subjects
- In class we will be photographing – fruit, veg and any other items that relate to your hobbies such as cards or a playstation pad
- Your homework task is – take twenty photos from a birds eye view – showing the title 'colour'



Olivia Parker

- Born in Boston, USA
- Known for taking photos of 'collections'. She takes images ranging from shells to peas in a pod
- In class we will be photographing – collections of many different items such as shells, shoes, cans and pinecones
- Your homework task is - Create 20 **compositions** using items found in your house, your garden or anywhere showing the title 'collections'.



Composition: use perspective, movement, and light to transform the world we see and create an unrecognizable image.

Birdseye view: an elevated view of an object or location from a very steep viewing angle, creating a perspective as if the observer were a bird in flight looking downward

Grayscale: A range of grey shades that are used in a monochrome display (black and white)

Focal point: What you are looking at and what you are focusing on.

High Contrast: A high contrast between your light and dark areas with not much grayscale in between

Framing: The process of composing a picture eg. Up close or framed within a frame

Portfolio construction

Artist research – Compare and contrast artists, explaining likes and dislikes. Research other artists you like and reference them in your portfolio.

Contact sheets – Circle which photos are successful and which photos could have been better, explaining why.

Edited images – Include screenshots and annotations, explaining in depth about how you created these images and where would you go next with them?

Celebration image (pictured) – Show off your favourite three pieces of work, explaining combinations of photographers and where you got the ideas from.



Big Picture:

1. Key Concepts

1. Key Concepts				
Marriage	Sexual relationships	Families	Support for families in the local parish and in a wider sense to stay together?	
Why can marriage be important (all forms)? Christians believe that marriage is: Part of God's plan for many, but not all, human beings; it is a gift from God. A lifelong, monogamous relationship, between one man and one woman. The right relationship for sexual relations and having children. Christianity teaches that single people should live a celibate life. However, individual Christians and groups of Christians can have different views on this. Non-religious people may or may not agree with marriage, depending on their personal beliefs.	What are the different views on sexual relationships? The Bible has strict teachings about sexual relationships, and some Christians believe God will punish sexual immorality. Some Christians believe sex should only take place between a man and a woman within marriage. Atheist views about sexual relationships differ according to personal beliefs. Humanists think sexual relationships are a matter of personal choice, as long as everyone involved is happy with those choices.	Why is family life important to Christians and other groups? These days, there are many kinds of family structure in the UK. Christian families also come in various shapes and sizes and they believe that: The family is important for society and the Christian faith. Parents and children have responsibilities towards each other. Children must obey and respect their parents. Parents must look after their children, keep them safe and bring them up as Christians. The Christians family is one of the main ways children learn about the Christian faith. Humanists believe that: The overall happiness of the family is more important than the structure of the family unit. Parents should bring up their children to be caring and reasonable people.	How do Churches try to support families religiously and in a wider sense to stay together? Christians believe they have a responsibility to care for, and help, others – particularly the family. Local churches provide both pastoral and spiritual care. They try to help families in their parish in a variety of ways including: Opportunities for families to worship and develop their faith together-Running separate children's groups or clubs including Sunday schools, Supporting families through the different stages, for example births, marriages and deaths. Offering counselling to help them resolve problems. Giving support as a way of showing God's love; helping families also makes the Church stronger.	
Contraception	Divorce	Equality of men and women in the family/ society. Gender prejudice and discrimination.	2. Vocabulary	
What are the variety and uses of contraception to prevent and limit family size? Christian Churches have different teachings about contraception. The Church of England and other Protestant traditions like the Methodist Church agree with the responsible use of contraception. The Roman catholic Church disagrees with all artificial methods of contraception, but permits a natural method based on the woman's menstrual cycle. Some Roman Catholics think artificial methods are more practical in the modern world. Humanists are very supportive of the use of contraception	Why is divorce required and what are the implications of divorce for families? All Christians agree that, ideally, marriages should last a lifetime. Some Christian Churches, like the Church of England, accept that sometimes divorce is the 'most loving thing to do' for all concerned. Churches accept divorce will also in exceptional circumstances permit remarriage in a church. The Roman Catholic Church does not permit divorce. Humanist views on divorce sometimes agree with Christian views.	The Roman Catholic Church teaching is based on a traditional biblical model. It states that men and women have been created equal by God but for different purposes. Many Christians disagree with this. They believe this view is no longer suitable for modern society. The Church of England and many other Protestant Churches support flexible gender roles within the family, depending on the needs of the family. Both sides of this debate use biblical texts to support their views. Humanists believe that men and women should both be happy with the roles they play within the family. Some atheists, particularly feminist atheists, are very critical of the traditional Christian family roles for men and women. They say these beliefs have caused the mistreatment of women within the family and society.	Nuclear family Extended family Blended family Divorce Re-marriage Contraception	Mum, dad and children. Several generations such as grandparents and uncles living in a household. Husband and wife with children from previous relationships. The legal ending of a marriage. Re-marrying another person. Methods used to prevent a pregnancy.
3. Skills	4. Key SOWA	5. Key Figures	6. Assessment Criteria	
Discuss differing attitudes towards marriage and sexual relationships. Evaluate whether these family life impacts on the lives of Christians. Explain why the local parish is important to Christians. Explain the roles of men and women are different in Christianity. Interpret SOWA and consider their application for and against one of the concepts	Mark 10:6-9; 1 Corinthians 6:7-20 Ephesians 6:1-4; Matthew 19:13-14 Reference to Humanae Vitae; Matthew 19:1-12; Genesis 1-3 and Ephesians 5:21-30; Galatians 3:23-29;	Jesus Pope Son of God/founder of Christianity. Head of the Catholic Church across the world.	State/ Outline Give 3 examples in 3 different sentences	Explain 2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation)
			Explain and SOWA 2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation) and link in a SOWA to support the points.	
			Evaluate Higher level answers will state which is the stronger argument and WHY this argument is more compelling.	

Big Picture: Why are we learning this now?

Having previously looked at your home, we are now moving on to describing your local area. This will include what it was like, is like and would be like if you were in charge. You will then be able to talk at length about where you live and use a range of tenses.

1. Key Concepts

Imperfect tense: used to talk about something you **USED** to do or **to describe something in the past** eg. In Bolton **there were** lots of factories in the past and **it was** an industrial town.

Conditional: used to explain what you **WOULD** do eg. I would live in Pakistan because the weather is nice

Subjunctive: used to express a wish/hope or doubt. eg. **if I were** Mayor/Mayress I **would** improve the transport in Bolton. In this case it is followed by the **conditional**.

4. Vocabulary 1: Adjectives

Tha/i/ay = was	hai/N = is
hotha/i/ay = would be	hoga/i/ay = will be
Noisy / lively	Shor / zinda dil
Quiet	Sunsaan / veeraan
Dirty	Gandha/i/ay
Clean	Saaf
Nice / pretty	Acha/i/ay Khoobsurath
Ugly	Badsoorath
Historic	Thaareekhi

Past	Present	Future	who/ which	where	such as	which	whereas
maazi	haal	musthaqbil	Jo	JhaaN	Jaisay	Jin	Jabkay
مازی	حال	مستقبل	جو	جہاں	جیسے	جن	جبکہ



2. Processes: verb conjugation

Imperfect Tense: remove 'na' + add...		
..tha th'a	تھا	Masculine
..thi th'i	تی تھی	Feminine
..thay th'ay	تھے	Plural
Conditional/subjunctive: remove 'na' + add...		
..tha (M)	..thi (F)	..thay (P)
ت	تی	تے

Agar main hotha/i/ay tho main

Sab say achi cheez yeh hai kay

Sab say burri cheez yeh hai kay

Mujhay Bolton kay pasand/napasand haiN, kyunkay

Main samajtha/i hooN kay ...

6. Assessment

- Thumhaaray shehar main kya hai?
- WahaaN kaunsi sargarmiyaaN log kar sakthay haiN?
- Maaazi main Bolton kaisa tha?
- Thumhaara khyaaali/misaali shehar kya hai aur kyuN?
- Thum musthaqbil main kahaaN raho gay?

5. Vocabulary 2: Places in town

In the countryside	DihaathoN main
In the village	Gaaon main
In the city/town	Shehar main
On the coast	Sahil samunder par
At home	Ghar/makaan main
In the fields	Kethon main
In the museum	Ajayb ghar main
In the library	Kutb khaanay main
Local area	Maqaami ilaaqa

HT 1 & 2: Urdu Homework (in addition to the Knowledge Organiser work)

Each fortnight:

- Visit *dailypakistan.com.pk/daily-bites* website
- Select an article that you are interested in
- Write out the article headline in Urdu
- Translate the headline into English
- Identify 5 difficult Urdu words from the article and translate them into English

Foundation: Aut 1, year 11. Task 1. Write all answers in your homework book.

Keeping in touch Read these views about the best way to keep in touch with others.

A	La technologie ne m'intéresse pas. Je préfère bavarder avec mes copains au lycée.
B	Quand je reçois un petit mot de mon ami suisse, je lui réponds tout de suite. Il aime bien ça car il collectionne les timbres.
C	J'adore mon portable. Je n'appelle jamais personne mais j'envoie au moins cinquante messages par jour.
D	Pour le succès de mon entreprise, il est essentiel d'aller voir mes clients régulièrement. Pas besoin d'Internet !
E	Je ne suis pas pour les textos. Si je dois contacter un de mes clients, je préfère l'appeler sur son portable.
F	Je passe la journée devant un écran. Alors, pour discuter avec mes collègues, je les retrouve dans un café en ville.
G	Pour communiquer avec ma famille en Corse, j'utilise un site Internet. Comme ça, on peut partager des messages et des photos et discuter dans un chatroom.

Who prefers the following?

Write the correct letter in each box.

(a) Using social networking

(1)

(b) Making phone calls

(1)

(c) Meeting customers in person

(1)

(d) Sending texts

(1)

(e) Writing letters

(1)

(Total 5 marks)

Foundation: Aut 1, year 11. Task 2. Write all answers in your homework book.

Online friendships

Read these statements about social networking.

Choose a word from the grid and write the correct letter in each of the boxes.

Example.

L'Internet est indispensable au 21^e

F

- 1 Il est simple de rester en avec ses amis partout dans le monde.

(1)

- 2 On peut télécharger des photos et laisser des messages sur un social.

(1)

- 3 Ou bien on peut bavarder avec ses amis, ou la musique avec eux.

(1)

- 4 Mais attention ! Il ne faut pas passer trop de temps devant un d'ordinateur.

(1)

- 5 Et ne donnez jamais votre de passe à vos amis – ça peut être très dangereux !

(1)

A	contact
B	écran
C	mot
D	partager
E	réseau
F	siècle
G	souris
H	supporter

(Total 5 marks)

Foundation: Aut 1, year 11. Task 3. Write all answers in your homework book.

Les réseaux sociaux

Lisez cet article dans un magazine canadien.

La majorité des Canadiens utilisent des réseaux sociaux.

Un sondage indique que ces utilisateurs sont anxieux parce que leurs détails personnels ne sont pas protégés.

La semaine dernière, les profils d'utilisateurs de Facebook ont été ouverts en raison d'un bug. Et ce n'est pas la première fois !

Selon l'Association canadienne des libertés civiles, il ne faut pas abandonner les réseaux mais il faut prendre des précautions.

Pour l'association la situation ces deux dernières années ne s'est pas améliorée. Et elle deviendra encore pire...

Complétez ces phrases en **français**.

- 1 Les utilisateurs de réseaux sociaux canadiens s'inquiètent car...

(1)

- 2 Récemment, un bug a ouvert...

(1)

- 3 L'Association canadienne des libertés civiles pense que c'est une bonne idée de...

(1)

- 4 Selon l'association, à l'avenir, la situation...

(1)

(Total 4 marks)

Higher: Aut 1, year 11. Task 4. Write all answers in your homework book.

Social media

A newspaper has published the results of an online survey about the use of social networks in Belgium. Read the summary of the results.

Votre enfant est tout le temps en ligne, mais vous ne savez pas exactement ce qu'il fait ?

Nous avons demandé aux adolescents: « Pourquoi utilisez-vous les réseaux sociaux ? »

Voici les résultats:

- La majorité (55%) les utilise pour s'amuser. Ils disent même être accros à certains jeux.
- 28% se connectent pour rester en contact avec leurs amis.
- 15% en ont besoin pour leur travail scolaire.
- 10% sont d'avis que ça leur permet de rencontrer d'autres gens.
- 7% veulent faire comme leurs amis.
- Enfin, pour 5% des ados, ça les aide à gagner du temps car ils y organisent toute leur vie.

What percentage of people use social networks for the following reasons?

Complete the boxes.

1 To meet people

%

(1)

2 For their studies

%

(1)

3 To play games

%

(1)

4 What is the least popular reason? Answer in **English**.

(1)

(Total 4 marks)

Higher: Aut 1, year 11. Task 5. Write all answers in your homework book.

Parental control software

Read this blog written by young people about a new piece of parental control software.

Gabriel

L'installation n'est pas très simple et le logiciel pourrait être utilisé par des parents qui désirent contrôler leurs enfants plutôt que de les aider.

Ibrahim

Le logiciel permet aux parents de nous protéger de l'intimidation ou d'autres menaces en ligne. Alors, quel est le problème ?

Louise

Oui, ce logiciel peut rassurer les parents, c'est vrai. Cela dit, je pense que certains ados vont considérer l'utilisation de ce logiciel comme une insulte.

Yasmine

Je suis anxieuse. Ce logiciel permet aux parents de savoir avec qui nous parlons en ligne. C'est inadmissible. Chaque enfant a droit au respect de sa vie privée.

What do these people think about the software?

For a positive opinion, write **P**.

For a negative opinion, write **N**.

For a positive and negative opinion, write **P+N**.

1 Gabriel

(1)

2 Ibrahim

(1)

3 Louise

(1)

4 Yasmine

(1)

(Total 4 marks)

Higher: Aut 1, year 11. Task 6. Write all answers in your homework book.

Social media

Read this blog by a student, Lily, in which she talks about making videos.

Pourquoi des vidéos ? J'ai vu une vidéo d'un garçon sur un sofa en train de manger des chips. Puis, j'ai lu qu'il avait obtenu un meilleur score d'audience que le journal télévisé ! Moi, je croyais que je pourrais faire la même chose.

J'avais moins de 18 ans, alors je devais confirmer que l'un de mes parents avait lu le contrat et qu'il m'avait donné l'autorisation de créer des vidéos. Pour ma première vidéo, j'ai comparé deux logiciels différents. Plus tard, je suis devenue plus ambitieuse en recréant des clips musicaux amusants qui ont connu un grand succès.

Answer the questions in **English**.

- 1** After seeing the video of the boy, why did Lily decide to make her own videos? Give **two** reasons:

1 _____
—

2 _____
—

(2)

- 2** What had to happen before she made any videos? Give **two** details.

1 _____
—

2 _____
—

(2)

- 3** What **two** kinds of video has Lily made?

1 _____
—
2 _____

(2)
(Total 6 marks)

Component 1

Component 2

Component 3

Big Picture: This term you will finalise and submit your component 1 and 2 work for moderation. This knowledge organiser outlines the key information you will need to support you when completing written work both in the classroom and at home, please use it to guide you.

1. Key concept – Component 1		2. Key concept – Component 2	
To develop in the performing arts, you will need a broad understanding of performance work and influences. This component will help you to understand the requirements of being a performer (in acting, dance or musical theatre) and/or designer (in lighting, props, costume, set, makeup or sound).		Learners will develop their performing arts skills and techniques through the reproduction of acting, dance and/or musical theatre repertoire as performers or designers.	
A1 Professional performance material, influences, creative outcomes and purpose Learners will examine live and/or recorded performances in at least three different styles in order to develop their understanding of professional performing arts work in one or more of acting, dance and musical theatre, with reference to influences, outcomes and purpose. A2 Roles, responsibilities and skills Learners will examine the roles, responsibilities and skills used to create work, developing their knowledge and understanding of how they contribute to performance.	B1 Processes used in development, rehearsal and performance B2 Production process Learners will explore and participate in workshops and classes to develop their knowledge and understanding of the interrelationships between processes, techniques and approaches that contribute to performance repertoire.	A1 Rehearsal/design process Learners will participate in rehearsal or production/design practices, continuing the development of skills and techniques with reference to existing performance types, styles and repertoire. They will complete all the content appropriate for their chosen role. B1 Application of skills and techniques in/for performance Performance skills needed by performers, including: • physical skills relevant to the performance discipline • Vocal skills • other performance and interpretative skills	C1 Review rehearsal/design processes C2 Review performance/outcomes Learners must track their progress during this component, reflecting on their development of skills and working practices in workshops, through to rehearsals and performances
When was it written? When did it debut? A SHORT synopsis (a couple of sentences) Context of the play - Social class and poverty Themes in the play Stylistic features: cyclical structure, Brecht (epic theatre: alienation of the audience, non-linear narratives, large narrative, episodes, narrator (juxtaposition), multi-role), One actor playing a large age range - how is this shown? (voice and physicality) Music - helps to drive the narrative forwards Set Design - static set, touring, cyclorama, split stage	Concept: context, educate the audience on North/South divide Tension: Dialogue - romantic, comedic, climax and anti-climax, link to types of tension in BB Narrator: Quotes, order, create still images, add narration/step out, add dialogue = harbinger of doom (contrast with scenes after) link this to directorial decisions Mrs J: Selected a scene, created a costume (context), function of the role, given circumstances (Stanislavski), vocal, physical, interaction and space	• Summary of the plot • How the play links to the theme • Script Analysis • Photograph Annotation • Rehearsal evaluation and review of targets	• Please learn your lines for performance. Key dates: Dress rehearsal (in lesson) Friday 8th November 2024 Final performance Wednesday 13th November 2024 • Performance Evaluation and review of targets

