KING'S LYNN ACADEMY

KNOWLEDGE ORGANISER

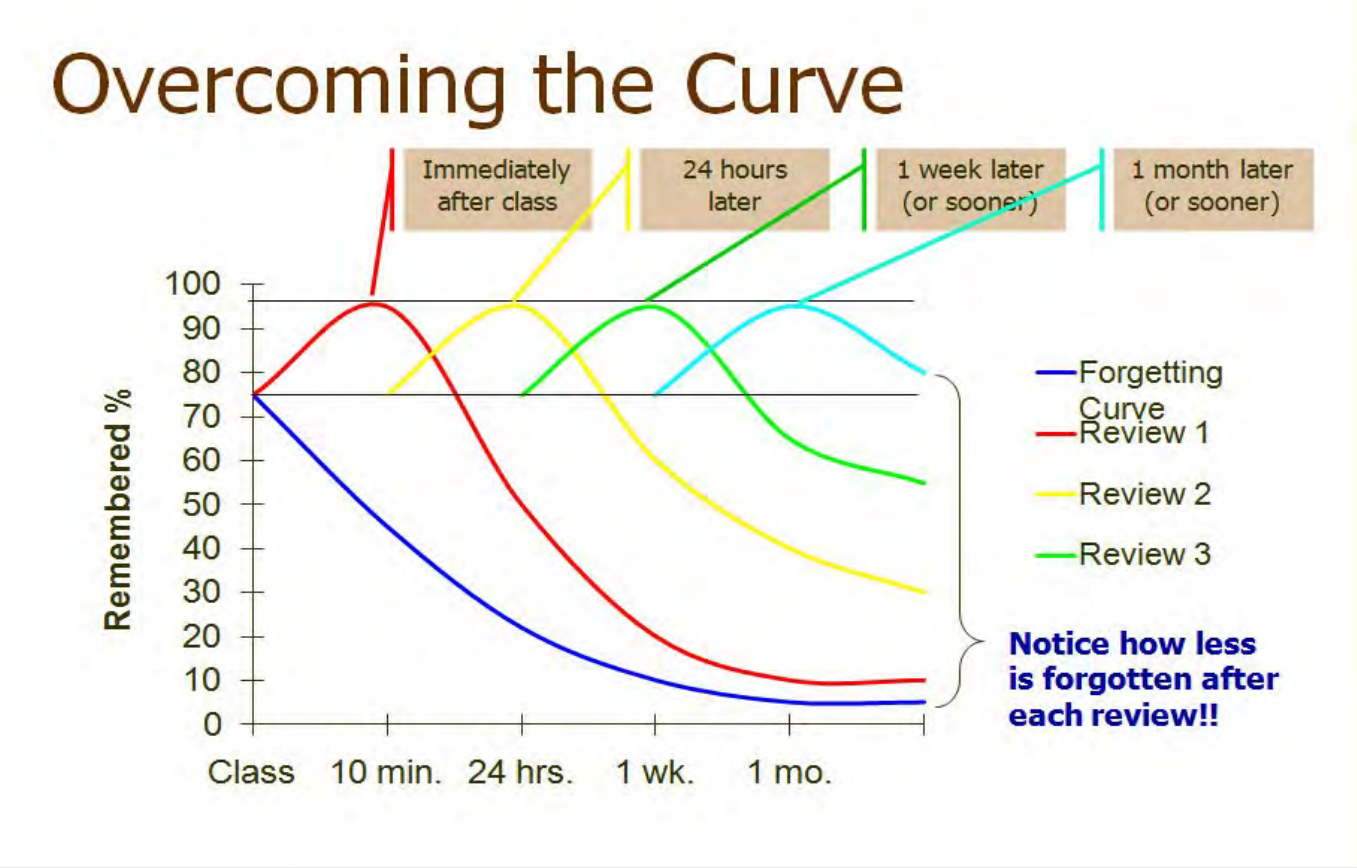
Year 9 Summer Term 3 2022

Home Learning

At KLA we deem it is important to set about making excellent progress in your child's learning by reinforcing crucial knowledge beyond the classroom. To help structure this important aspect of their learning pupils have access to Knowledge Organisers for all subject areas. The Knowledge Organisers will help your son/daughter to learn a wide range of knowledge to prepare them for lessons, low/high stake assessments and GCSE public examinations, and the world of work when used appropriately, consistently and in structured time. Knowledge Organisers encourage pupils to be independent when developing knowledge. Each half term pupils will receive a booklet, which comprises of Knowledge Organisers and the Journey for all subjects in the curriculum. Moreover, this booklet is available on the school website and emailed to parents.

Why Knowledge Organisers?

The GCSE specifications have a greater focus on application, reasoning and evaluation skills. This leaves less time in class to focus on 'the bits they just have to know'. If knowledge retention is improved, this will have a positive impact on levels of attainment and achievement.



Decay theory states that if learning is not used, revisited or rehearsed it simply fades away.

How to use your Knowledge Organiser

To get the most out of the Knowledge Organisers, your son/daughter should be learning sections and then testing themselves. Listed at the back of this booklet are strategies and tips on how your son/ daughter can successfully use their Knowledge Organisers.

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Personal Development..... Pages 84-87

Your Future starts here

Year 9 English

KING'S LYNN ACADEMY

Writing for pleasure - creative

Blood Brothers – British Society in 20th Century

How to write an argument

1984 and Orwell

Term 3

Descriptive Writing Response

Understanding Conflict and Power in 20th Century Society

Of Mice and Men

Writing to argue a point of view

Term 2

War and Conflict Poetry 1914-1940

Short story structure

Sherlock Holmes 1982

Texts associated with Gothic Genre

The Gothic Early 1800s – Gothic setting

Welcome to KLA your Journey starts here

Term 1

Russell: Blood Brothers Knowledge Organiser

Context/ Background:

Willy Russell: Born into a working class family, near Liverpool. Left school at 15 with one O level in English Language. Became a hairdresser before attending night school classes to become a teacher.
Liverpool: A major port so docks and shipbuilding provided much employment. Industrial decline meant high unemployment. Led to much social unrest in 1980s, including riots.
Skelmersdale: One of many New Towns built by 1960s government- an extension of a smaller existing town used to house working class overspill from city.
Margaret Thatcher: Became Prime Minister in 1979. Reduced power of trade unions and closed mines and factories, leading to high unemployment in working class. Said, "no such thing as the state." Called, 'milk-snatcher' for stopping free school milk.
Class: Divide between Middle and Working class compounded by MC increased opportunities in education and job prospects.
Education: Education Act 1944 led to Secondary Modern and Grammar Schools. After the 11+ exam, top 20% went to Grammar School and studied an academic curriculum, leading to Further Education; Secondary Modern taught more practical subjects such as brick laying.

Setting:

1960-1980
Liverpool

Themes:

Social Class
Equality
Growing up
Crime and violence
Superstition
Nature V Nurture

Key Features of Dramatic Form used by Russell:

Tragedy: a play in which the main character has a fatal flaw which results in their death
Catharsis: The feeling of release and healing the audience experience from watching a tragedy
Narrator: A person who gives a spoken account of the play; Omniscient if they are all-knowing
Stage Directions: the instructions behind the play- for actors, lighting and props
Song: a work of music used to reveal a character's feelings, much like a monologue
Dialogue: speech between 2 or more characters
Didacticism: a style intended to teach, particularly with regard to morality
Foreshadowing: A warning or indication of what's to come
Symbols: Something that represents something else
Motifs: A recurring or dominant image or idea
Accent and Dialect V Standard in English: Standard English is perceived as the Queen's English, RP or the national norm. Dialect is the language specific to geographical location, with grammar, words and phrases which are non-standard. Accent is pronunciation, which varies according to geography.

Key Characters:

Mrs Johnstone
Mrs Lyons
Mickey
Edward
Linda
Sammy

Year 9

English
Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

Check You Remember
Who is Mrs Johnstone and why is her life difficult?
Why do Edward and Mickey grow up differently?
Who is Linda and what is her function in the play?

Apply Your Knowledge
How does playing with guns at the start foreshadow the end?
Which is the most tragic character and why?
Why does Edward get a good job whilst Mickey loses his? Explore all possible reasons.

Stretch Your Thinking
Why did Russell write this play?
Mickey and Edward are twins– why do their lives turn out so differently?
Could this play have been written in a different decade? Explain you're answer.

Year 9

English

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	I know background information about Willy Russell			
2	I know about Liverpool in the 60s and 80s			
3	I know information about each of the main characters in Blood Brothers– both mothers and sons			
4	I know the plot of Blood Brothers in detail			
5	I know the full range of Dramatic Terminology relevant to the play			
6	I know and can list the key themes of the play			
7	I know information about the minor characters of the play			
8	I know 3-5 quotations about each main character			
9	I can also link these quotations to themes			
10	I know how to write an essay response			

High Flyers - Enrichment Task

Look again at the school scene– write about the two schools– collect quotations for both characters' experiences– explain how they difference and what Russell is saying about society. Produce as a one side revision page.

Do as above for the police scene.

Is there still such inequality in Britain today? Write an essay to say whether this is still a relevant text to study or not.

Your Future starts here

Year 9 Maths

KING'S LYNN ACADEMY

End of Year Exam

Probability

Algebraic representation

Rates

Enlargement and similarity

Solving ratio and proportion problems

Term 3

Rotation and translation

Pythagoras' theorem

Deductions

Maths and money

Mid Term Exam

Using Percentages

Term 2

Numbers

Constructions and congruency

Three dimensional shapes

Forming and solving equations

Testing Conjectures

Straight line graphs

Term 1

Welcome to KLA your Journey starts here

Year 9 Knowledge Organiser Half Term 5

Ideas of the Half Term – Enlargement and similarity, solving ratio and proportion problems

A further specific Knowledge Organiser will be given to you at the start of each topic by your teacher.

Key vocabulary

Similar	Ratio	Enlargement
Scale factor	Corresponding	Object/Image

- Recognise enlargement and similarity
- Enlarge a shape by a positive integer scale factor
- Enlarge a shape by a positive integer scale factor from a point
- Enlarge a shape by a positive fractional scale factor
- **Enlarge a shape by a negative scale factor**
- Work out missing sides and angles in a pair of given similar shapes
- **Solve problems with similar triangles**
- **Explore ratios in right-angled triangles**

Key vocabulary

Relationship	Ratio	Multiplier
Constant	Scale factor	

- Solve problems with direct proportion
- Direct proportion and conversion graphs
- Solve problems with inverse proportion
- **Graphs of inverse relationships**
- Solve ratio problems given the whole or a part
- Solve 'best buy' problems
- **Solve problems ratio and algebra**

Year 9 Knowledge Organiser Half Term 5

Ideas of the Half Term – Rates

Key vocabulary

Speed	Distance	Time
Per	Hours	Minutes

- Solve speed, distance and time problems without a calculator
- Solve speed, distance and time problems with a calculator
- Use distance-time graphs
- Solve problems with density, mass and volume
- Solve flow problems and their graphs
- Rates of change and their units
- **Convert compound units**

Previous Learning Revision Points

Units are important:
When using a ratio – all parts should be in the same units

Useful Conversions

mm $\xrightarrow{\times 10}$ cm $\xrightarrow{\times 100}$ m $\xrightarrow{\times 1000}$ km (÷10, ÷100, ÷1000)

g $\xrightarrow{\times 1000}$ kg (÷1000)

ml $\xrightarrow{\times 1000}$ L (÷1000)

Sharing a whole into a given ratio

James and Lucy share £350 in the ratio 3:4
Work out how much each person earns

Model the Question

James : Lucy
3 : 4

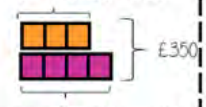
Find the value of one part
Whole £350
7 parts to share between
(3 James, 4 Lucy)

£350 ÷ 7 = £50
□ = one part = £50

Put back into the question

James : Lucy
(×50) 3 : 4 (×50)
£150 : £200

James = 3 x £50 = £150



Lucy = 4 x £50 = £200

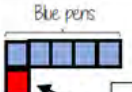
Finding a value given 1n (or n:1)

Inside a box are blue and red pens in the ratio 5:1
If there are 10 red pens how many blue pens are there?

Model the Question

Blue : Red
5 : 1

□ = one part = 10 pens

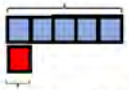


One unit = 10 pens

Put back into the question

Blue : Red
(×10) 5 : 1 (×10)
50 : 10

Blue pens = 5 x 10 = 50 pens

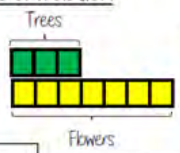


Red pens = 1 x 10 = 10 pens

There are 50 Blue Pens

Ratio as a fraction

Trees : Flowers
3 : 7



Ratio

There are 3 parts for trees

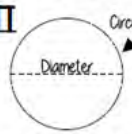
Fraction of trees

Number of parts of in group / Total number of parts = 3/10

Fraction

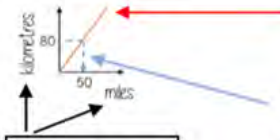
Tree parts 3 + Flower parts 7 = 10

Pi π



The ratio of a circles circumference to its diameter

Conversion Graphs Compare two variables



This is always a straight line because as one variable increases so does the other at the same rate

To make conversions between units you need to find the point to compare – then find the associated point by using your graph
Using a ruler helps for accuracy
Showing your conversion lines help as a "check" for solutions

Labelling of both axes is vital

Notes

Year 9 Knowledge Organiser Half Term 6

Ideas of the Half Term – Probability and Algebraic representation

A further specific Knowledge Organiser will be given to you at the start of each topic by your teacher.

Key vocabulary

Event	Outcome	Equally likely
Probability	Biased/unbiased	Fair

- Single event probability
- Relative frequency
- Expected outcomes
- Independent events
- **Use tree diagrams**
- **Use tree diagrams to solve 'without replacement' problems**
- Use diagrams to work out probabilities

Key vocabulary

Quadratic	Parabola	Curve
Vertex	Turning Point	Symmetry

- Draw and interpret quadratic graphs
- Interpret other graphs, including reciprocal and piece-wise
- **Investigate graphs of simultaneous equations**
- Represent inequalities

Year 9 Knowledge Organiser Half Term 6

Previous Learning Revision Points

Probability from two-way tables

	Car	Bus	Walk	Total
Boys	15	24	14	53
Girls	6	20	21	47
Total	21	44	35	100

The total number of items

P (Girl walk to school) = $\frac{21}{100}$

The event

The total in the set

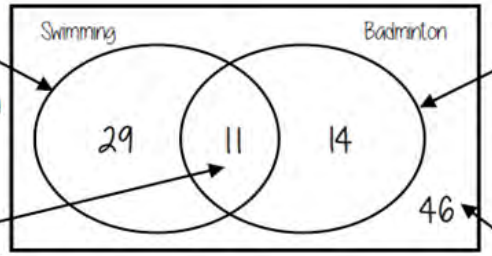
Product Rule

The number of items in event a **x** The number of items in event b

Probability from Venn diagrams

100 students were questioned if they played badminton or went to swimming club
40 went swimming, 25 went to badminton and 11 went to both

This whole curve includes everyone that went swimming. Because 11 did both we calculate just swimming by 40- 11



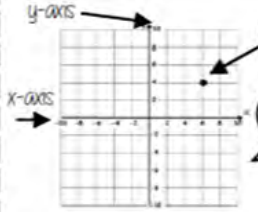
This whole curve includes everyone that went to badminton. Because 11 did both we calculate just badminton by 25 - 11

P (Just swimming) = $\frac{29}{100}$

The intersection represents both Swimming AND badminton

The number outside represents those that did **neither** badminton or swimming 100 – 29 – 11 – 14

Coordinates in four quadrants



Coordinate (x, y) (6, 4)

From the origin this coordinate is 6 places along the positive x axis and 4 places up the positive y axis

(x, y)

Always the position on the x axis first

Always the position on the y axis second

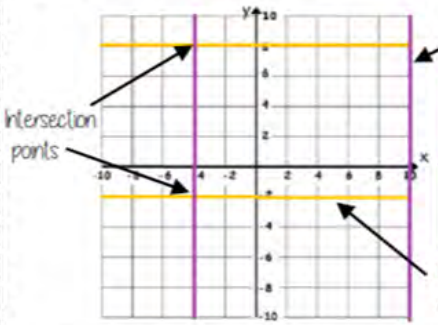
(0, a) Will always be a point on the y axis (a can be any number)

(a, 0) Will always be a point on the x axis (a can be any number)

Lines parallel to the axes

All the points on this line have a x coordinate of 10

"a" can be ANY postive or negative value including 0



Intersection points

Lines parallel to the **y axis** take the form **x = a** and are **vertical**

Lines parallel to the **x axis** take the form **y = a** and are **horizontal**

All the points on this line have a y coordinate of -2

e.g (3, -2) (7, -2) (-2, -2) all lay on this line because the y coordinate is -2

Year 9

Maths

Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

Pythagoras's theorem
Whats the difference between the square of a number and the square root of a number? What is the first step when calculating e.g. . $\sqrt{12+9^2}$

Enlargement and similarity
How can you show if one shape is an enlargement of another or not? What information do you need? What do you notice about the angles of similar shapes?

Solving ratio and proportion problems
If we know how much 2 items cost, how can I work out how much 6 items cost? What about 1 item?

Rates
How many minutes is 0.25 hour? What fraction of an hour is 15 minutes? If the speed is constant, is distance travelled directly proportional to time?

Probability
Are the outcomes of the event equally likely or not? How do you know? When can you/can't you add together the probabilities of events?

Algebraic representation
How can you tell from an equation whether the graph will be a straight linear a parabola? Are all quadratic graphs symmetrical?

Year 9

Maths

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	Pythagoras's theorem			
2	Enlargement and similarity			
3	Solving ratio and proportion problems			
4	Rates			
5	Probability			
6	Algebraic representation			

High Flyers - Enrichment Task

Jack and Tommy share some counters in the ratio 5 : 3
Tommy gives 30 counters to Jack.
Now the ratio of Jack's to Tommy's counters is 3 : 13
Which of the following equations would you use to find out how many counters they had initially?

$3(5x + 30) = 5(3x - 30)$

$3(5x - 30) = 13(3x + 30)$

$3(5x + 30) = 13(3x - 30)$

$13(5x + 30) = 3(3x - 30)$

How many counters does Tommy have now?

Science

Year 9

Year 10

KING'S LYNN ACADEMY

Term 6

Physics
Waves

Biology
Human interaction

Term 5

Experimental Science
Standard Procedures
Enquiry
Understanding

Physics
Heating

Chemistry
Using Resources

Term 4

Chemistry
Matter and Energy

Biology
Organ systems

Term 3

Experimental Science
Standard Procedures
Enquiry
Understanding

Physics
Acceleration

Term 2

Chemistry
Periodic Table

Biology
Growth

Term 1

Welcome back to KLA your Journey continues

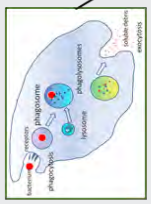
Human Interaction

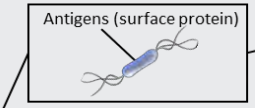
Human defence systems

Immune system

White blood cells are part of the immune system

Phagocytes	*Phagocytosis*	Phagocytes engulf the pathogens and digest them.
Lymphocytes	*Antibody production*	Specific antibodies destroy the pathogen. This takes time so an infection can occur. If a person is infected again by the same pathogen, the lymphocytes make antibodies much faster.
	Antitoxin production	Antitoxin is a type of antibody produced to counteract the toxins produced by bacteria.





Pathogens are identified by white blood cells by the different proteins on their surfaces **ANTIGENS.**

Non-specific defence systems

The human body has several non specific ways of defending itself from pathogens getting in

	Nose	Nasal hairs, sticky mucus and cilia prevent pathogens entering through the nostrils.
	Trachea and bronchus (respiratory system)	Lined with mucus to trap dust and pathogens. Cilia move the mucus upwards to be swallowed.
	Stomach acid	Stomach acid (pH1) kills most ingested pathogens.
	Skin	Hard to penetrate waterproof barrier. Glands secrete oil which kill microbes

Plants have several ways of defending themselves from pathogens and animals

Physical	*Mechanical*
Thick waxy layers, cell walls stop pathogen entry	Thorns, curling up leaves to prevent being eaten
Chemical	
Antibacterial and toxins made by plant	

Detection and identification of plant diseases (bio only)

Detection	**Identification**
Stunted growth	Reference using gardening manual or website, laboratory test for pathogens, testing kit using monoclonal antibodies.
Spots on leaves	
Area of decay	
growths	
Malformed stem/leaves	
Discolouration	
Presence of pests	

Nitrate ions needed for protein synthesis – lack of nitrate = stunted growth.

Magnesium ions needed to make chlorophyll – not enough leads to chlorosis – leaves turn yellow.

Communicable diseases

Pathogens

Pathogens are microorganisms that cause infectious disease

Pathogens may infect plants or animals and can be spread by direct contact, water or air

Pathogen	*Disease*	Symptoms	Method of transmission	Control of spread
Virus	*Measles*	Fever, red skin rash.	Droplet infection from sneezes and coughs.	Vaccination as a child.
Virus	*HIV*	Initially flu like systems, serious damage to immune system.	Sexual contact and exchange of body fluids.	Anti-retroviral drugs and use of condoms.
Virus	*Tobacco mosaic virus*	Mosaic pattern on leaves.	Enters via wounds in epidermis caused by pests.	Remove infected leaves and control pests that damage the leaves.
Bacteria	*Salmonella*	Fever, cramp, vomiting, diarrhoea.	Food prepared in unhygienic conditions or not cooked properly.	Improve food hygiene, wash hands, vaccinate poultry, cook food thoroughly.
Bacteria	*Gonorrhoea*	Green discharge from penis or vagina.	Direct sexual contact or exchange of body fluids.	Use condoms. Treatment using antibiotics.
Protists	*Malaria*	Recurrent fever.	By an animal vector (mosquitoes).	Prevent breeding of mosquitoes. Use of nets to prevent bites.
Fungus	*Rose black spot*	Purple black spots on leaves.	Spores carried via wind or water.	Remove infected leaves. Spray with fungicide.

Bacteria may produce toxins that damage tissues and make us fell ill

Viruses	Bacteria (prokaryotes)	Protists (eukaryotes)	Fungi (eukaryotes)
e.g. cold, influenza, measles, HIV, tobacco mosaic virus	*e.g. tuberculosis (TB), Salmonella, Gonorrhoea*	*e.g. dysentery, sleeping sickness, malaria*	*e.g. athlete's foot, thrush, rose black spot*
DNA or RNA surrounded by a protein coat	No membrane bound organelles (no chloroplasts, mitochondria or nucleus). Cell wall. Single celled organisms	Membrane bound organelles. Usually single celled.	Membrane bound organelles, cell wall made of chitin. Single celled or multi-cellular

Viruses live and reproduce inside cells causing damage

Antibiotics and painkillers

Antibiotics have greatly reduced deaths from infectious bacterial disease

antibiotics	*e.g. penicillin*	Kill infective bacteria inside the body. Specific bacterial infections require specific antibiotics.
Painkillers and other medicines	*e.g. aspirin, paracetamol, ibuprofen*	Drugs that are used to treat the symptoms of a disease. They do not kill pathogens

Antibiotics cannot be use to treat viral pathogens

It is difficult to develop drugs to kill viruses without harming body tissues because viruses live and reproduce inside cells

Bacteria can mutate

Sometimes this makes them resistant to antibiotic drugs.

Discovery and drug development

Traditionally drugs were extracted from plants and microorganisms

Digitalis	*Aspirin*	*Penicillin*
Extracted from foxglove plants and used as a heart drug	A painkiller and anti-inflammatory that was first found in willow bark	Discovered by Alexander Fleming from the *Penicillium* mould and used as an antibiotic

Most new drugs are synthesised by chemists in the pharmaceutical industry.

Drugs have to be tested and trialled before to check they are safe and effective

New drugs are extensively tested for:		
	Efficacy	Make sure the drug works
	Toxicity	Check that the drug is not poisonous
	Dose	The most suitable amount to take

Preclinical trials - using cells, tissues and live animals - must be carried out before the drug can be tested on humans.

Clinical trials use healthy volunteers and patients

Stage 1	*Stage 2*	*Stage 3*	*Stage 4*
Healthy volunteers try small dose of the drug to check it is safe record any side effects	A small number of patients try the drug at a low dose to see if it works	A larger number of patients; different doses are trialled to find the optimum dose	A double blind trial will occur. The patients are divided into groups. Some will be given the drug and some a placebo.

Double blind trial: patients and scientists do not know who receives the new drug or placebo until the end of the trial. This avoids bias.

A placebo can look identical to the new drug but contain no active ingredients

Vaccination

Used to immunise a large proportion of the population to prevent the spread of a pathogen

Vaccination			
	Small amount of dead or inactive form of the pathogen	*1st infection by pathogen*	White blood cells detect pathogens in the vaccine. Antibodies are released into the blood.
		Re-infection by the same pathogen	White blood cells detect pathogens. Antibodies are made much faster and in larger amounts.

A person is unlikely to suffer the symptoms of the harmful disease and it's spread in a population is prevented

Created more side effects than expected (fatal in some cases) and are not as widely used as everybody hoped when first developed.

Monoclonal antibodies (Biology only HT)

Monoclonal antibodies		
	Identical copies of one types of antibody produced in laboratory	1. A mouse is injected with pathogen
		2. Lymphocytes produce antibodies
		3. Lymphocytes are removed from the mouse and fused with rapidly dividing mouse tumour cells
		4. The new cells are called hybridomas
		5. The hybridomas divide rapidly and release lots of antibodies which are then collected

Specific to one binding site on the antigen. Can target specific chemicals or cells in the body

Monoclonal antibodies can be used in a variety of ways

Diagnosis	*Detecting pathogens*	*Detecting molecules*	*Treatment*
e.g. pregnancy test – measure the level of hormones	Can detect very small quantities of chemicals in the blood	Fluorescent dye can be attached so it can be seen inside cells or tissues	Bound to radioactive substance, toxic drug or chemical Cancer cells are targeted to normal body cells are unharmed

Biodiversity

Food production (biology only)

Factors affecting food security	
Enough food is needed to feed a changing population	Increasing birth rate.
	Changing diets in developing countries.
	New pests and pathogens affecting farming.
	Environmental changes e.g. famine when rains fail.
	Cost of agriculture input.
	Conflicts (war) affecting water of food availability

Farming techniques

Increasing efficiency of food production

Reduce energy waste, limiting movement, control temperature, high protein diet to increase growth.

Sustainable fisheries	
Fish stocks in oceans are declining	Maintain/grow fish stocks to a sustainable level where breeding continues or certain species may disappear. By controlling net size, fishing quotas.

Some people have concerns about the treatment of animals.

Biotechnology

Meeting the demands of a growing population

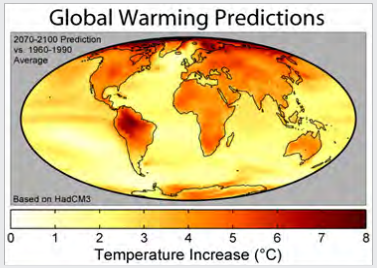
- Fungus *Fusarium* to produce mycoprotein. Requires glucose syrup, aerobic conditions. Biomass is harvested and purified.
- GM bacterium produces insulin to treat diabetes.
- GM crops to provide more/nutritional food (golden rice).

Decomposers break down dead plants and animal matter by secreting enzymes. Small soluble food molecules than diffuse into the microorganism.

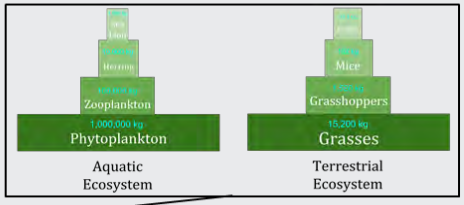
Global warming

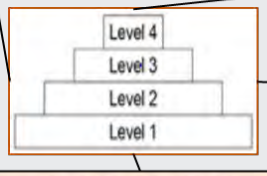
Global warming		
	Levels of CO_2 and methane in the atmosphere are increasing.	Decreased land availability from sea level rise, temperature rise damages delicate habitats, extreme weather events harm populations of plants and animals.

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



Trophic levels and biomass (biology only)





Transfer of biomass

Biomass is lost between the different trophic levels

Producers transfer about 1% of the incident energy from light for photosynthesis.	Large amounts of glucose is used in respiration, some material egested as faeces or lost as waste e.g. CO_2, water and urea in urine.
Approximately 10% of the biomass from each trophic level is transferred to the level above.	

Trophic levels can be represented by numbers and biomass in pyramids.

Trophic levels are numbered sequentially according to how far the organisms is along the food chain.

Level 1	Producers	Plants and algae.
Level 2	Herbivores	Primary consumers.
Level 3	Carnivores	Secondary consumers.
Level 4	Carnivores	Tertiary consumers.

Apex predators are carnivores with no predators.

Maintaining biodiversity

Human activity can have a positive impact on biodiversity

Scientists and concerned citizens
Put in place programmes to reduce the negative impacts of humans on ecosystems and biodiversity
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.

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

Matter and Energy

Relative formula mass (M_r)

M_r	*The sum of the relative atomic masses of the atoms in the numbers shown in the formula*	The sum of the M_r of the reactants in the quantities shown equals the sum of the M_r of the products in the quantities shown.	$2Mg + O_2 \rightarrow 2MgO$ 48g + 32g = 80g 80g = 80g

Mass changes when a reactant or product is a gas

Mass appears to increase during a reaction	*One of the reactants is a gas*	Magnesium + oxygen → magnesium oxide
Mass appears to decrease during a reaction	*One of the products is a gas and has escaped*	Calcium carbonate → carbon dioxide + calcium oxide

Conservation of mass and balanced symbol equations

Conservation of mass	*No atoms are lost or made during a chemical reaction*	Mass of the products equals the mass of the reactants.

Balanced symbol equations	*Represent chemical reactions and have the same number of atoms of each element on both sides of the equation*	$H_2 + Cl_2 \rightarrow 2HCl$ Subscript Normal script Subscript numbers show the number of atoms of the element to its left. Normal script numbers show the number of molecules.

Moles (HT only)

Chemical amounts are measured in moles (mol)	*Mass of one mole of a substance in grams = relative formula mass*	One mole of H_2O = 18g (1 + 1 + 16) One mole of Mg = 24g

Avogadro constant	*One mole of any substance will contain the same number of particles, atoms, molecules or ions.*	6.02×10^{23} per mole One mole of H_2O will contain 6.02×10^{23} molecules One mole of NaCl will contain 6.02×10^{23} Na^+ ions

Number of moles = $\frac{\text{mass (g)}}{A_r}$ or $\frac{\text{mass (g)}}{M_r}$	How many moles of sulfuric acid molecules are there in 4.7g of sulfuric acid (H_2SO_4)? Give your answer to 1 significant figure. $\frac{4.7}{98}$ = 0.05 mol 98 ← (M_r of H_2SO_4)

Amounts of substances in equations (HT only)

Chemical equations show the number of moles reacting and the number of moles made	*$Mg + 2HCl \rightarrow MgCl_2 + H_2$* *One mole of magnesium reacts with two moles of hydrochloric acid to make one mole of magnesium chloride and one mole of hydrogen*	If you have a 60g of Mg, what mass of HCl do you need to convert it to $MgCl_2$? A_r : Mg =24 so mass of 1 mole of Mg = 24g M_r : HCl (1 + 35.5) so mass of 1 mole of HCl = 36.5g So 60g of Mg is 60/24 = 2.5 moles Balanced symbol equation tells us that for every one mole of Mg, you need two moles of HCl to react with it. So you need 2.5x2 = 5 moles of HCl You will need 5 x 36.5g of HCl= 182.5g

Using moles to balance equations (HT only)

The balancing numbers in a symbol equation can be calculated from the masses of reactants and products	*Convert the masses in grams to amounts in moles and convert the number of moles to simple whole number ratios.*	

Limiting reactants (HT only)

The reactant that is completely used up	*Limits the amount of product that is made*	Less moles of product are made.

Chemical measurements

Whenever a measurement is taken, there is always some uncertainty about the result obtained	*Can determine whether the mean value falls within the range of uncertainty of the result*	1. Calculate the mean 2. Calculate the range of the results 3. Estimate of uncertainty in mean would be half the range

Example:
1. Mean value is 46.5s
2. Range of results is 44s to 49s = 5s
3. Time taken was 46.5s ±2.5s

Concentration of solutions

Measured in mass per given volume of solution (g/dm^3)	*Conc. = $\frac{\text{mass (g)}}{\text{volume } (dm^3)}$*	HT only Greater mass = higher concentration. Greater volume = lower concentration.

Energy changes

Types of reaction

Endothermic	*Energy is taken in from the surroundings so the temperature of the surroundings decreases*	• Thermal decomposition • Sports injury packs
Exothermic	*Energy is transferred to the surroundings so the temperature of the surroundings increases*	• Combustion • Hand warmers • Neutralisation

Fuel cells (Chemistry only)

Ionic half equations	Negative electrode: $2H_2 (g) + 4OH^- (aq) \rightarrow 4H_2O (l) + 4e^-$	Positive electrode: $O_2 (g) + 2H_2O (l) + 4e^- \rightarrow 4OH^- (aq)$

Hydrogen fuel cells	*Word equation:* *hydrogen + oxygen → water*	Symbol equation: $2H_2 + O_2 \rightarrow 2H_2O$
	Advantages: • No pollutants produced • Can be a range of sizes	Disadvantages: • Hydrogen is highly flammable • Hydrogen is difficult to store

The energy change of reactions (HT only)

Reaction profiles	*Show the overall energy change of a reaction*

Breaking bonds in reactants	*Endothermic process*
Making bonds in products	*Exothermic process*

Overall energy change of a reaction	*Exothermic*	Energy released making new bonds is greater than the energy taken in breaking existing bonds.
	Endothermic	Energy needed to break existing bonds is greater than the energy released making new bonds.

Bond energy calculation	Calculate the overall energy change for the forward reaction $N_2 + 3H_2 \rightleftharpoons 2NH_3$ Bond energies (in kJ/mol): H-H 436, H-N 391, N≡N 945
	Bond breaking: 945 + (3 x 436) = 945 + 1308 = 2253 kJ/mol Bond making: 6 x 391 = 2346 kJ/mol Overall energy change = 2253 - 2346 = -93kJ/mol Therefore reaction is exothermic overall.

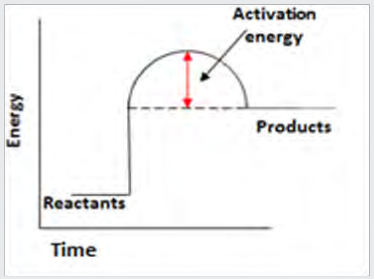
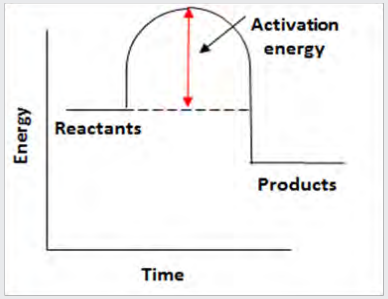
Cells and batteries (Chemistry only)

Simple cell	*Make a simple cell by connecting two different metals in contact with an electrolyte*	Increase the voltage by increasing the reactivity difference between the two metals.
Batteries	*Consist of two or more cells connected together in series to provide a greater voltage.*	

Non-rechargeable cells	*Stop when one of the reactants has been used up*	Alkaline batteries
Rechargeable cells	*Can be recharged because the chemical reactions are reversed when an external electrical current is supplied*	Rechargeable batteries

Reaction profiles

Activation energy	*Chemical reactions only happen when particles collide with sufficient energy*	The minimum amount of energy that colliding particles must have in order to react is called the activation energy.

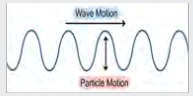
Endothermic		Products are at a higher energy level than the reactants. As the reactants form products, energy is transferred from the surroundings to the reaction mixture. The temperature of the surroundings decreases because energy is taken in during the reaction.
Exothermic		Products are at a lower energy level than the reactants. When the reactants form products, energy is transferred to the surroundings. The temperature of the surroundings increases because energy is released during the reaction.

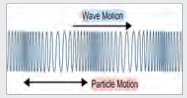
Waves in air, fluids and solids

Waves

Wave speed	Wave speed = frequency X wavelength	V = f X λ
Wave period	Wave period = 1 ÷ frequency	T = 1 ÷ f
Speed	Speed = distance ÷ time	v = d ÷ t

Wavelength	*Distance from one point on a wave to the same point of the next wave*
Amplitude	*The maximum disturbance from its rest position*
Frequency	*Number of waves per second*
Period	*Time taken to produce 1 complete wave*

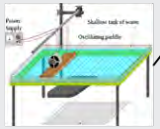




Transverse wave	*Vibration causing the wave is at right angles to the direction of energy transfer*	Energy is carried outwards by the wave.	Water and light waves, S waves.
Longitudinal wave	*Vibration causing the wave is parallel to the direction of energy transfer*	Energy is carried along the wave.	Sound waves, P waves.

Transverse and Longitudinal waves

Properties



In water, use a ripple tank.

In air, use echoes.

Measuring speed

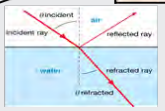
Angle of incidence = angle of reflection (i) = (r)

Sound waves travelling through different mediums, the frequency stay constant.

Air Water

PHYSICS ONLY

Reflection	Wave bounces off the surface.	
Refraction	Waves changes direction at boundary.	
Transmitted	Passes through the object.	
Absorbed	Passes into but not out of, transfers energy and heats up the object.	



Light refracts as it slows down in a denser substance

Black body radiation

PHYSICS ONLY

Earth and Global warming

Ultraviolet, visible light, infra-red radiation penetrate atmosphere and heat up Earth's surface.

Longer wavelengths are radiated back, trapped by atmosphere.

Energy lost is not at the same rate as energy being absorbed so Earth heats up.

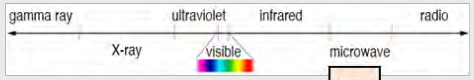
Black body radiation	*All objects absorb or reflect infrared radiation*	Hotter objects emit more infrared radiation.
Constant temperature	*Rate of absorption = rate of radiation*	Intensity and wavelength of energy affects temperature.

Electromagnetic waves

e.g. Gamma

Short wavelengths have high frequency and high energy.

Electromagnetic wave	*Continuous spectrum of transverse waves*



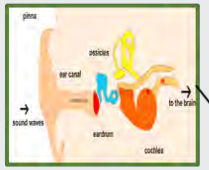
Absorbed light changes into thermal energy store.

PHYSICS ONLY

Magnification = image size ÷ object size

	Units
Distance	*Metres (m)*
Wave speed	*Metres per second (m/s)*
Wavelength	*Metres (m)*
Frequency	*Hertz (Hz)*
Period	*Seconds (s)*

PHYSICS HIGHER ONLY

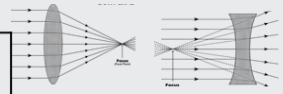


Hearing	*Frequencies between 20 – 20,000 Hz*	Longitudinal waves cause ear drum to vibrate, amplified by three ossicles which creates pressure in the cochlea.

HIGHER: Properties

Convex	Real or virtual images.
Concave	Only virtual images.

HIGHER: Lenses

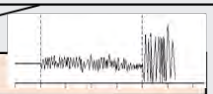


2F	Image same size, upside down, real.
2F - F	Image larger, upside down, real.
< F	Image bigger, right way, virtual.

Specular	Flat surface reflection.
Diffuse	Rough surface reflection.

Seismic waves

P wave	S wave	Seismograph
Longitudinal	*Transverse*	*Shows P and S waves arriving at different times.*
Fast	*Slow*	
Travel through solids and liquids	*Travels through solids*	By using the times the waves arrive at the monitoring centres, the epicentre of earthquake can be found. (v = x ÷ t).
Produced by earthquakes.		



Black surfaces	*Good emitters, good absorbers*
White surfaces	*Poor emitters, poor absorbers*
Shiny surfaces	*Good reflectors*

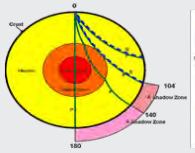
EM waves refract

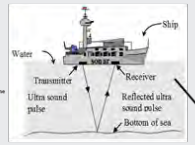
EM wave	Danger	Use
Radio	Safe.	Communications, TV, radio.
Microwave	Burning if concentrated.	Mobile phones, cooking, satellites.
Infrared		Heating, remote controls, cooking.
Visible	Damage to eyes.	Illumination, photography, fibre optics.
Ultra violet	Sunburn, cancer.	Security marking, disinfecting water.
X-ray	Cell destruction, mutation, cancer.	Broken bones, airport security.
Gamma		Sterilising, detecting and killing cancer.

Low frequency, long wavelength.

White	Wave lengths reflected
Black	Wave lengths absorbed

High frequency, short wavelength





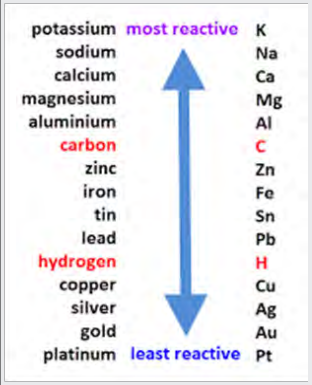
Ultra sound	*Partially reflected off boundary*	Used for medical and foetal scans.
Sonar	*Reflected off objects*	Used to determine depth of objects under the sea.

Using resources

Reactivity of metals

The reactivity series

Metals form positive ions when they react	*The reactivity of a metal is related to its tendency to form positive ions*	The reactivity series arranges metals in order of their reactivity (their tendency to form positive ions).
Carbon and hydrogen	*Carbon and hydrogen are non-metals but are included in the reactivity series*	These two non-metals are included in the reactivity series as they can be used to extract some metals from their ores, depending on their reactivity.
Displacement	*A more reactive metal can displace a less reactive metal from a compound.*	Silver nitrate + Sodium chloride → Sodium nitrate + Silver chloride



Reactions of acids

Reactions of acids and metals

Acids react with some metals to produce salts and hydrogen.

Reactions with acids	*metal + acid → metal salt + hydrogen*	magnesium + hydrochloric acid → magnesium chloride + hydrogen zinc + sulfuric acid → zinc sulfate + hydrogen

HT ONLY: Reactions between metals and acids are redox reactions as the metal donates electrons to the hydrogen ions. This displaces hydrogen as a gas while the metal ions are left in the solution.

Extraction of metals and reduction

Unreactive metals, such as gold, are found in the Earth as the metal itself. They can be mined from the ground.

Extraction using carbon

Metals less reactive than carbon can be extracted from their oxides by reduction.	For example: zinc oxide + carbon → zinc + carbon dioxide

	Reactions with water	Reactions with acid
Group 1 metals	*Reactions get more vigorous as you go down the group*	*Reactions get more vigorous as you go down the group*
Group 2 metals	*Do not react with water*	*Observable reactions include fizzing and temperature increases*
Zinc, iron and copper	*Do not react with water*	*Zinc and iron react slowly with acid. Copper does not react with acid.*

Oxidation and reduction in terms of electrons (HT ONLY)

Oxidation Is Loss (of electrons) Reduction Is Gain (of electrons)

Ionic half equations (HT only)

For displacement reactions	*Ionic half equations show what happens to each of the reactants during reactions*	For example: The ionic equation for the reaction between iron and copper (II) ions is: $Fe + Cu^{2+} \rightarrow Fe^{2+} + Cu$ The half-equation for iron (II) is: $Fe \rightarrow Fe^{2+} + 2e^-$ The half-equation for copper (II) ions is: $Cu^{2+} + 2e^- \rightarrow Cu$

Neutralisation of acids and salt production

Acid name	Salt name
Hydrochloric acid	Chloride
Sulfuric acid	Sulfate
Nitric acid	Nitrate

sodium hydroxide + hydrochloric acid → sodium chloride + water

calcium carbonate + sulfuric acid → calcium sulfate, + carbon dioxide + water

Neutralisation	*Acids can be neutralised by alkalis and bases*	An **alkali** is a soluble base e.g. metal hydroxide. A **base** is a substance that neutralises an acid e.g. a soluble metal hydroxide or a metal oxide.

Metal oxides

Metals and oxygen	*Metals react with oxygen to form metal oxides*	magnesium + oxygen → magnesium oxide $2Mg + O_2 \rightarrow 2MgO$
Reduction	*This is when oxygen is removed from a compound during a reaction*	e.g. metal oxides reacting with hydrogen, extracting low reactivity metals
Oxidation	*This is when oxygen is gained by a compound during a reaction*	e.g. metals reacting with oxygen, rusting of iron

Using Resources

Using the Earth's resources and obtaining potable water

Using the Earth's resources and sustainable development

Earth's resources	*Used to provide warmth, shelter, food and transport for humans*	Natural resources and resources from agriculture provide: timber, food, clothing and fuels.
		Finite resources from the Earth, oceans and atmosphere are processed to provide energy and materials.
Chemistry and resources	*Research and techniques improve agricultural and industrial processes*	These improvements provide new products and improve sustainability.
Plastics	*Normally made using ethene from crude oil*	However, the raw material ethene can also be obtained from ethanol, which can be produced during fermentation. Industries are now starting to use a renewable crop for this process.

Potable water

Sterilising agents include chlorine, ozone and UV light.

Potable water	*Water of an appropriate quality is essential for life*	Human drinking water should have low levels of dissolved salts and microbes. This is called potable water.
UK water	*Rain provides water with low levels of dissolved substances*	This water collects in the ground/lakes/rivers. To make potable water an appropriate source is chosen, which is then passed through filter beds and then sterilised.
Desalination	*Needs to occur is fresh water is limited and salty/sea water is needed for drinking*	This can be achieved by distillation or by using large membranes e.g. reverse osmosis. These processes require large amounts of energy.

Waste water treatment

Waste water	*Produced from urban lifestyles and industrial processes*	These require treatment before used in the environment. Sewage needs the organic matter and harmful microbes removed.
Sewage treatment	*Includes many stages*	- Screening and grit removal - Sedimentation to produce sludge and effluent (liquid waste or sewage). - Anaerobic digestion of sludge - Aerobic biological treatment of effluent.

Alternative methods of extracting metals (HT)

Metals ores	*These resources are limited*	Copper ores especially are becoming sparse. New ways of extracting copper from low-grade ores are being developed.
Phytomining	*Plants absorb metal compounds*	These plants are then harvested and burned; their ash contains the metal compounds.
Bioleaching	*Bacteria is used to produce leachate solutions that contain metal compounds*	The metal compounds can be processed to obtain the metal from it e.g. copper can be obtained from its compounds by displacement or electrolysis.

Life cycle assessment and recycling

Life cycle assessment

LCAS	*Life cycle assessments are carried out to assess the environmental impact of products*	They are assessed at these stages: - Extraction and processing raw materials - Manufacturing and packaging - Use and operation during lifetime - Disposal
Values	*Allocating numerical values to pollutant effects is difficult*	Value judgments are allocated to the effects of pollutants so LCA is not a purely objective process.

Ways of reducing the use of resources

Reduce, reuse and recycle	*This strategy reduces the use of limited resources*	This, therefore, reduces energy sources being used, reduces waste (landfill) and reduces environmental impacts.
Limited raw materials	*Used for metals, glass, building materials, plastics and clay ceramics*	Most of the energy required for these processes comes from limited resources. Obtaining raw materials from the Earth by quarrying and mining causes environmental impacts.
Reusing and recycling	*Metals can be recycled by melting and recasting/reforming*	Glass bottles can be reused. They are crushed and melted to make different glass products. Products that cannot be reused are recycled.

Using Resources (CHEM ONLY)

Using materials

Corrosion and its prevention

Corrosion	*The destruction of materials by chemical reactions with substances in the environment*	An example of this is iron rusting; iron reacts with oxygen from the air to form iron oxide (rust) water needs to be present for iron to rust.
Preventing corrosion	*Coatings can be added to metals to act as a barrier*	Examples of this are greasing, painting and electroplating. Aluminium has an oxide coating that protects the metal from further corrosion.
Sacrificial corrosion	*When a more reactive metal is used to coat a less reactive metal*	This means that the coating will react with the air and not the underlying metal. An example of this is zinc used to galvanise iron.

Alloys are useful materials

Alloys	*A mixture of two elements, one of which must be a metal e.g. Bronze is an alloy of copper and tin and Brass is an alloy of copper and zinc.*
Gold carats	*Gold jewellery is usually an alloy with silver, copper and zinc. The carat of the jewellery is a measure of the amount of gold in it e.g. 18 carat is 75% gold, 24 carat is 100% gold.*
Steels	*Alloys of iron, carbon and other metals.*
	High carbon steel is strong but brittle.
	Low carbon steel is softer and easily shaped.
	Steel containing chromium and nickel (stainless) are hard and corrosion resistant.
	Aluminium alloys are low density.

Ceramics, polymers and composites

Polymers	*Thermosetting*	polymers that do not melt when they are heated.
	Thermosoftening	polymers that melt when they are heated.

Composite materials	*A mixture of materials put together for a specific purpose e.g. strength*	Soda-lime glass, made by heating sand, sodium carbonate and limestone.
		Borosilicate glass, made from sand and boron trioxide, melts at higher temperatures than soda-lime glass.
		MDF wood (woodchips, shavings, sawdust and resin)
		Concrete (cement, sand and gravel)
Ceramic materials	*Made from clay*	Made by shaping wet clay and then heating in a furnace, common examples include pottery and bricks.
Polymers	*Many monomers can make polymers*	These factors affect the properties of the polymer. Low density (LD) polymers and high density (HD) polymers are produced from ethene. These are formed under different conditions.

The Haber process and the use of NPK fertilisers

Production and uses of NPK fertilisers

NPK fertilisers	*These contain nitrogen, phosphorous and potassium*	Formulations of various salts containing appropriate percentages of the elements.
Fertiliser examples	*Potassium chloride, potassium sulfate and phosphate rock are obtained by mining*	Phosphate rock needs to be treated with an acid to produce a soluble salt which is then used as a fertiliser. Ammonia can be used to manufacture ammonium salts and nitric acid.

Phosphate rock	
Treatment	***Products***
Nitric acid	*The acid is neutralised with ammonia to produce ammonium phosphate, a NPK fertiliser.*
Sulfuric acid	*Calcium phosphate and calcium sulfate (a single superphosphate).*
Phosphoric acid	*Calcium phosphate (a triple superphosphate).*

The Haber process

The Haber process	*Used to manufacture ammonia*	***Ammonia is used to produce fertilisers*** Nitrogen + hydrogen $\rightleftharpoons$ ammonia
Raw materials	*Nitrogen from the air while hydrogen from natural gas*	Both of these gases are purified before being passed over an iron catalyst. This is completed under high temperature (about 450°C) and pressure (about 200 atmospheres).
Catalyst	*Iron*	The catalyst speeds up **both** directions of the reaction, therefore not actually increasing the amount of valuable product.

Year 9

Science
Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

Biology
What is the role of the heart in the circulation system?
Why are some diseases linked to a persons lifestyle? Can you give examples?
What are the key parts of the immune system—explain the function of these parts

Chemistry
What is oxidation and reduction?
What are the main properties of metals that make them useful to people?
Why do scientists research and improve materials that people use?

Physics
How is energy transferred from one object to another?
How does a scientist describe a wave?
What waves are found in the electromagnetic spectrum? How do people use these waves?

Year 9

Science

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	The heart is an organ that pumps blood around the body in a double circulatory system. The right ventricle pumps blood to the lungs where gas exchange takes place. The left ventricle pumps blood around the rest of the body.			
2	In multicellular organisms, damage to any organ system can be debilitating if not fatal. Although there has been huge progress in surgical techniques, especially with regard to coronary heart disease, many interventions would not be necessary if individuals reduced their risks through improved diet and lifestyle.			
3	In multicellular organisms, the immune system is capable of identifying and removing foreign threats to the organism.			
4	Atoms are not created or destroyed in chemical reactions. Chemical equations provide a means of representing chemical reactions and are a key way for chemists to communicate chemical ideas			
5	In a chemical reaction there is an energy change. This energy change is related to bonds breaking and bonds being made.			
6	Oxidation and reduction as gain and loss of oxygen			
7	Energy moves from warmer objects to cooler objects, until both reach the same temperature			
8	The ripples on a water surface are an example of a transverse wave. Longitudinal waves show areas of compression and rarefaction. Sound waves travelling through air are longitudinal.			

High Flyers - Enrichment Task

Use of appropriate apparatus, techniques and magnification, including microscopes, to make observations of biological specimens and produce labelled scientific drawings

Safe use and careful handling of gases, liquids and solids, including careful mixing of reagents under controlled conditions, using appropriate apparatus to explore chemical changes and/or products.

Use of appropriate apparatus to make and record a range of measurements accurately, including length, area, mass, time, volume and temperature. Use of such measurements to determine densities of solid and liquid objects

Geography

Year 9

Year 10

KING'S LYNN ACADEMY

Improving slums

Asia

Half Term 6

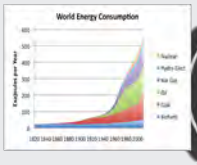
Monsoons and flooding

Energy production

Renewable energy

Use of fossil fuels

Consequences of climate change



Energy consumption

Half Term 5

Resources (energy)

Coastal defences

Impacts of climate change

Half Term 4

Landform development along coasts

Coastal landscapes

Coastal erosion

Half Term 3

Coasts and climate change

Flood management

Flooding in Kerala

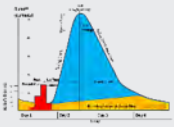
Flooding in York

Half Term 2

Lower course features

Floods

Storm hydrographs



Welcome back to KLA. Your journey continues.

Half Term 1

Meanders

Waterfalls

Rivers and floods

Geography Knowledge Organiser
Summer (term 6): Asia

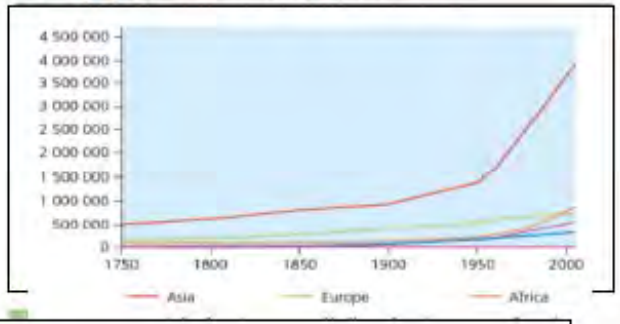
Have you ever wondered about the world's largest and most diverse continent? Why is it the world's most populous continent? Or how urbanisation is changing lives in some of the countries? How is it becoming an important global economic region?

Keywords

Silicon Valley	Region in California where many technology company Headquarters are located.
Slum	Poor area of a city that is overcrowded and often lacking in basic services such as water and electricity.
Diverse	Showing a great deal of variety, very different.
Monsoon	A seasonal prevailing wind in the region of South and SE Asia.
Mountain (alpine) biome	A biome found in mountain regions, usually at an altitude of 10,000 feet or more and just below the snow line of a mountain.
Dynamic	Characterized by constant change, activity, or progress.
Bottom-up approach	Where the lowest levels make the decisions, For example, locals making decisions, not the government.
Interdependent	Two or more people or things are dependent on each other.
Infrastructure	The basic systems and services, such as transport and power supplies, that a country or organization uses in order to work effectively.
Export	Send (goods or services) to another country for sale.

Political map of Asia

World population increase, by continent



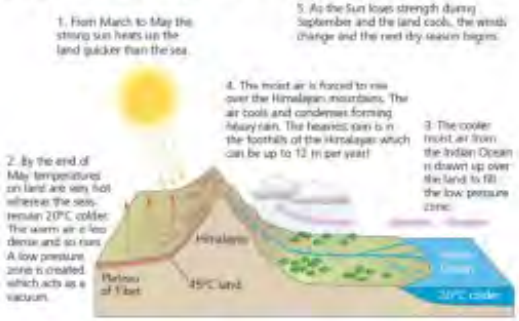
Life in a slum: ugly face of India

Slum can be defined as 'A residential area where dwellings are unfit for human habitation by reasons of dilapidation [disrepair], overcrowding, lack of ventilation or sanitation facility and having drinking water facilities in unhygienic conditions'.

Following problems are plaguing our slums:

1. Garbage and filth: We could see dumps of garbage everywhere. The dumped waste emanate [produce] foul odour and at the same time becomes breeding ground for flies and mosquitoes which carry several diseases with them.
2. Miserable toilets: The community toilets were in pathetic conditions. Plenty of them had no doors and the ones that had doors had no latches. Toilets were full of filth and human excreta as water supply through pipes was not working.
3. Deplorable condition of school: As there was no water and electricity in school, toilet was not working.
4. Cramped houses: It's difficult to even imagine the living conditions of the houses there unless and until you actually experience this nightmare. Six to eight people share a cramped room and only they know as to how so many people fit in such a small room. The streets are narrow and the sewage water stagnates in open surface drains, which emit bad smell.

Diagram showing the monsoon season



Monsoon fact file:

Monsoon fact file

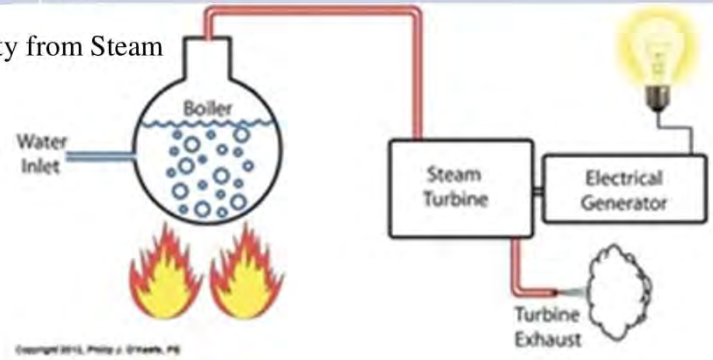
- Monsoon months: June to September
- It brings three-quarters of India's yearly rain, which is vital for life and food production
- Over 50 per cent of people are employed in agriculture
- 1.4 billion people rely directly on agriculture
- India grows 100 million tons of rice and grain each year
- India has more land for growing rice than any other country
- Agriculture produces 15 per cent of India's $1.83 trillion GDP

Renewable and Non-Renewable Resources | Year 9 | Summer

Keywords

Energy consumption (demand)	The amount of energy a region uses.
Energy supply (production)	The total amount of energy a region produces.
Energy surplus	When a region's energy supply is greater than its energy demand.
Energy insecurity	When a region's energy demand is greater than its energy supply. This can lead to conflicts.
Fossil fuel	Sources of energy made of organic matter that is millions of years old. Coal, oil and gas are fossil fuels. When burnt, fossil fuels create a lot of pollution.
Steam power	Water is boiled into steam to power a turbine and produce electricity.
Crude oil	The natural oil extracted from reservoirs underground.
Oil rig	A large metal structure that is built to dig down to oil and gas reservoirs in the ocean.
Paris Agreement	A United Nations agreement that countries sign to agree to hit targets for climate change.
Uranium	The source material for nuclear fission in Nuclear Energy
Fracking	A controversial process used to extract shale gas from rock deep underground.
Shale gas	Shale Gas is natural gas found trapped within shale formations (rock).
Shale oil	Shale Oil is natural oil found trapped within shale formations (rock).

Electricity from Steam



Examples of Renewable Energy Sources

Solar	Energy generated by solar panels capturing sunlight. + infinite supply - expensive
Wind	Energy generated by wind turning a turbine. + infinite supply - expensive; can ruin the view
Hydroelectric	Energy generated by water passing through turbines in a dam. + creates water reserves - expensive; large environmental impact

Examples of Non-Renewable Energy Sources

Coal	Formed by plants dying in swamps and over millions of years being covered with water and dirt. Heat and pressure converted the dead plant material into coal.
Oil and gas	Tiny plants and animals died and were buried on the seafloor. Over millions of years, the remains were buried. Heat and pressure turned the dead plant and animal material into oil and gas.
Nuclear	Energy generated by using nuclear fission of uranium to generate steam.

Fukushima Disaster, Japan

On 12th March 2011 a tsunami at at the Fukushima Nuclear Power Plant caused a series of disasters resulting in mass evacuation.

Fossil Fuel	Advantages	Disadvantages
Coal	• It is a ready-made fuel. • It is cheap and easy to extract. • Coal supplies will last longer than oil or gas.	• When burned, it gives off atmospheric pollutants, including greenhouse gases.
Oil	• It is a ready-made fuel. • It is cheap and easy to extract.	• When burned, it gives off atmospheric pollutants, including greenhouse gases. • Only a limited supply.
Gas	• It is a ready-made fuel. • It is cheap and easy to extract. • It is slightly environmentally cleaner than coal or oil.	• When burned, it gives off atmospheric pollutants, including greenhouse gases. • Only a limited supply.

Notes

Year 9

Geography
Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

Evaluate the benefits of using renewable energy over fossil fuels.
What are the advantages and disadvantages of renewable energy sources?
What are the impacts globally of continuing to use fossil fuels?
What is the most reliable renewable energy source in the UK?

Analyse why Japan's population is decreasing and the effects of this.
What is contributing to the shrinking and aging population?
What are the negative effects of an aging population?
What is the government doing to balance the effects of this?

Why are so many people migrating to Bangalore?
What are the push factors from the countryside to Bangalore?
What are the opportunities for a life in Bangalore?
How is the slum development programme improving urban areas?

Year 9

Geography
Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	I can describe changing trends in UK energy consumption			
2	I can explain what energy insecurity is and give examples.			
3	I can explain the environmental costs of fossil fuels.			
4	I can state positives and negatives of renewable energy.			
5	I can describe sustainable energy strategies.			
6	I can describe how monsoons form.			
7	I can outline the physical and human causes of flooding in S. Asia.			
8	I can explain why Japan's population is shrinking.			
9	I can explain the pull factors to Bangalore.			
10	I know why China is developing economically.			

High Flyers - Enrichment Task

Research The Paris agreement (https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement) and describe its objectives.

Research another major slum settlement and identify how the government there may be planning improvements (for example, Dharavi, Mumbai or Rocinha, Rio de Janeiro).

History

1760 - 1949

Year 9

KING'S LYNN ACADEMY

Year 10

The Cold War

Battle of Britain and Home Front

World War Two

Life in Nazi Germany

The Rise of the Nazis

Half Term 6

The Russian Revolution

Treaty of Versailles

League of Nations

End of World War One

Battle of the Somme

Trench Warfare

Half Term 5

Outbreak of World War One

The Suffragettes

Law and Order

Political Reform

Urbanisation

Factory Life

Social Reform

Half Term 4

The Railway Age

Transport

Iron and coal

The steam engine

The Industrial Revolution

Cotton Textiles

Half Term 3

Abolition

Life as a slave

Transatlantic Slave Trade

The American Revolution and war of independence

Half Term 2

Wealth and trade

Ruling the waves

Welcome back to KLA. Your journey continues.

Australia

Half Term 1

America

India

Year 9 History Knowledge Organiser Summer Term

The Early Twentieth Century and the Latter Twentieth Century

The Early Twentieth Century

Tier 2 Vocabulary	Tier 3 Vocabulary
Abdication: the act of giving up the throne. **Armistice**: end of the fighting in the war so that discussions can begin which then leads to a peace treaty. **Assassinated**: killed for political religious reasons. **Attrition**: wearing down the opposition through continuous sustained pressure. **Conscription**: a system whereby people are forced to join the army or Navy. **Democratic**: a system of government in which order lots have the right to vote for the government they want. **Dictatorship**: type of government where one person or a small group make all the decisions. **Extremist parties**: groups holding extreme political views **Munitions**: the equipment and ammunition of an army and Navy. **Proportional representation**: column a system of elections in which the number of people elected for a party is in proportion to the number of votes for that party.	**Bolsheviks**: Russian political movement led by Lenin following communist ideas developed by Karl Marx and further developed by Lenin. **Dawes Plan**: an agreement between the USA and European countries in 1924. The plan organised US loans to revive. **League of Nations**: set up in 1919 for the promotion of international peace and security. **Naval race**: competition between two countries to build the best navy e.g. before 1914. **Reparations**: compensation to be paid by Germany to France, Belgium, Britain and other states as a result of the First World War. **Schlieffen Plan**: plan drawn up in 1905 to provide a rapid invasion of France. Used in 1914. European economies, especially that of Germany. **Treaty of Versailles**: agreement detailing the consequences for Germany after their defeat in World War One. **Young Plan**: an agreement made between Germany and the allies, to lower reparations and allow Germany to pay them back over a longer period.

The Latter Twentieth Century

Tier 2 Vocabulary	Tier 3 Vocabulary
Autocracy: a system of government where complete authority is in the hands of one person who can make all the important decisions. **Concentration Camps**: camps used by Nazis to hold political opponents in Germany. **Depression**: long period of financial problems in the economy involving lower living standards. **Final Solution**: Nazi plan to exterminate the Jews and other races in Europe. **Hyperinflation**: inflation is when money decreases in value, so more is needed to pay for the same thing. Hyperinflation is where this gets completely out of hand and prices rise by enormous amounts. **Propaganda**: Information given in a biased or misleading way usually intended to support specific political view. Also used in wartime to raise morale. **Passive resistance**: opposing government action in nonviolent ways, refusing to cooperate, staging strikes etc.	**Aryan**: Nazi word for the German 'race'. **Cold War**: non-violent conflict between USA and USSR from 1945. **Containment**: the Western policy during the Cold War designed to control the spread of Communism. **Enabling Law**: the enabling law was passed in 1933 giving him the power to act without consulting the right stag or the president **Iron Curtain**: Boundary between East and West Europe after 1945. Term first used by Winston Churchill in 1946. **Putsch**: an armed uprising aimed at taking over the government. Reichstag: German Parliament. **Red Scare**: a fear if Communism promoted by a group or a government. **Superpower**: a country with lots of influence and power e.g. USA and USSR after World war Two. **Total War**: full scale war where weapons can be used and where the rules of war are ignored. **Wall Street Crash**: sudden fall of stock prices in June 1929 on the US Stock Exchange, in Wall Street, New York.

Year 9

History
Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

Check you remember
What do the following terms mean? Use it in a sentence related to the relevant. topic. Suffragists, Suffragette, abdication, dictator.
Put these events into Chronological order. Can you add the dates they happened? The Holocaust, Russian Revolution, The battle of the Somme, The Battle of Britain.
Say why these people are significant in the topics that have been studied. The Profit Muhammed, Richard I vs Saladin, Margaret Beaufort, Warwick.

Apply your knowledge
Explain what developments were made during World War One.
Write an account examining how Hitler became Chancellor by 30th January 1933.
In what ways were the Jews persecuted by the Nazis between 1933 and 1945.

Stretch your thinking
'Life for people in Nazi Germany was much better than in the 1920s'. How far is this correct for the following groups of people: • Youth • Women • Workers

Year 9

History

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	The Suffragettes, including the Suffragists, actions and changes.			
2	World War One, including causes, events and outcomes.			
3	The Russian Revolution.			
4	The Treaty of Versailles			
5	Germany in the 1920's, including hyperinflation, the Stresemann era and the Wall Street Crash.			
6	The Rise of the Nazi Party, including Hitler's early life, the Munich Putsch and democracy to dictatorship.			
7	Life in Nazi Germany.			
8	Persecution of the Jews, including the Holocaust.			
9	World War Two, including causes, events and outcomes.			

High Flyers - Enrichment Task

Was Dunkirk a success or a failure?

In many ways, Dunkirk saw Britain celebrate its history and national identity as events happened: Here she was confronting a brutal foreign enemy, refusing to be beaten, demonstrating unflinching resolve. The armada was defeated, so was Napoleon. Hitler would be, too.

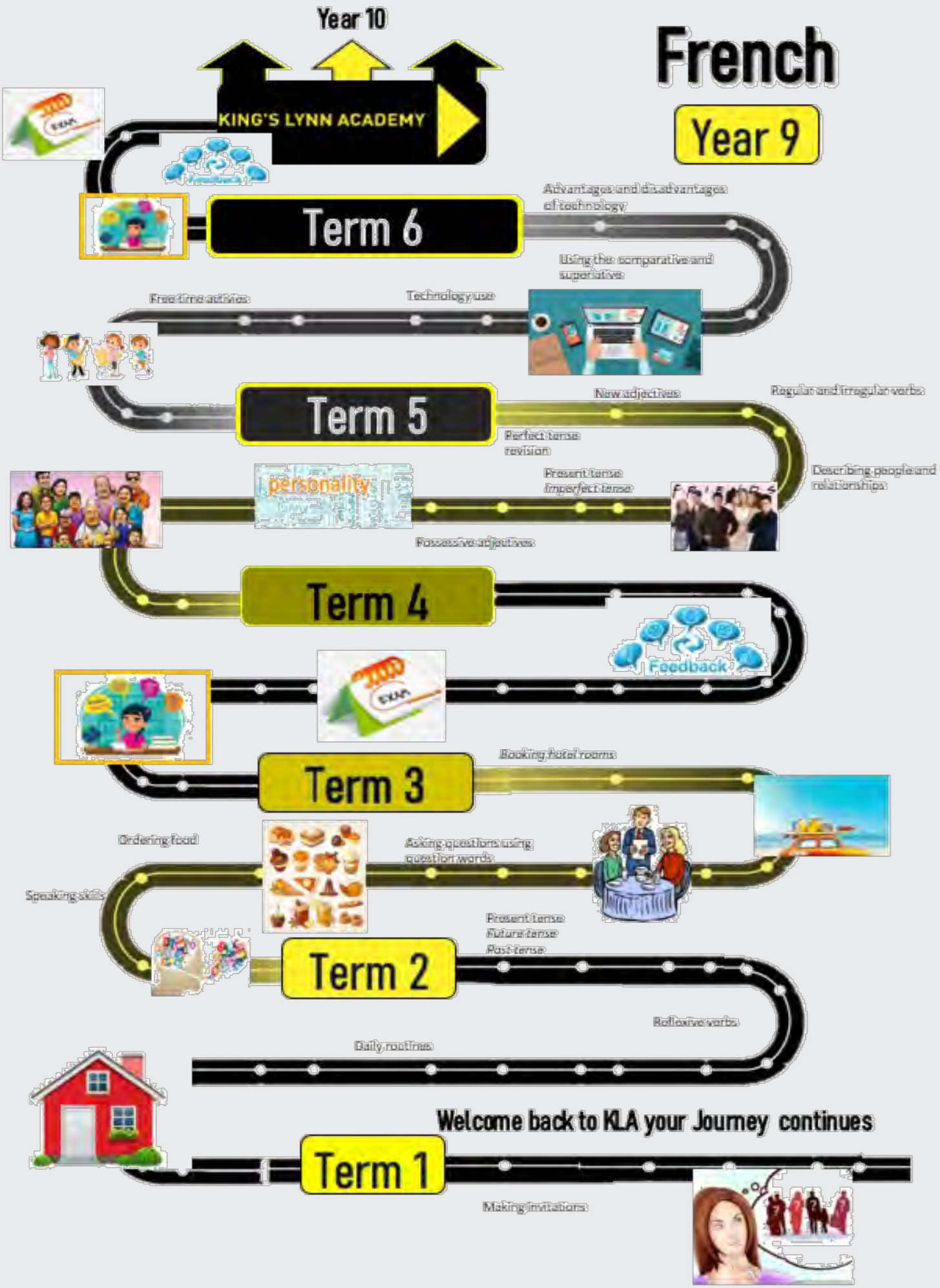
Of course, none of this coverage came close to capturing the reality of Dunkirk. Reports of desertion, anarchy and the 30,000 left behind were suppressed. So too was the fact was that the returning troops were often filled with despair – bedraggled and disillusioned.

Research Dunkirk and write a newspaper article on whether the evacuation was a 'Triumph or Disaster.'

https://www.bbc.co.uk/history/worldwars/wwtwo/ff2_dunkirk.shtml

https://www.historylearningsite.co.uk/world-war-two/world-war-two-in-western-europe/the-attack-on-western-europe/dunkirk/

https://kids.britannica.com/kids/article/Dunkirk-evacuation/623980


Year 10
KING'S LYNN ACADEMY
French
Year 9
Term 6
Advantages and disadvantages of technology
Using the comparative and superlative
Free time activities
Technology use
Term 5
New adjectives
Regular and irregular verbs
Perfect tense revision
Present tense
Imperfect tense
Describing people and relationships
personality
Possessive adjectives
Term 4
Feedback
Term 3
Booking hotel rooms
Ordering food
Asking questions using question words
Speaking skills
Present tense
Future tense
Past tense
Term 2
Reflexive verbs
Daily routines
Welcome back to KLA your Journey continues
Term 1
Making invitations

Year 9 French Half Term 5+6

Topic specific vocab

Hobbies

Je joue …	I play …
au badminton/au basket	badminton/basketball
au billard/au foot/au golf	snooker/billiards/football/golf
au hockey/au rugby	hockey/rugby
au tennis/au volley	tennis/volleyball
à la pétanque	French bowls
aux cartes/aux échecs	cards/chess
du piano/du saxophone	the piano/the saxophone
du violon	the violin
de la batterie/de la guitare	the drums/the guitar
de l'accordéon (m)	the accordion
de l'harmonica (m)	the harmonica

Reading

J'apprécie beaucoup les …	*I really appreciate/like …*
Je préfère les …	*I prefer …*
J'adore les…	*I love …*
J'ai une passion pour les …	*I'm passionate about …*
Je n'aime pas les …	*I don't like …*
J'ai horreur des …	*I hate …*
romans fantastiques	*fantasy novels*
romans policiers	*detective novels*
romans d'amour	*romance novels*
livres d'épouvante	*horror books*
BD	*comic books/graphic novels*
mangas	*mangas*
J'aime les illustrations/l'humour.	*I like the illustrations/humour.*
Je ne lis pas sur une tablette.	*I don't read on a tablet.*
Je préfère tenir un livre traditionnel	*I prefer holding a traditional*
book	
dans mes mains.	*in my hands.*
Je ne lis plus de livres traditionnels.	*I no longer read traditional*
books.	
Je lis beaucoup en ligne.	*I read a lot online.*

Sport

Je fais …	I …
du footing	go jogging
du trampoline	do trampolining
du vélo	go cycling
de la boxe	do boxing
de la danse	go dancing
de la natation	go swimming
de l'équitation (f)	go horse-riding
de l'escalade (f)	go climbing
de l'escrime (f)	do fencing
des randonnées (f)	go hiking
Je fais ça depuis …	I have been doing that for …
six mois/deux ans	six months/two years

Music

J'aime …/Je n'aime pas …	I like …/I don't like …
le jazz/le rap	jazz/rap
le reggae/le rock	reggae/rock
la musique classique	classical music
la musique pop	pop music
J'écoute ma musique …	I listen to my music …
sur mon téléphone portable	on my phone with my
avec mes écouteurs	earphones
sur mon ordi	on my computer
sur une tablette	on a tablet
Je regarde des clips vidéo pour	I watch music videos to
écouter ma musique.	my music.
Mon chanteur préféré/	
Ma chanteuse	My favourite singer is …,
préférée, c'est … car …	because …
j'aime ses paroles	I like his/her lyrics
j'aime ses mélodies	I like his/her tunes
sa musique me donne envie	his/her music makes me want
de danser	to dance
sa musique me donne envie	his/her music makes me want
de chanter	to sing

Advantages/disadvantages of the internet

-Il est facile de (d') … -*It is easy to …*
-rester en contact avec ses amis -*stay in contact with your friends*
-faire des recherches pour ses devoirs-*do research for your homework*
-utiliser un dico en ligne -*use an online dictionary*
-partager des photos -*share photos*
-Il est dangereux de … -*It is dangerous to …*
-partager ses détails personnels -*share your personal details*
-passer trop de temps sur Internet-*spend too much time on the internet*
-tchatter en ligne avec des inconnus-*chat to strangers online*

On my phone/tablet …

-*je crée des playlists -I create playlists*
-*je télécharge de la musique -I download music*
-*je regarde des clips vidéo-I watch music videos*
-*je joue à des jeux-I play games*
-*je fais des recherches pour-I do research for my homework*
mes devoirs
-*je fais des achats-I buy things*
-*j'écris des messages-I write messages*
-*j'écris des articles pour mon blog-I write posts for my blog*
-*je lis mes e-mails-I read my emails*
-*je vais sur des réseaux sociaux-I go onto social media sites*
-*je prends des photos-I take photos*
-*je mets mes photos sur Instagram-I put my photos on Instagram*
ou Snapchat-or Snapchat

Year 9 French Half Term 5+6

Useful high frequency language

Comparative adjectives

You use comparative adjectives to compare things:

Plus+adjective+que *(more … than)*
Example: L'histoire est plus facile que la géographie

Moins+adjective+que *(less…than)*
Example: Les ordinateurs sont moins importants que les portables.

The superlative

The superlative is formed as follows:

- the most … ***le/la/les plus*** + adjective
  l'acteur ***le plus*** *talentueux* — the most talented actor
  l'actrice ***la plus*** *élégante* — the most elegant actress
  les réalisateurs ***les plus*** *connus* — the best known directors
- the best … ***le*** *meilleur/****la*** *meilleure/****les*** *meilleurs/****les*** *meilleures*
  les meilleures *photos* — the best photos
- the least … ***le/la/les moins*** + adjective
  la série ***la moins*** *intéressante* — the least interesting series

Note that the superlative comes before or after the noun, depending on where the adjective would normally come:

le festival le ***plus célèbre*** — the most famous festival
les ***plus grandes*** *stars* — the biggest stars

Giving opinions

Je trouve ça …	*I find that …*
cool/génial	*cool/great*
passionnant/super	*exciting/super*
ennuyeux/nul	*boring/rubbish*
stupide	*stupid*
Ma passion, c'est …	*My passion is …*
le cinéma/le sport/la musique	*the cinema/sport/music*
J'aime/J'adore/Je préfère …	*I like/love/prefer …*
Je n'aime pas/Je déteste …	*I don't like/hate …*
le foot/jouer au foot	*football/playing football*
la lecture/lire	*reading*
la photographie/prendre des photos	*photography/ taking photos*

Adverbs of frequency

tous les jours	*every day*
tous les soirs	*every evening*
tous les samedis	*every Saturday*
une fois par semaine	*once a week*
deux fois par semaine	*twice a week*
souvent	*often*
de temps en temps	*from time to time*
rarement	*rarely*

Adjectives

amusant(e)s	*funny*
divertissant(e)s	*entertaining*
intéressant(e)s	*interesting*
passionnant(e)s	*exciting*
éducatifs/-ives	*educational*
ennuyeux/-euses	*boring*
(trop) sérieux/-euses	*too serious*
originaux/-ales	*original*

High-frequency words/connectives

en plus	*what's more*
cependant	*however*
par contre	*on the other hand*
normalement	*normally*
d'habitude	*usually*
en général	*in general*
Ca dépend.	*It depends.*

The Imperfect tense

The imperfect tense is used to describe what things were like in the past or what used to happen.

Example:

Avant je lisais des livres, maintenant je lis sur mon écran. (Before I used to read books, now I read my screen).

- To form the imperfect tense, take the *nous* form of the present tense verb and remove the *-ons* (e.g. *nous dansons* → *dans-*). This is the imperfect 'stem'. Then add the imperfect endings.

The imperfect endings are:

*je dans**ais***	*nous dans**ions***
*tu dans**ais***	*vous dans**iez***
*il/elle/on dans**ait***	*ils/elles dans**aient***

Key verbs

- Danser- to dance
- Jouer – to play
- être- to be
- avoir- to have
- Faire- to do
- Aller- to go
- Lire- to read
- Écouter- to listen to
- Regarder- to watch
- Partager- share
- Préférer- to prefer
- Chanter- to sing
- Rester- to stay
- Passer- to pass/spend
- Tchatter- to chat
- Créer- to create
- Télécharger- to download
- Écrire- to write
- Mettre- to put

Notes

Year 9

French

Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

*
Write these in French—ensure you sue the correct direct object pronoun I like music which is loud. I read books that have pictures. *I post the photos which I want to share with other people there.*

+
Write these in French I have been doing skiing for 3 years Internet is more interesting than the cinema Music is the most interesting hobby
Write these in French My favourite song is I go climbing
Describe your favourite TV show in French using your knowledge organiser

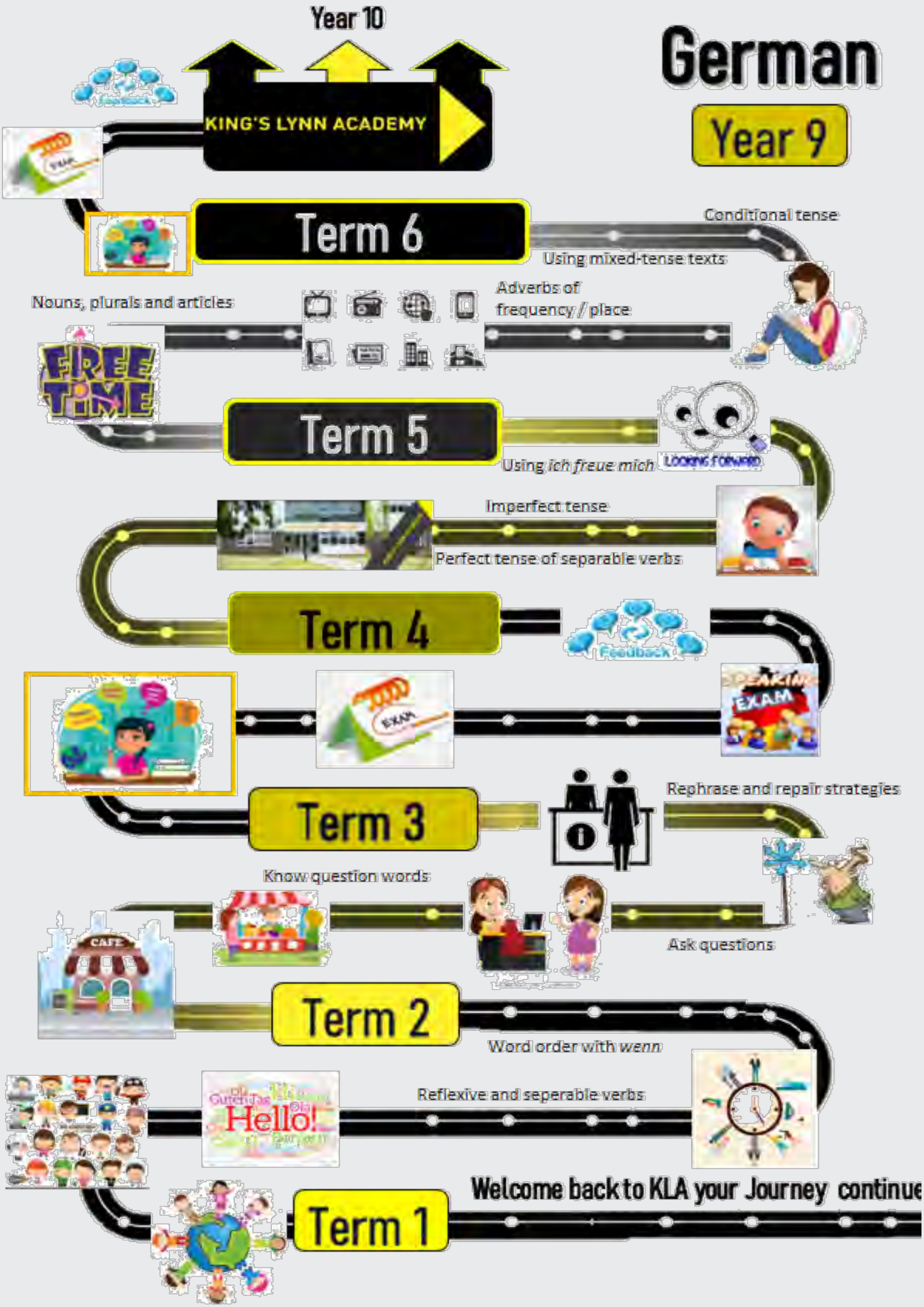
=
Write down the three sports in French
Write down three TV genres in French
What does the following mean in English Un film Un livre Un email

Year 9

French

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	I can name sports and give opinions about sports.			
2	I can talk about music, life online, name different TV genres and give my opinions on them.			
3	I can use comparative adjectives ,and the relative pronoun que .			
4	I can use the Imperfect tense with reading.			
5	I can talk about films and use the superlative.			
6	I can talk about Carnivals.			
7	I can use the future tense.			


Year 10
KING'S LYNN ACADEMY
German
Year 9
Term 6
Conditional tense
Using mixed-tense texts
Adverbs of frequency / place
Nouns, plurals and articles
FREE TIME
Term 5
Using ich freue mich
LOOKING FORWARD
Imperfect tense
Perfect tense of separable verbs
Term 4
Feedback
EXAM
Term 3
Rephrase and repair strategies
Know question words
Ask questions
CAFE
Term 2
Word order with wenn
Reflexive and seperable verbs
Hello!
Term 1
Welcome back to KLA your Journey continue

Year 9 German Half Term 5+6

Topic specific vocab

The letters in brackets show how to make the word plural.

Fernsehen	TV
sehen	to watch
fernsehen	to watch TV
Der Bildschirm	the screen
der Film(e)	film, movie
der Actionfilm(e)	action film
der Fantasyfilm(e)	fantasy film
der Horrorfilm(e)	horror film
der Krimi(s)	crime film
der Liebesfilm(e)	romance
der Science-Fiction-Film(e)	sci-fi film
der Thriller(–)	thriller
der Zeichentrickfilm(e)	cartoon
das Fernsehen	television
die Fernsehsendung(en)	TV programme
die Dokumentation(en)	documentary
die Gameshow(s)	game show
die Komödie(n)	comedy
die Realityshow(s)	reality show
die Serie(n)	series
die Nachrichten (pl)	the news
Die Story / die Geschichte	the story / plot
Die Schauspieler	The actors
Die Charaktere	The characters

Bücher	Books
lesen	to read
die Biografie(n)	biography
der Comic(s)	comic book
die Roman(e)	novel
der Krimi(s)	crime story
die Liebesgeschichte(n)	love story
die Zeitschrift(en)	magazine
die Zeitung(en)	newspaper
die Biografie (n)	biography

Musik	music
hören	to listen to
die Musikrichtung(–en)	type of music
klassische Musik	classical music
Opernmusik	opera
Popmusik	pop music
Rapmusik	rap
Heavy Metal	heavy metal
Musik herunterladen	to download
Musik machen	to make music

Instrumente	Instruments
die Blockflöte(n)	recorder
die Flöte(n)	flute
die Geige(n)	violin
die Gitarre(n)	guitar
die Klarinette(n)	clarinet
das Keyboard(s)	keyboard
das Klavier(e)	piano
das Saxofon(e)	saxophone
die Schlagzeuge	drums
die Trompete(n)	trumpet

Freizeitaktivitäten	*Leisure activities*
Sport machen /treiben	to do sport
spielen	to play
trainieren	to train
ausprobieren	to try out
die Mannschaft	team
der Verein	club
Ski fahren	to go skiing
snowboarden	to go snowboarding
eislaufen	to ice skate
wandern	to hike
klettern	to climb
schwimmen	to swim
Fahrrad / Rad fahren	to cycle
Handball spielen	to play handball
Schach spielen	to play chess
Karten spielen	to play cards
am Computer spielen	to play computer
das Tablet	tablet
das Handy	mobile phone
die Kopfhörer	headphones
hochladen	to upload
chatten	to chat
simsen	to text
E-mails schreiben	to write emails
soziale Netzwerke	social networks
Computerspiele	computer games
Freunde treffen	to meet friends
(Zeit) verbringen	to spend (time)
ins Kino gehen	to go to the cinema
in die Stadt gehen	to go into town
Videos gucken	to watch videos
faulenzen	to laze around
nichts tun	to do nothing

Year 9 German Half Term 5+6

Frequency expressions

jeden Tag	every day
jede Woche	every week
oft	often
ab und zu	now and then
nie	never
einmal pro Woche	once a week
zweimal pro Woche	twice a week
dreimal pro Monat	three times a month
viermal pro Jahr	four times a year

Adjectives

ausgezeichnet	excellent
blöd	stupid, silly
beeindruckend	impressive
fantastisch	fantastic
großartig	great
gruselig	creepy, scary
lang	long
langweilig	boring
lustig	funny
romantisch	romantic
schrecklich	terrible
spannend	exciting, thrilling
unterhaltsam	entertaining
süchtig	addictive
teuer	expensive
schädlich	harmful
gefährlich	dangerous
überraschend	surprising

Expressing advantages and disadvantages

Der Vorteil / Nachteil ist
The advantage / disadvantage is ...

Ein großer Vorteil /Nachteil ist...
A big advantage /disadvantage is...

Es gibt viele Vorteile
There are lots of advantages .

Das Gute/Beste daran ist,
The good/best thing about it is

Das Schlechteste daran ist,
The worst thing about it is

Einerseits bin ich für (das internet),
On the one hand I'm for (the internet),

Andererseits bin ich gegen (das internet),
On the other hand I'm against (the internet),

Vor allem ist das positiv/negativ
Above all it is positive/negative

Conditional tense

Made with part of the verb *werden* in the conditional tense and an infinitive at the end of the sentence.

Ich würde = I would
Du würdest = you would
er/sie/man würde = he/she/one would
wir würden = we would
sie würden = they would

Examples

Ich würde Curling spielen = *I would play curling.*
Wir würden nie Ski fahren= *We would never go skiing.*
Er würde snowboarden ausprobieren = *he would try out snowboarding.*

You can also use *mögen* + infinitive to say what you would like to do, as you have seen before.
Ich möchte = I would like
Du möchtest = you would like
er/sie/man möchte = her/she/one would like
wir möchten = we would like
sie möchten= they would like

Examples

Ich möchte Handball spielen = *I would like to play handball.*
Wir möchten nicht wander gehen = *We would not like to go hiking.*

Notes

Year 9

German

Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

*
Write these in German—ensure you use the correct tense I would go skiing I would like to go skiing We wouldn't like to go hiking

+
Write these in German There are lots of advantages The worst thing about it is I am for the internet I am against the internet
Write these in German It is surprising It is addictive and dangerous
Describe your favourite TV show in German using your knowledge organiser

=
Write down the three musical instruments in German
Write down three TV genres in German
What does the following mean in English Der Zeichentrickfilm Die Nachrichten Die Schauspieler

Year 9

German

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	I can name musical instruments and give opiniions about music.			
2	I can name different TV and film genres and give my opinions on them			
3	I can talk about different types of books, and give opinions on them			
4	I can talk about the advantages and disadvantages of different types of technology			
5	I can use the perfect tense to accurately talk about the past			
6	I can accurately use the conditional tense using “ich würde” and			
7	I can accurately use the future tense using “ich werde”			

KING'S LYNN ACADEMY

PE Yr 8

Term 6

Topic: Hustle to gain more muscle 2

Key Concept: Understanding the body

Muscular System

Rotation, Adduction, Abductions, Extension, Antagonistic pairs, Location of the major muscles, Flexion

Term 5

Topic: I have got a bone to pick with you 2

Key Concept: Understanding the body

Skeletal system

Ligaments, Cartilage, Blood production, Mineral storage, Shape, Protection, Support, Structure, Movement, Location of the bones, Ball & Socket, Tendons, Hinge Joint

Term 4

Topic: Fuelling your engines 2!

Key Concept: Health & Well-Being

Balanced diet

Hydration, Impacts of a poor diet, Macro-Nutrients, Micro-Nutrients, Balanced Diet

Term 3

Topic: How fit are we?

Key Concept: Personal Challenge

Fitness testing

Vertical jump, Sit and reach, Ruler drop, 35m sprint, BMI Test, Illinois Agility, Anderson Ball throw, Stork stand, Hand grip dynometer, Sit-up test, Bleep Test, 12 minute Cooper test

Term 2

Topic: Move & Groove 2

Key Concept: Health & Well-Being

Training session: 5 stages of a warm-up

Mobility exercises, Static stretching, Skill-practice, Mental preparation, Pulse raiser, Dynamic stretching, Benefits of warming -up

Term 1

Topic: Positive change for life!

Key Concept: Health & Well-Being

Lifestyle factors – reasons for taking part

Negative impacts, Social Reasons, Mental Reasons, Positive impacts, Lifestyle factors, Physical Reasons, Fitness

Welcome to PE

Health, Exercise

Aerobic and Anaerobic Exercise

Two factors determine which method is used: **Intensity & duration**

Aerobic energy production – takes place in the presence of oxygen

glucose + oxygen ➡ energy + carbon dioxide + water

Exercise intensity is moderate/low for a sustained period of time. *i.e. marathon runner/endurance cycling*

By products are released as sweat and CO2 exhaled.

Anaerobic energy production – takes place in the absence of oxygen

glucose ➡ energy + lactic acid

Intensity of anaerobic activity is high as muscle contraction are powerful & quick *i.e. 100m sprinter/long jump*

By product (lactic acid) builds up and causes fatigue.

Short term effects of exercise on the body	Long term effects of exercise on the body
Heart rate increases to ensure there is enough supply of oxygen to the working muscles.	Cardiac and muscle hypertrophy – Muscles grow bigger when they are trained over time
Breathing rate increases as the body tried to inhale more oxygen	Increase effectiveness on the components of fitness
Increase in body temperature.	Increase efficiency of the lungs: increase tidal volume & vital capacity.
Blood is **re-distributed** to working muscles in an attempt to provide more oxygen to these working areas (Blood / Vascular shunting).	Decrease in resting heart rate, better recovery rates
Body starts to sweat in an attempt to cool body temperature	Increase in cardiac output (amount of blood bumped by heart per min) , stroke volume (amount pumped in one beat)
Lactic acid build up can cause muscular pain and fatigue and often will lead to the activity being stopped (cramp).	Better oxygen supply, more capillaries grow

Year 9

Physical Education
Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

Short term effects of exercise
What happens to the heart rate when you start to exercise? Why?
What happens to breathing rate when you exercise? Why?
How/why is blood redistributed during exercise?

Long term effects of exercise
Describe 3 long term effects of exercise on the body
Why does resting heart rate decrease?
Explain the terms cardiac output and stroke volume

Apply it
Explain the difference between aerobic and anaerobic exercise. Give sporting examples of each.
Describe long term effects on the body of completing a 12 week weight training programme
What short term effects might a tennis player feel during a tennis match?

Year 9

Physical Education
Knowledge Checklist

KNOWLEDGE

	KNOWLEDGE CHECKLIST	R	A	G
1	Aerobic vs anaerobic exercise			
2	Short term effects of exercise on the body systems ♦ Increase heart rate ♦ Increase body temperature ♦ Increase breathing rate ♦ Sweating ♦ Muscle soreness ♦ Lactic acid build up—cramp ♦ Blood redistribution			
3	Long term effects of exercise on the body systems: ♦ Increase effectiveness on the components of fitness ♦ Increase stamina/ endurance ♦ Hypertrophy ♦ Decrease in resting pulse rate, better recovery rates ♦ Increase in cardiac output, stroke volume ♦ Increase efficiency of the lungs: increase tidal volume & vital capacity. ♦ More capillaries grow ♦ Better oxygen supply			

High Flyers - Enrichment Task

Explain the adaptions to the cardiorespiratory system after a 6 week training programme for a long distance runner.

Technology

Year 9

Year 10

KING'S LYNN ACADEMY

Topic Test

EVALUATION Reflect and evaluate on the outcome

What went well:

Even better if:

Aluminium

Learning about the different tools and finishing techniques for metal.

Learning how to work with aluminium, how to shape it and how to use metal work tools. To create something wearable

Learning about ferrous and non-ferrous metals

Learning about hardwoods and softwoods

Layering plywood and covering in Formica to create a wearable product

Wood

Learning about manufactured wood

Learn to finish an acrylic piece to a professional standard

Learning about the different tools and finishing techniques for wood.

Acrylic

Fitting an acrylic window into plywood

Learning about the different tools and finishing techniques for acrylic.

Learning about the design cycle

Research material properties of Thermoplastics and thermosetting plastic

Researching different materials. Wood, Plastic & Metal

Looking at how these materials affects our environment and their sustainability

Learning about different materials and tools used in this project

Health and safety

Welcome back to KLA your Journey continues

Material Testing

Colour LINE TYPOGRAPHY composition TONE IMAGERY

YEAR 9 TECHNOLOGY

Material Testing

Learners must be able to: METAL | PLASTIC | WOOD

- Work with tools, equipment, materials, and components.
- Know and understand materials properties and components
- Understand different working techniques and quality finishes
- Evaluate each process and stage of testing.

METAL

FERROUS METALS VS NON FERROUS

CHARACTERISTICS

• Mostly Contains iron • Good conductors of electricity • Good magnetic properties • Lower resistance to rust and corrosion • Weigh More	• Does not contain any iron • Higher resistance to rust and corrosion • Malleable • Non-magnetic • Weigh Less

PLASTICS

THERMOPLASTICS **THERMOSETS**

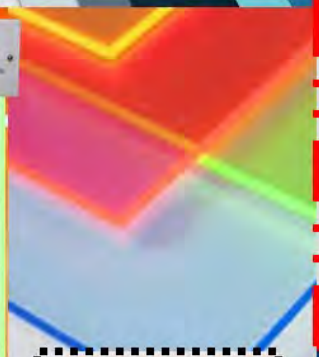
Thermoplastics	Thermosetting Plastics
They change their shape upon heating and cooling.	Once formed they do not undergo shape conversion upon heating and cooling
Expensive	Cheap
Recyclable	Not recyclable
The best example is polythene which changes its shape upon heating and cooling.	The best example is the Bakelite which once formed does not change its shape upon further heating.

Aluminium

Plywood

Formica

Acrylic



Keywords

1 Properties
2 Techniques
3 Functional
4 Sustainability
5 Measurements
6 Plywood
7 Accuracy
8 Quality control
9 Glass paper
10 Belt Sander
11 Environmental
12 Pillar Drill
13 Try-Square
14 Coping Saw
15 Pine wood
16 Softwood
17 Hardwood
18 Wood Stain
19 Manufactured
20 Evaluate
21 Aluminium
22 Acrylic
23 Laminate
24 Veneer

WOOD

Manufactured Wood

Man-made woods or Manufactured boards have become an important substitute for solid wood.

Advantages -
-Help conserve tropical forests
-An economic alternative
-Large sizes of uniform thickness
-They are stable

Manufactured boards are usually made from timber waste and **adhesive**. To make them more aesthetically pleasing they are often **veneered**. They are cheap to buy.

Hardwoods

Ash | Popular | Red Oak

Softwoods

Douglas Fur | Spruce | Yellow Pine

Hardwoods

Comes from **deciduous** trees

This is a broad-leaved tree which looses its leaves in the winter.

Beech
Oak
Ash
Teak

Softwoods

Comes from **coniferous** trees

This tree is an evergreen (green all year), needle-leaved, cone-bearing tree.

Pine
Spruce
Cedar
Fir

YEAR 9 TECH

HOMEWORK

1 What are the physical properties of corrugated card?
- ❑ Brown paper bonded to the outside?
- ❑ Smooth & translucent
- ❑ White with foil backing

2 What type of paper can be used to support isometric drawing?
- ❑ Layout paper
- ❑ Cartridge paper
- ❑ Grid paper

3 Which manufactured board is glued at 90 degree angles?
- ❑ Plywood
- ❑ Chipboard
- ❑ MDF

4 Pine, spruce and larch are all examples of what timber?
- ❑ Hardwood
- ❑ Softwood
- ❑ Manufactured board

5 Which ferrous metal is used for manhole covers?
- ❑ High-carbon steel
- ❑ Low carbon steel
- ❑ Cast iron

6 To make wire, the metal needs to be?
- ❑ Ductile
- ❑ Absorbent
- ❑ Elastic

7 Which polymers are recyclable?
- ❑ Thermoforming
- ❑ Thermosetting
- ❑ Injection moulded

8 Which thermoforming plastic is used for making car headlights
- ❑ Thermoforming
- ❑ Thermosetting
- ❑ Injection moulded

9 Which fabrics are webs of fibres compressed together?
- ❑ Bonded
- ❑ Woven
- ❑ Knitted

10 Which natural fibre grows in balls
- ❑ Silk
- ❑ Wool
- ❑ Cotton

✓ your chosen answer

Score /10

YEAR 9 TECH

UNDERSTANDING KEY WORDS– HOMEWORK

Properties of materials

Different materials exhibit different working properties..

Listed below are some of the **key properties** which determine how materials behave:

•**Conductivity** is the ability of a material to conduct heat or electrical energy.
•**Strength** is the ability of a material to withstand a force without breaking or bending.
•**Elasticity** is the ability of a material to bend and then to return to its original shape and size.
•**Malleability** is the ability of a material to be moulded into a shape without cracking.
•**Ductility** is the ability of a material to be pulled into long thin fibres.
•**Hardness** is the ability of a material to resist wear, scratching and indentation.
•**Toughness** is the ability of a material to withstand blows or sudden shocks without breaking.
•**Durability** is the ability of a material to withstand wear, especially as a result of weathering.

The 6 R's of Sustainability

Recycle
Reuse
Replace
Rethink
Reduce
Refuse

Sustainable A sustainable resource can be replaced once used. As a tree is chopped down, many more can be planted to ensure the use of trees can be sustained.

Veneer A thin decorative covering of fine wood applied to a coarser wood or other material.

Renewable Inexhaustible and replaceable.

Recyclable The ability to process into something else.

Non-renewable A resource that cannot be replaced when it is used up, such as oil, natural gas or coal.

Thermoplastic Can be reformed when heated, and therefore can often be recycled.

Thermosetting Plastic Also called 'thermoset'. Can only be formed once as it cannot be reheated and therefore cannot be recycled

Degrade To break down and deteriorate.

Biodegradable Material that can be broken down in the environment by microorganisms.

Coniferous Trees that do not lose their leaves during autumn to prepare for winter.

Softwood Timber that has come from a coniferous tree that does not drop leaves in the autumn to prepare for winter.

Deciduous Trees that lose their leaves during autumn to prepare for winter.

Hardwood Timber that has come from a tree that drops leaves in the autumn to prepare for winter.

Alloy An alloy is a mixture of two or more elements, at least one of which is a metal.

Ferrous Metal containing iron.

Non-ferrous A metal that does not contain iron.

Year 9

Design and Technology
Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

=
Put these tools in order of use-coping saw, buffing wheel, wet and dry paper, file.
Circle the correct property of a material that resists to being scratched or indented; Tough malleable hard ductile strong
Complete this sentence Cut the waste, _____ __ ____ _____.

+
Explain-what is a sustainable resource.
Explain biodegradable.
Circle the correct answer -The ability of a material to be stretched into a wire; Tough malleable hard ductile strong

*
Explain-what is a Bioplastic?
What does finite mean in terms of a resource?
What is an infinite resource?

Year 9

Design and Technology
Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	To understand and demonstrate safe working in Design Technology			
2	To know and understand material properties			
3	To know and understand how to safely and effectively use work-			
4	To review and evaluate the making process			

High Flyers - Enrichment Task

Research, investigate and show your understanding of the properties of materials by answering the questions in the AQA Design and Technology coursework book.

FOOD TECH

Year 9

Year 10

KING'S LYNN ACADEMY

Introduction to Hospitality & Catering

Reflect & evaluate

Wash up & dry

Mix a little water with the puree in a jug and spread over the base of your pizza. Add toppings. Place in a HOT oven for around 10 minutes.

Knead dough for 10 mins – roll out onto pizza tray- Flour tray

Add the mixture to the flour and using one hand mix into a smooth dough leaving the bowl clean.

Cook for 40-45 mins

Wash up & dry

Reflect & evaluate

Italian Pizza

Written
Step-by
Step

Put the flour and the salt into a bowl and in a jug put the yeast, sugar and warm water.

After meat cooked – put into oven proof dish. Roll pastry over top. Decorate w& brush with beaten egg or milk

Cover & rest pastry in fridge

PASTRY: Rub butter into flour. Rub creamed cheese into flour and combine into pastry

While beef cooking, finely chop onions – add to the beef & cook for further 10 mins

Add 1tbsp. flour to beef. Ten mustard, puree & vinegar

Crumble in stock cube – add boiling water & simmer for 30 minutes

Cook beef in pan for 15mins with tbsp. oil

Beef Pie

Written
Step-by
Step

Reflect & evaluate

Wash up & dry

Tip in flour. Stir with wooden spoon into smooth dough

Allow to cool – beat eggs and splash baking tray with water

Add egg to mixture a tbsp. at a time – beat well

Sprinkle baking tray with water and pipe

Bake, let cool then fill

Heat margarine & water & bring to the boil

Sieve flour into bowl

Profiteroles

Written
Step-by
Step

Job roles within a professional kitchen

Reflect & evaluate

Roll out dough. Use cutters to shape jam tarts

Add jam to tarts

Bake for 10 – 12 minutes

Wash up & dry

Rub the butter and flour into breadcrumbs. Add egg yolk and bring to a dough

Grease the bun tins

Written
Step-by
Step

Jam Tarts

Health & Safety & Hygiene Posters!

Knife Skills & Knife Safety

Hygiene and safety in the kitchen.

Factors affecting food.

Health & Safety, Hygeine, vitamins & minerals, heat transfer & seasonality

Welcome back to KLA your J

YEAR 9 FOOD

Learners must be able to:

- Learn about dough, Vitamins & minerals
- Learn about Pastry and continued development of the eat well plate
- Learn about sauces by exploring & making recipes
- Learn about Meat by exploring & making recipes

Dough, Vitamins & Minerals • Pastry & Eat Well Plate • Sauces • Meat • Piping & Garnishes •

Beef Pie

Pizza

Jam Tarts

Profiteroles

Key Words

1. Research
2. Function
3. Recipe
4. Menu
5. Nutrition
6. Eatwelll Plate
7. Accurate
8. Hygiene
9. Measurements
10. Safety
11. Bacteria
12. Logo
13. Diet
14. Sensory
15. Texture
16. Healthy
17. Combine
18. Evaluation
19. Ingredients
20. Cross contamination
21. 5-A-Day
22. Environmental
23. Anti-Bacterial
24. Appearance
25. Investigation
26. Techniques
27. Aeration
28. Additives

Health & Safety & dangers in the kitchen

Teaching Knife Safety Skills

Year 9

Food Tech

Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

=
Why do we need to eat all the foods on the Eatwell plate?
What is pastry?
What is a piping bag?

+
What are the functions of the 5 food groups?
Why do we use different colour chopping boards?
Why do we need calcium?

*
What are micro and macro nutrients?
Why do we need vitamins?
What is an environmental health officer?

Year 9

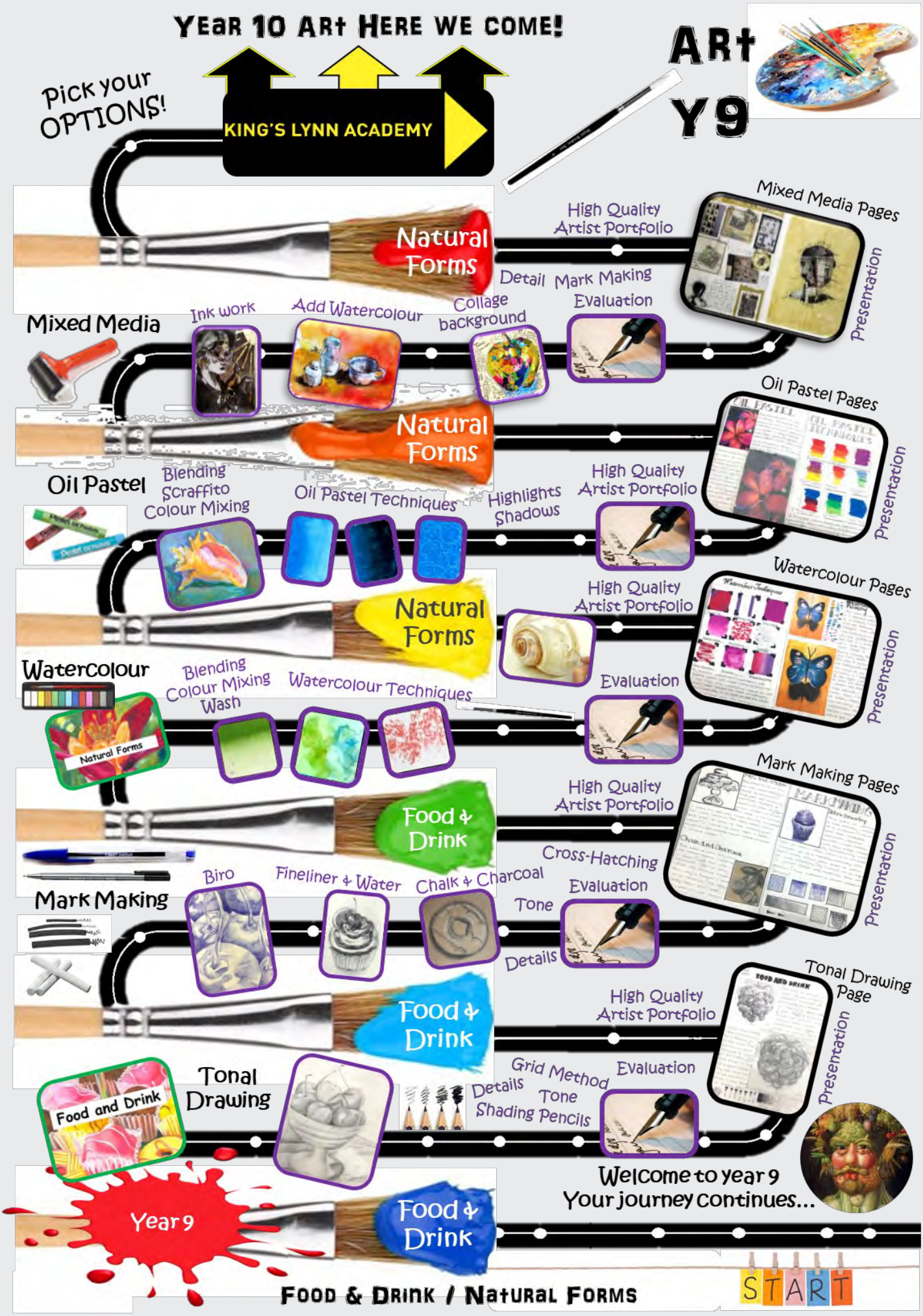
Food Tech

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	Different methods of heat transfer			
2	Job roles in a kitchen			
3	Key temperatures in food			
4	The role of the EHO			
5	Use a range of equipment safely and independently to produce a			

High Flyers - Enrichment Task

Understand the different types of Hospitality and Catering establishments


Year 10 Art Here we come!
Pick your OPTIONS!
KING'S LYNN ACADEMY
Art Y9
Natural Forms
High Quality Artist Portfolio
Mixed Media Pages
Presentation
Detail
Mark Making
Evaluation
Mixed Media
Ink work
Add Watercolour
Collage background
Natural Forms
Oil Pastel Pages
Presentation
Oil Pastel
Blending
Scraffito
Colour Mixing
Oil Pastel Techniques
Highlights
Shadows
High Quality Artist Portfolio
Natural Forms
Watercolour Pages
High Quality Artist Portfolio
Presentation
Watercolour
Blending
Colour Mixing
Wash
Watercolour Techniques
Evaluation
Natural Forms
Food & Drink
High Quality Artist Portfolio
Mark Making Pages
Presentation
Cross-Hatching
Evaluation
Mark Making
Biro
Fineliner & Water
Chalk & Charcoal
Tone
Details
Food & Drink
High Quality Artist Portfolio
Tonal Drawing Page
Presentation
Grid Method
Evaluation
Tonal Drawing
Details
Tone
Shading Pencils
Food and Drink
Welcome to year 9
Your journey continues...
Year 9
Food & Drink
Food & Drink / Natural Forms
START

Year 9 Rotation 1 (20 lessons)

Food and Drink – Mini GCSE

Art

Learners must be able to:

To develop, refine and experiment with different materials and techniques.

To analyse and reflect concepts behind artists work and own work.

Explore and appreciate a variety of artists

Artists

Carl Warner
Joel Penkman
Sarah E. Wain
Ralph Goings
Tjalf Sparnaay
Andy Warhol
Wayne Thiebaud
Sarah Graham
Dawn Eaton …

Transferable knowledge and skills

Tonal drawing and enlargement

Drawing an enlargement using the grid method.
Using a variety of tonal shading pencils.

Grid method enlargement drawing

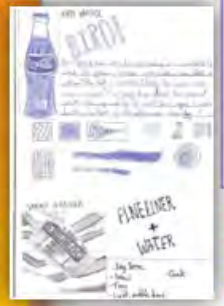
Mark making techniques – Chalk and Charcoal

Experimenting with thickness of lines and blending.
Using relevant techniques on chosen artwork

Techniques

Mark making techniques – Biro, Pen and Water

Experimenting with techniques, producing artwork, analysing and evaluating



Techniques:
Cross hatching, dots, stippling, thick and thin lines, graded wash, broken lines, dashes etc.

Mono-printing

Decorating mask with paint, blending colours, and adding embellishments.

Mixed Media Mono-printing

Watercolour and mono-printing, Printing on collage paper and brown paper.
Experimenting with multiple colours

Key Vocab

Tier 3
Gradient, Technique, observational, stippling, cross-hatching
Mono - printing

Tier 2
Tone, shading, blending, layering, depth, texture, annotate, detail, outline, skill, form, mark making, evaluate, media, trace, wash

Tier 1
Light, middle, dark, shape, neat, artist, artwork, edges, bold, colour, mixing, shade, smooth, painting

Year 9 Rotation 2 (20 lessons)

Natural Forms: Colour Theory

Art

Learners must be able to:

- To have an appreciation of a variety of artworks
- To grasp the concept behind an artwork.
- To develop, refine and experiment with different materials and techniques.
- Present personal and creative works in response to other artists.
- Build up a confident visual language.

Artists

Jessa Huebing-Reitinger
Alexander Marshall
Georgia O'Keefe
Eric Sweet
Paul Cezanne
Vincent Van Gogh
Susan Berry
Juan Bosco...

Transferable Knowledge & Skills

Watercolour Techniques Watercolour Painting

Techniques

Watercolour painting from start to finish

Evaluation

Watercolour Techniques:

1. Layering
2. Masking Tape
3. Solid Wash
4. Graded Wash
5. Stippling
6. Splatter
7. Dry Brush
8. Resist
9. Bleed Blending

Oil Pastel Techniques Oil Pastel Artwork

Techniques

Oil Pastel artwork from start to finish

Evaluation

Oil Pastel Techniques:

1. Light Pressure
2. Heavy Pressure
3. Highlight with White
4. Shadow with Black
5. Sgraffito
6. Blended Sgraffito
7. Red + Yellow = Orange
8. Blue + Yellow = Green
9. Blue + Red = Violet

Acrylic Techniques Acrylic Painting

Techniques

Acrylic Painting from start to finish

Evaluation

Acrylic Paint Techniques:

1. Primary Colours: Red, Yellow & Blue
2. Secondary Colours: Orange, Green & Violet
3. The Colour Wheel: Tints and Shades: Adding White & Black
4. Blending and Details: Adding Water & 3 Brush Technique

Watercolour – Brush and Water Skill, Colour Mixing, Concentration of Colour

Oil Pastel – Blending, Colour Mixing, Mark making

Acrylic Paint – Colour Theory, Mixing, Tints, Shades, Blending

Natural Forms

Objects in nature in their natural form.

Key Vocab

Notes

Year 9

ART

Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

=
List 6 Tonal drawing techniques?
What is tints and shades in art?
List 5 Biro techniques and 5 Pen and Ink techniques

+
What is the difference between visual texture and actual texture?
What does gradient mean in art and how do you create a gradient with Ink and Water?
What does Chiaroscuro mean in Art?

*
Why do you think artists create texture in their work and explain how they create texture? (what techniques show texture)
Explain how artists use tone to create form?
Explain the difference between layering and blending techniques for watercolour?

Year 9

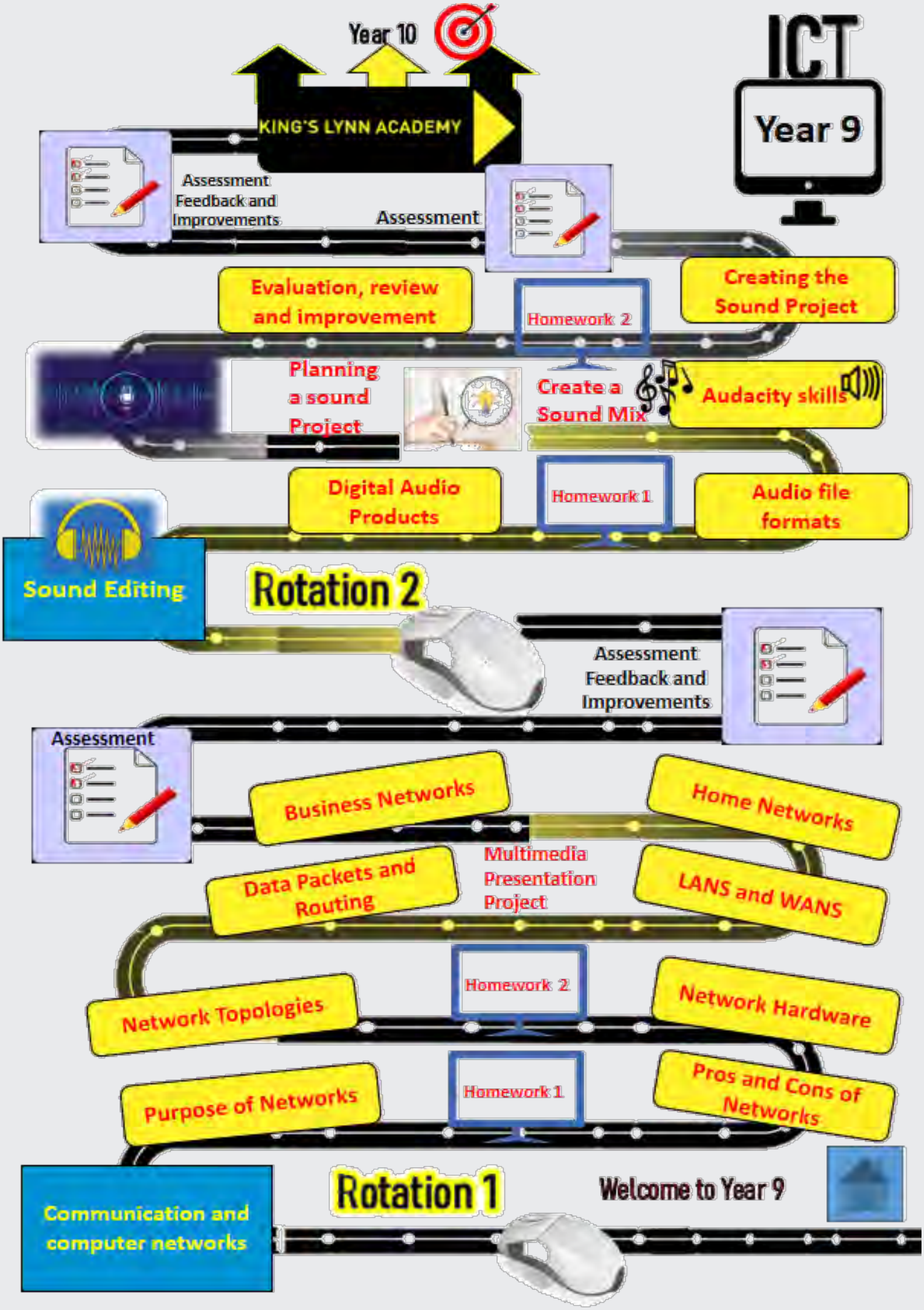
ART

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	Tonal shading techniques			
2	Mark making techniques –Biro			
3	Mark making techniques –Fine Liner and Water			
4	Mark making techniques –Chalk and Charcoal			
5	Watercolour techniques			
6	Oil pastel Techniques			

High Flyers - Enrichment Task

- Tonal drawing Sheet
- Chalk on black paper
- Watercolour sheet


Year 10
KING'S LYNN ACADEMY
ICT
Year 9
Assessment
Feedback and
Improvements
Assessment
Evaluation, review
and improvement
Homework 2
Creating the
Sound Project
Planning
a sound
Project
Create a
Sound Mix
Audacity skills
Digital Audio
Products
Homework 1
Audio file
formats
Sound Editing
Rotation 2
Assessment
Feedback and
Improvements
Assessment
Business Networks
Home Networks
Multimedia
Presentation
Project
Data Packets and
Routing
LANS and WANS
Homework 2
Network Topologies
Network Hardware
Homework 1
Purpose of Networks
Pros and Cons of
Networks
Communication and
computer networks
Rotation 1
Welcome to Year 9

20 lessons

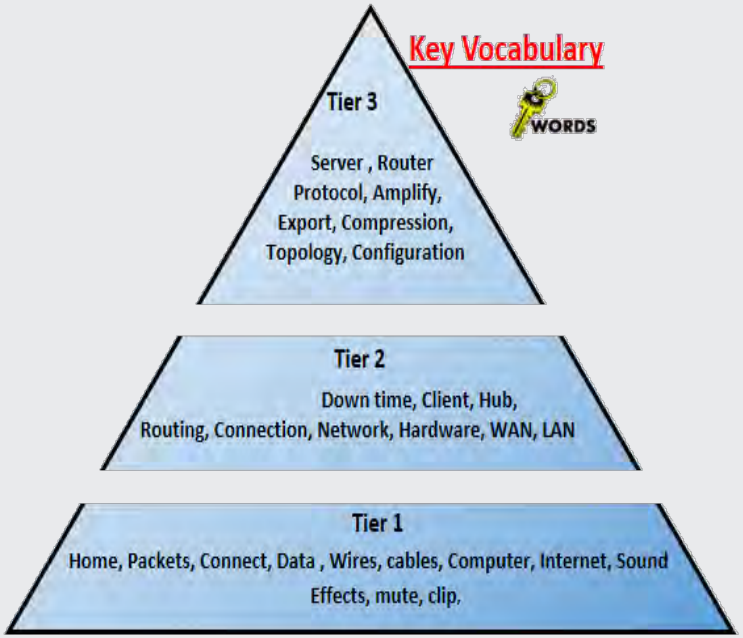
ICT

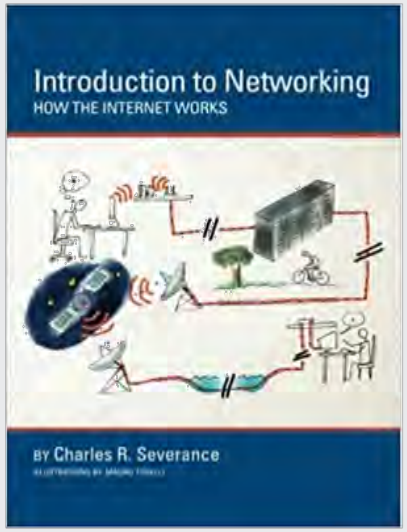
Year 9 Rotation 1)
(Communication and Networks)

Students will learn to how to explain:

- The purpose of computer networks
- The advantages and disadvantages of networks
- The hardware needed to create a network
- Network topologies
- Difference between LANs and WANs
- The purpose of Data packets and routing
- Physical connections from the home to the Internet

Key Vocabulary





Rotation 2
(Sound Editing)

20 lessons

Students will learn how to:

- Import and export sound files in Audacity
- Add a second sound clip
- Get a sound track to repeat
- Delete a part of a sound track
- Add silence before a sound track
- Fade sounds in or out
- Mute a sound track
- Change voice pitches on a sound track
- Add special effects
- Create sound projects and mixes
- Changing the volume of a sound track
- Adding a blank audio track
- Deleting a sound track
- Zooming in and zooming out of a sound track

Exporting the audacity project as a .wav

Book suggestion to aid learning

Year 9
ICT
Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	The purpose of computer networks			
2	The advantages and disadvantages of networks			
3	The hardware needed to create a network			
4	Network topologies			
5	Difference between LANs and WANs			
6	The purpose of Data packets and routing			
7	Physical connections from the home to the Internet			
8	Learn how to use Sound Editing Software: Audacity to create suitable sounds to suit a specific scenario			

High Flyers - Enrichment Task

Complete all extension tasks each lesson

Create your own revision quiz with at least 10 questions and answers from each topic

Attend Year 9 ICT Club (Computer assembly/disassembly, Games programming and sound editing, Photo editing)

Complete at least 10 tasks on SamLearning per week

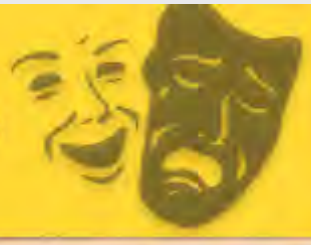
Become a Learning buddy to another student

Enter an ICT Competition (Inhouse or external), as available

Notes

Year 10
Performing Arts
KING'S LYNN ACADEMY
Year 9
Evaluating Your Performance
Performing to Local Primary Schools
Term 6
Theatre in Education Project
Making Sure You're Performance Ready!
Rehearsing Your Project
Designing Your Project
Researching local primary school curriculums
Deciding on a project
Project Writing
THEATRE EDUCATION
An Introduction to TIE
Term 5
Theatre in Education Project
Choreography
Sound and Lighting Design
Hair and Make-Up Design
Set Design
Costume Design
Props Design
Directing and Producing
GET INTO THEATRE
Roles and Responsibilities
Term 4
Design Skills
Accent and Dialect
Emphasis
Pause
Tone
TONE of VOICE
Volume
Intonation
Pace
Pitch
Term 3
Vocal Skills
Communicating with Levels
Space / Proxemics
Gesture
Posture
Eye Contact
Walk / Gait
Body Language
Facial Expression
Term 2
Physical Skills
The Female Lead
The All-Female Cast
Top Girls
A Number
Sarah Kane
Willy Russell
Educating Rita
Blood Brothers
Shakespeare: Staging Gender
Welcome back to KLA your Journey continues
Caryll Churchill
Introducing Feminism
Term 1
Feminism

Year 9
Summer Term One



Vocal Skills

PERFORMING ARTS

What are Vocal Skills?

Vocal skills make up an essential part of the toolkit that you will need to develop and access as an actor. Vocal skills refer to how you use your voice to characterise the role you are playing.

Vocal Skills we will develop…

- Pitch, Pace, Pause
- Tone
- Volume
- Emphasis
- Intonation
- Accent/Dialect

Pitch, Pace, Pause (The Three P's)

Pitch refers to how high or how low you voice sits.

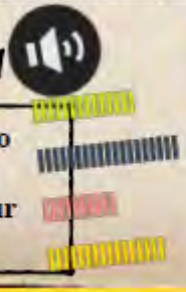
Pace refers to the speed at which you speak.

Pause refers to the temporary stop in speech to indicate sentence structure or direct listeners attention.

Tone

Tone refers the mood in which a person is speaking e.g. "You sound sad" or "You sound angry"

Volume



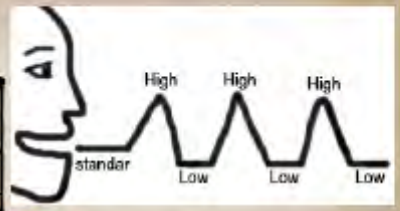
Volume refers to the loudness or quietness of your voice.

Emphasis

Emphasis refers to the stress given to a word or phrase to indicate particular importance.

Intonation

Intonation refers to the rise and fall in pitch of the voice when speaking or singing.



Accent

A distinctive way of pronouncing a language, especially one associated with a particular country, area, or social class.

Dialect

A particular form of language which is associated with a specific region or social group.

Key Words

Year 9
Summer Term Two

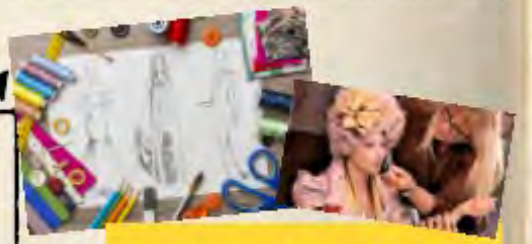
Design Skills

PERFORMING ARTS

What are Design Skills?

Design Skills include the variety of creative and technical professions required to bring a show together, performers aside. This includes Costume Designers, Hair and Make-Up Designers, Choreographers, Sound Designers and Stage Managers to name but a few, and these will be the ones we focus on and practise this half term.

Costume Design



A Costume Designer is the person responsible for liaising with the director in order to create costumes that compliment the overall design and feel of the show. A Costume Designer takes responsibility for a Wardrobe Team including seamstresses, dressers, and even oversees the Hair and Make-Up design team.

Hair and Make-Up

The Hair and Make-Up Team liaise with the Costume Designer who has ultimate responsibility for the design of the hair and make-up in a show. The Hair and Make-Up Team are responsible for executing the design.

Sound Design

The Sound Designer creates any diegetic or non-diegetic sound needed in the performance. This excludes sound made by the performers themselves and live instruments.

Choreography

The Choreographer is responsible for designing all of the movement that occurs on stage, including any dance. The Choreographer is usually assisted by a Dance Captain who learns the choreography and re-teaches it to any member of the cast who needs practice, or any newcomer who needs to learn it. Some of the most famous theatrical choreographers include Merce Cunningham, Martha Graham and Bob Fosse.

Bob Fosse

Martha Graham

Merce Cunningham

Stage Management

The Stage Management Department looks after the stage, props, furniture and cast members to make sure they are safe on stage.

Key Words

Notes

Year 9

Drama

Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

*
Why is it important for an actor to consider their vocal tone when playing a character?
Why is it important for all designers to communicate and share their ideas for their area of a show with each other?
Why is it important, from a business point of view, for a Front of House Team to ensure the safety, comfort and enjoyment of an audience?

+
How does tone communicate someone's mood?
How might a costume designer's & a hair and make-up designer's job roles overlap?
How could a Front of House Team make an audience's experience at a theatre more c safe, comfortable & enjoyable?

=
What is tone?
What does a Design Team do?
For what & for who is the Front of House Team responsible for?

Year 9

Drama

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	What do the **3 P's (Pitch, Pace & Pause)** mean**?**			
2	What is **Tone**? What is **Intonation**? What is the difference between			
3	What is **Volume**? Does '**high and low'** describe volume or pitch?			
4	What is **Emphasis?**			
5	What is **Accent & Dialect?**			
6	What is a **Design /Production Skill**?			
7	What is the role of the **Director**? What is an **Artistic Vision**? Why			
8	Who is in the **Design Team**?			
9	Who is **Technical Team**?			
10	Who is in the **Front of House Team**?			

High Flyers - Enrichment Task

1. The ONLY way to improve your vocal skills is to KEEP PRACTISING them! On your own, preferably in front of a mirror, try playing around with you pitch/pace/tone/intonation and where you choose to put emphasis.

2. Find clips of celebrities with strong accents (Olivia Coleman, Ewan McGregor, Cheryl Cole, Liam Neeson). Make friends with the rewind and fast-forward button on your remote or device and watch parts of their speaking over and over. Try to really listen and copy them. Pay attention to the vowel sounds as this is what carries any accent.

3. Pick a production skill of your choice and apply it to either Of Mice and Men OR 1984. You could design a set, a costume, hair and make-up, lighting, or sound. Design for a scene or your choice from *Blood Brothers.*

Year 9
Summer Term One

Music For Film

Music

The Power of Music in Film

Throughout the history of filmmaking, music has always been an essential feature. Music is often used to help the viewer interpret the emotions, action and gain empathy towards certain characters.

Types of Music in Film

Existing Songs - Using pre-existing songs to match the time period or mood of a scene.

Original scores - Music written specifically for individual films.

Underscores - music played in the background during a scene.

Mickey Mousing

Mickey Mousing is when musical sound syncs directly to the action happening on the screen. For example sounds that match with footsteps.

This is often used on cartoons as it can be very comical!

Sound Effects in Film

Foley Sound Sound effects that are created in sync with the film. E.g. walking on sand is actually walking on snow.

Diegetic and Non-Diegetic Sound

Diegetic Sound are sounds that the character on screen *would* be able to hear. E.g. dialogue (speaking), footsteps, weather.

Non-Diegetic Sound are sounds that the character on screen *wouldn't* be able to hear. E.g. music in the background.

Leitmotifs

A Leitmotif is a short recurring musical phrase that is used in film to represent something or someone.

Character

Characters in film are often represented by a leitmotif. E.g. As soon as Darth Vader (Star Wars) appears on screen you will hear the same musical phrase.

Setting

Leitmotifs can be used to represent a specific place or setting in a film. E.g. When walking into the Great Hall in Harry Potter, a certain musical phrase is heard.

Emotions

Leitmotifs can be used to represent emotions. They can often be adapted so they suit the mood of the character on screen. E.g. the motif used in Up.

Evolution

Leitmotifs can be adapted to help add to the growth of a character. This could be growth of age, or power. E.g. Anakin Skywalker transforming into Darth Vader.

Year 9
Summer Term Two

An Introduction to Ukulele

Music

The Beginning

1879

A ship travelled from Portugal to Hawaii to transport workers to sugar plantations. With them, the travellers brought a Portuguese instrument called the Cavaquinho.

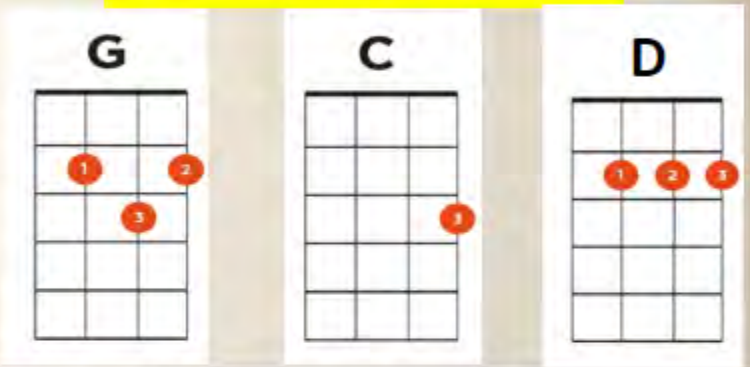
The people of Hawaii were amazed by the instrument and named it 'Ukulele' which closely translates to 'jumping flea'. They thought the players fingers looked like fleas jumping across the fretboard.

The Ukulele became part of Hawaiian culture and used in royal ceremonies, music and for people to dance to. It was even played by the first ruler of Hawaii himself!

Parts of the Ukulele

The Ukulele looks like a small guitar. However, it only has 4 strings!

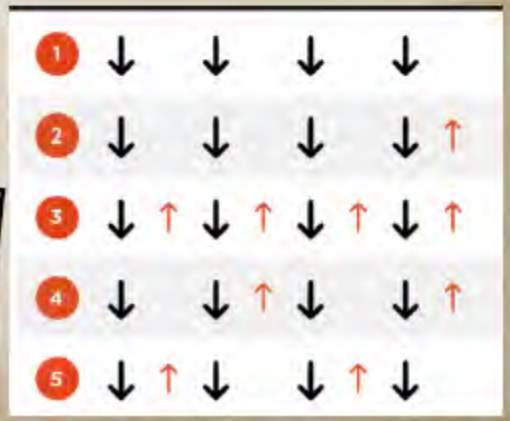
Reading Chord Diagrams



- The four lines going vertically represent the 4 strings of the Ukulele.
- The lines going horizontally represent the frets.
- The numbers in orange represent what finger you should position where.

Strumming Patterns

Now you have found some chords, now you can experiment with different strumming patterns.



Year 9

Music

Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

*
Give an example of the three types of music used in film.
Why is a Leitmotif effective?
Describe the purpose of each of these parts of the ukulele: Tuning Peg Strings Bridge Frets

+
Define the three types of music used in film.
What is a Leitmotif and can you give an example of one?
Label these parts on the ukulele: Sound Hole Bridge Tuning Pegs Frets

=
Name the three types of music used in film.
What is a 'Leitmotif'?
Circle the option that is **NOT** part of the ukulele: Bridge Frets Keys Strings

Year 9

Music

Knowledge Checklist

	KNOWLEDGE CHECKLIST	KNOWLEDGE PROGRESS R	A	G
1	Why is music used in **film**?			
2	Can you describe the **three types of music** in film?			
3	What is **Mickey-Mousing**?			
4	What is **Diegetic** and **Non-Diegetic** sounds?			
5	What is **Foley** sounds?			
6	What is a **Leitmotif**?			
7	Where did the **Ukulele** come from?			
8	What are the main **parts** of the ukulele?			
9	Can you play **4 chords** on the ukulele?			
10	Can you use different **strumming patterns**?			

High Flyers - Enrichment Task

1. Consider how you would use different musical features (MAD T-SHIRT) to represent a villain in a Leitmotif?

2. Watch a scene from a film, and jot down a description of how music is being used. Does it use Diegetic sounds? Does it use Foley Sounds? Doe is use an Underscore?

3. After learning 3 chords on the Ukulele, experiment with your own strumming pattern. Make sure you can still transition between chords smoothly!

KING'S LYNN ACADEMY

PD

Year 9

Half Term 6

Near Death Experiences

Drugs

Deontology

Life after Death

Virtue Ethics

Utilitarianism

Situation Ethics

Morality & Dilemmas

Half Term 5

Government & Democracy

Euthanasia

Abortion

Teenage Pregnancy

Different Relationships

Gender

Relationships & Partners

Consent

Contraception

Why have sex

Half Term 4

Marriage & Family

Treatment of people & animals

Post 13 & University

Options

Looking at decisions

Origins of the world

Value of the World

Half Term 3

GCSEs

Where GCSE's can take you

Philosophy Arguments

Global Ethics

Teleological Argument

Ontological Argument

Miracles & Revelation

Morality

Half Term 2

Ideas about God

Existence of God

Online Safety & Gambling

Cosmological Argument

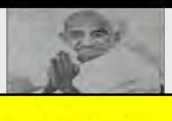
Islam & Malcolm X

Online Safety

Online Safety & Grooming

Half Term 1

Christianity & MLK



Mental Health

Welcome to your Personal Development Journey

Judaism, Anne Frank, Elie Wiesel

Buddhism & Dalai Lama

Hinduism & Ghandi

Religious & Important figures

Year 9 PD
Knowledge Organiser - Summer

Morality & Dilemmas

Things you need to be able to do:

To know different ethical theories
To understand how different ethical theories influence moral decision making
To analyse the usefulness of each ethical theory
To understand different beliefs about what happens after death

Key Questions:

Should we use ethical theories to guide us in our moral decision making?
Are ethical theories useful in modern day society?
Is there life after death?

Tier 2 Vocabulary

Morality - principles concerning the distinction between right and wrong or good and bad behaviour.
Ethics - moral principles that govern a person's behaviour or the conducting of an activity.
Virtues - behaviour showing high moral standards.
Near death experiences - an unusual experience taking place on the brink of death and recounted by a person on recovery, typically an out-of-body experience or a vision of a tunnel of light.

Tier 3 Vocabulary

Deontology - the study of the nature of duty and obligation.
Utilitarianism – the idea that actions are right if they are useful or for the benefit of a majority.
Resurrection – The idea of coming back from the dead
Reincarnation - the rebirth of a soul in another body.
Rebirth - the process of being reincarnated or born again.

Citizenship & Health Education

Things you need to be able to do:

To know what democracy means
Young people's attitudes and behaviours regarding drug use
describe the names, appearance & effects of a range of illegal drugs
To learn about the potential legal consequences of using illegal drugs

Key Questions

How does the British Parliamentary System work?
What are the maximum legal penalties for each drug classification
Where can I go if I need support about drugs?

Tier 2 Vocab

House of Commons – where the elected group of MPs meet
House of Lords – where some are unelected and some are bishops
Substance - This generic term includes alcohol and other drugs that may be legal or illegal.
Dependency - A state in which a person relies upon a substance to feel or function as normal, this can be physical and/or psychological

Tier 3 Vocabulary

Cessation - The process of reducing and stopping the use of a substance. This may be done independently or with the support of a cessation service.
Possession - When a person is found with a controlled drug for personal use. They don't have to be using it they just need to have it.
Intent to supply - When a person is planning to give controlled drugs to someone else including selling, sharing or giving for free.
Supply - When a person distributes or gives someone a controlled substance including selling, exchanging for reward or 'gifting'.

Year 9

Personal Development
Knowledge Questions

Below are a series of questions.

Use these to apply your knowledge and practice.

=
1. Name two ethical theories 2. Name two beliefs about what happens after you die
3. Name two examples of democracy 4. Name two things that you can possess

+
1. Summarise two ethics theories 2. Explain two arguments for existence of life after death
3. Explain the two different houses found in parliament 4. Explain two of the penalties for a drug

*
1. Discuss the usefulness of situation ethics when making moral decisions 2. Discuss the importance of life after death for religious believers
3. Discuss what is meant by intent to supply 4. Discuss why cessation is important

Year 9

Personal Development
Knowledge Checklist

KNOWLEDGE PROGRESS

	KNOWLEDGE CHECKLIST	R	A	G
1	Understanding our government			
2	Speaking to an MP			
3	Ethical Theories, including Utilitarianism, Situation Ethics, Virtue Ethics, and Deontology			
4	Drugs and their effects			
5	Drugs and managing risks			
6	What is life after death?			
7	Religious beliefs about life after death, including resurrection,			
8	Arguments for the existence of life after death			
9	Arguments against the existence of life after death			

High Flyers - Enrichment Task

Create a comparative table comparing the different ethical theories and then explain which one you prefer and why

1. Look, Cover, Write, Check, Correct

Look, Cover, Write, Check, Correct

Common at primary schools

First Look, then cover this colum	Next try to answer/give definition/spell	Now Check to see if you were right	Finally Correct those you got wrong
Look	**Write**	**Check**	**Correct**
Noun	Person place or thing	☒	
Belief	Something you believe	X	Accept true without proof
Algorithm	Alrithum	X	Algorithm

2. Questions / Answers, Answers / Questions

Questions/Answers, Answers/Questions

Question; *In what year was George V's coronation?*
Answer; *1910*

Ask a parent, carer, study partner to write you questions (or answers) and you write the answer (or possible question that would correspond to that answer).

You can also write your own questions, but if you do this leave it at least a day until you answer them to see what you can remember after a while.

Always check and correct!

3. Map Your Mind

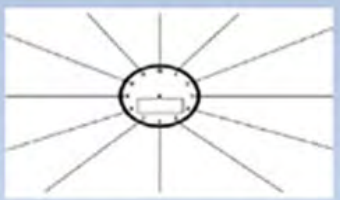
Mind Maps

Mind Mapping is a process that involves a distinct combination of imagery, colour and visual-spatial arrangement. The technique maps out your thoughts using keywords that trigger associations in the brain to spark further ideas.

Once you have made your map, cover it and test yourself on different strands, eg. How much of the blue strand can you recall.

4. Clock Learning

Clock Learning

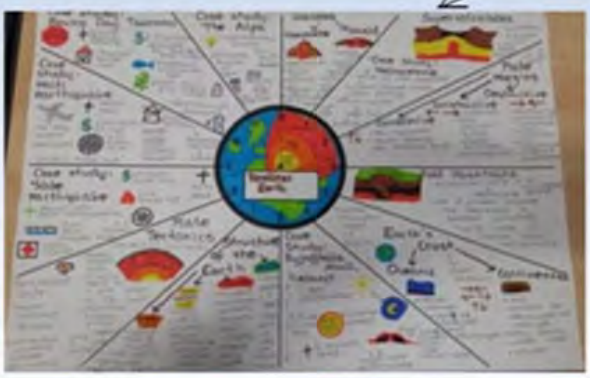


For this technique you draw a basic clock.

You can then take a subject or topic and break it down into 12 sub-categories.
Make notes in each chunk of the clock. Revise each slot for 5 minutes, turn the clock over and then try to write out as much information as you can from one of the segments. Eg. all the information in the 2-3pm segment.

or

Use it to help visualise a timeline.



Further Optional Home Learning

From time to time pupils may wish to consolidate and strengthen their understanding independently, and we recommend pupils utilising the following e-learning resources:

Go4Schools is used to share information about progress during the year.
It is also used to share homework and tasks set by teachers.
Please visit Go4Schools regularly as all tasks will be set here.

GCSEPod is our preferred out of hour's platform for Year 10 and Year 11 English, Humanities and option subjects. However, it is also excellent for Maths and Science. GCSEPod have produced following parents' guides which will help you to support your child effectively.

We have used HegartyMaths for two years now and recommend it without hesitation. It has a comprehensive series of video lessons followed by bespoke lessons. The skills are demonstrated through minimally different and carefully scaffolded worked examples. Pupils can revisit any concept to get deliberate practice over time to improve working memory and confidence. HegartyMaths is used by all pupils.

We have committed to using Tassomai to help prepare pupils for all of the science exams. It is an intelligent online learning program which helps pupils at all levels achieve outstanding results. It builds knowledge, boosts confidence and reduces exam stress.

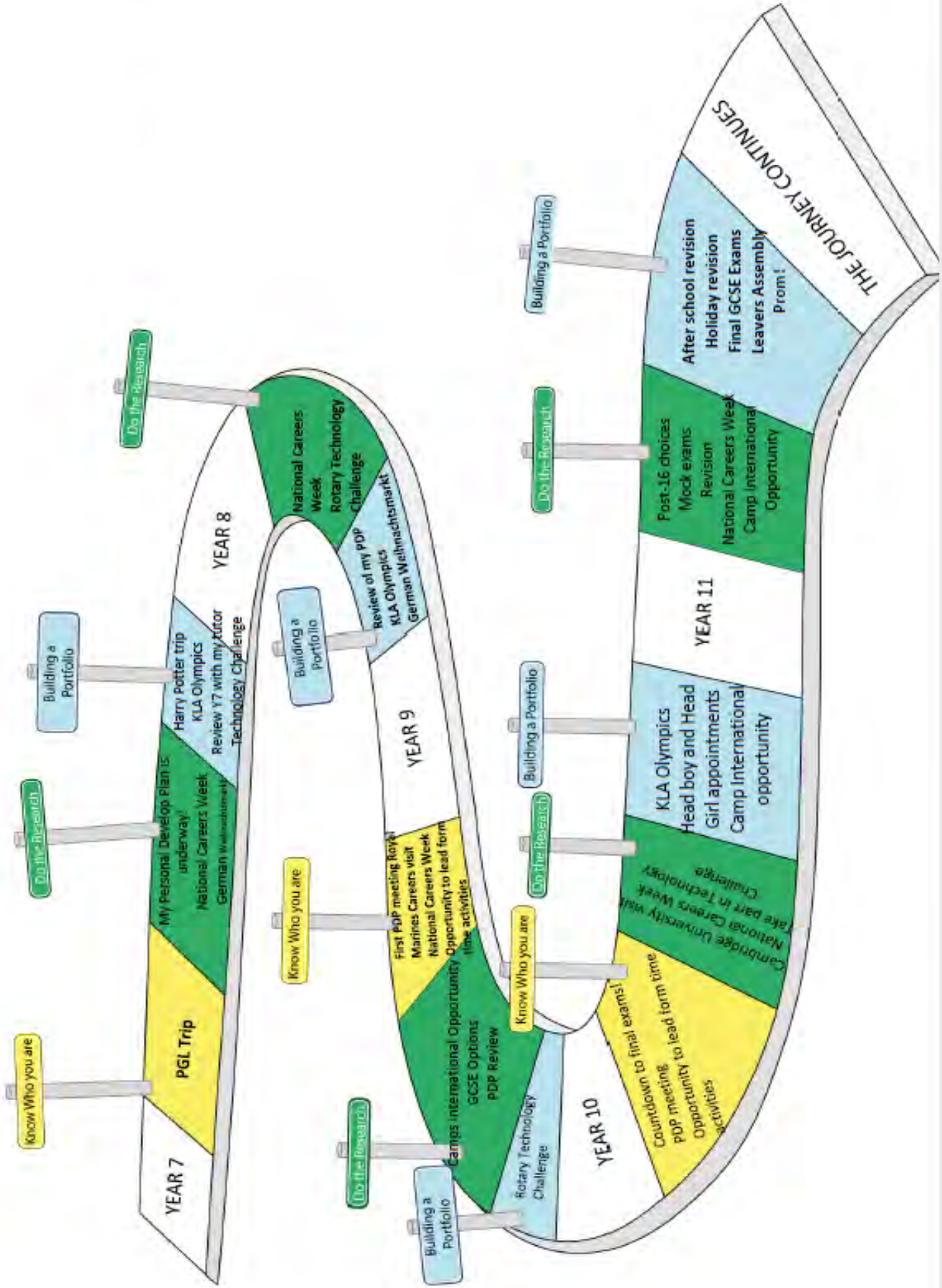
Bitesize is the BBC's free online study support resource for school-age pupils in the United Kingdom. It is designed to aid students in both school work and exams. It is an outstanding resource for both Key Stage 3 and Key Stage 4 pupils and it can be accessed without having to log into an account.

SAM Learning is another award-winning online study service independently proven to raise attainment. Pupils can use the site to revise and test themselves using practice exam papers and test questions across more than 20 subjects, in a variety of different formats that are fun, engaging and challenging.

We have been using this successfully for the last two years to prepare pupils for their Language GCSEs. Through Active Learn, pupils have full access to the textbooks which they use in class, including audio files to allow them to practice their listening skills. There is also a tasks section for specific homework set by teachers. This will consist of interactive, self-marking reading, listening and vocab learning tasks so pupils can get instant feedback on their work.

The Languages Department have been using Quizlet to help pupils build their vocabulary in the languages which they study. Every student should be signed up to their own class on Quizlet which contains lists of words that they need to know. Each list can be explored in a multitude of ways including study mode, tests and games. Pupils especially enjoy competing on the match game to see who can be the fastest in the class! This is used by all pupils.

KLA Journey Yr7 - 11



Personal Development

"All students will have taken opportunities beyond the classroom to develop their talents and interests and have enriched their overall experience of school"

Year 9 Opportunities:

- Art Club
- Musical Theatre Film Club
- Photography Club
- YouTube Club
- Weekly dance workshop – The Workshop King's Lynn
- Theatre performance trip
- Anglian Waterparks
- Sports tours (football and netball)
- Creative writing competitions held regularly, promoted by the library
- UEA trip (NEACO / Outreach programme)
- Student Commission applications and interviews
- National Careers Week
- Visit to professional football academies
- Youth Speaks – local public speaking competition
- UEA summer school
- Duke of Edinburgh
- Trips to places of work and business
- Gallery visits
- Camps International Expedition
- WW1 Battlefields Trip
- Globe Tour – Cross-curricular visit to The Globe in London
- Careers theatre productions (visiting and external)

Next Steps

Please ask a member of staff to sign here to say that you have attended

I have attended a lunchtime club at least 5 times					
I have stayed after school for a club at least five times					
I have represented the school or supported a school event					

KLA Safeguarding Team

Are you concerned about yourself or someone else?

Report your concerns to the Safeguarding Team

Mrs. Prevett

Mrs. Roberts

Mrs. Westbury

Kla.safeguarding@kla.eastern-mat.co.uk

KLA Personal Development Plan

Name	Year Group	Tutor
	9	

TERM 3 2022

Attendance	Behaviour Points	Reward Points	Exclusions
English	Performing Arts	Maths	Science
PE	History	MFL	Art
Geography	RE	Technology	ICT

Learning Targets		RAG
Orator	How clearly can I articulate my learning? Can I communicate what I have learnt and why?	
Questioner	Do I reflect enough on my own understanding and use this to ask appropriate questions?	
Discusser	How well do I participate in, lead or take other active roles in group or class discussion?	
Memoriser	How well can I recall and share my existing prior learning? How well do I do in quizzes and tests?	
Linker	Can I identify the link between prior knowledge to support my future learning? Can I see the bigger picture and understand the journey?	
Responder	How quickly and effectively do I take on feedback and use it to improve my work or overturn a misconception?	

Character Targets		RAG
Pride and School Identity	What have I done to enhance life at KLA? What have I done to promote KLA to the wider community?	n/a
Positive Traits	Which of the 6 rewards am I going to focus on? How will I aim to achieve stickers / post card / blazer bade nomination?	
Hidden Curriculum	What clubs and out of hours activities have I taken part in?	n/a
International Opportunities	What have I done to involve myself in going abroad with KLA on either a residential trip or a charity expedition?	n/a
Community	What have I done to support my community? Have I been proactive in raising funds or volunteering my time for the benefit of others?	

Learning Target I will focus on (circle or highlight)	**Orator Questioner Discusser Memoriser Linker Responder**
What will I do to improve?	
What evidence will I bring to the next meeting?	

Character Target I will focus on (circle or highlight)	**Pride Positive Traits Extra-Curricular International Community**
What will I do to improve?	
What evidence will I bring to the next meeting?	

Parent Comment:

Contact made with parent	Phone call Email Face to face	Date
PDP sent to parent via email		

How to sign up to kooth

Kooth is a FREE, anonymous, confidential, safe, online Wellbeing service, offering counselling, information, and forums for children and young people.

Access 365 days a year to counsellors who are available from:
12 noon-10pm Monday- Friday, and 6pm-10pm Saturday and Sunday

Log on through mobile, laptop and tablet.

www.kooth.com

1. Click on the **Join Kooth** button located in the centre of the home page of the Kooth website

2. Choose from the drop down box the location you are in

   The place I live is...

   Choose

3. Click on the gender you identify with

   I am...

   Male | Female | Agender | Gender Fluid

4. Choose from the drop down box the ethnicity that best fits you

   My ethnicity is...

   Choose

5. Add the month and year you were born

   I was born in...

   Year: Choose | Month: Choose

6. Create an anonymous username (not your real name) and secure password

   I would like this username

   My password will be

7. Choose from the drop down box to explain where you found out about Kooth

   Where did you learn about Kooth?

   Choose

8. Click on the **Create Account** button to complete your registration

Now that you are in you can click on the icons at the top of the page to choose from the articles, topic page, forums, or choose to talk to a counsellor by clicking the speech marks next to the turquoise circle.

To talk to a counsellor click the turquoise "Chat now button"

To write a message to the team, click on the mustard "message the team".

www.kooth.com

Self - Help Apps

Mind Shift

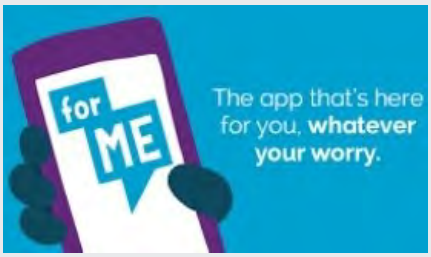
The **Mind Shift** app helps you learn how to relax, to develop more helpful ways of thinking, and identify active steps that will help you take charge of your anxiety. This app includes strategies to deal with everyday anxiety, as well as specific tools to tackle:
Test Anxiety, Perfectionism, Social Anxiety, Performance Anxiety, Worry, Panic and Conflict

Headspace

Headspace teaches you the basics of meditation and mindfulness. As well as guided meditation courses and guides exercises. As well as animations, articles and videos, all in the distinct Headspace style.

You can try Headspace for yourself and learn the essentials of meditation and mindfulness with their free Basics course

For Me



For Me is an app/website designed by ChildLine to support young people up to the age of 19. The app covers many issues, including self-harm, anxiety, bullying and body image.

Calmharm

Calmharm provides tasks that help you resist or manage the urge to self-harm.
Learn to ride the wave with the free Calm Harm app using these activities:
Comfort, **Distract**, **Express Yourself**, **Release**, **Random** and **Breathe**.

Distract: helps to combat the urge by learning self control
Comfort: helps to care rather than harm
Express Yourself: helps get feelings out in a different way

MyLife

MyLife Meditation: Mindfulness *(formally known as Stop, Breathe & Think)*
It is an award-winning meditation and mindfulness app that offers daily wellness check-ins and suggests activities personalized on how you feel. Learn to maintain perspective through your mental and physical wellness journey. Develop simple habits so you can get to a better place in just a few minutes a day.

Notes

Notes