THE BOURNE ACADEMY
KNOWLEDGE ORGANISER

everyone is a learner, everyone is a teacher

Ambitious
Self Confident
Physically Literate
Independent
Resilient
Emotionally Literate

Year 8
Autumn Term 2026-27

Name: .....

House: .....

The Bourne Academy

Knowledge Organiser – Year 8 Autumn Term

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The Bourne Academy
Knowledge Organiser: Year 8 Spring Term

Excellence at The Boume Academy: Using your Knowledge Organisers'

'Don't just practise until you get it right practise until you can't get it *wrong.'* - Daniel Willingham

Routines for Excellence

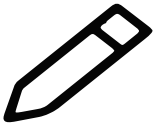
- You will get out your TBA Knowledge Organiser Booklet at the start of every lesson along with your Knowledge Organiser practise exercise book
- Your teacher will set you sections of the Knowledge Organiser to learn, off by heart, in every lesson.
- Your teacher will set you quizzes to test your knowledge every lesson.
- Your teacher will regularly set you questions that require you to APPLY your knowledge
- Your TBA Knowledge Organisers are saved on Show My Homework and on TBA website

How to revise with your Knowledge Organisers'
Self-quizzing

Look/read, cover, write and then green pen check your answers to show you where your 'knowledge gaps' are. Repeat until you have mastered the knowledge...until you can't get the knowledge wrong


Look/Read


Cover


Write


Check

Low-stakes testing
Your teachers will always have a **'Do now'** activity on the board at the start of lesson. Do as much as you can from memory. Use your Knowledge Organiser to green-pen check what you have accurately remembered. Then green pen correct. Repeat, each time checking and correcting until you have mastered your knowledge gaps.

HOW DO WE REVISE WITH OUR KNOWLEDGE ORGANISERS?

RECORD IT

Record yourself on your phone or tablet reading out the information. These can be listened to as many times as you want.

TEACH IT

Teach someone your key facts and then get them to test you, or even test them.

FLASH CARDS

Write the keyword/date on one side and the explanation on the other. Ask someone to quiz you on either side.

BACK 2 FRONT

Write down the answers and then write what the questions the teacher may ask to get those answers.

HIDE AND SEEK

Read through your Knowledge Organiser, put it down and try to write out as much as you can remember. Then keep adding to it until it is full.

SKETCH IT

Draw pictures to represent the facts or dates. It could be a simple drawing or something that reminds you of the answer,

POST ITS

Using a pack of post it notes, write out as many of the keywords or dates as you can remember in 1 minute.

PRACTICE

Some will remember knowledge by simply writing the facts, over and over again.

READ ALOUD

Simply speak the facts and dates out loud as you're reading the Knowledge Organiser. Even try to act out some of the facts - it really helps you remember.

The Bourne Academy

Knowledge Organiser: Year 8 Autumn Term – Art

A. The Pop Art Movement

Pop Art is an art movement that emerged in the United Kingdom and then the United States during the mid-to-late 1950s. Pop artists challenged traditions of fine art by including imagery from popular and mass culture, such as advertising, comic books and ordinary mass-produced objects.

D. Key Words

1) **Popular culture**: Music, TV and Cinema aimed at and enjoyed by ordinary young people.
2) **Vibrant colours**: radiant, bright and intense colours.
3) **Mass Media**: newspaper and magazine articles, published photographs, television and radio shows, music recorded for mass distribution, advertising, books, and magazines.
4) **Mass Production**: the manufacture of large quantities of a product by an automated mechanical process.
5) **Irony and satire**: Humour was one of the main features of Pop art.

B. Artists

1) Andy Warhol
2) Roy Lichtenstein
3) Keith Haring
4) Richard Hamilton
5) David Hockney
6) Claes Oldenburg
7) Yayoi Kusama
8) Tim Marrs
9) Peter Max
10) Jasper Johns

C. Origins of Pop Art

The 'Pop' in Pop Art stands for popular.

The Independent Group met in London in 1952 and included radical young artists who wanted to challenge attitudes and emphasise the impact of technology and mass culture on art.

Early Pop Art included collages and photomontages intended to recreate the barrage of mass media images experienced in everyday life.

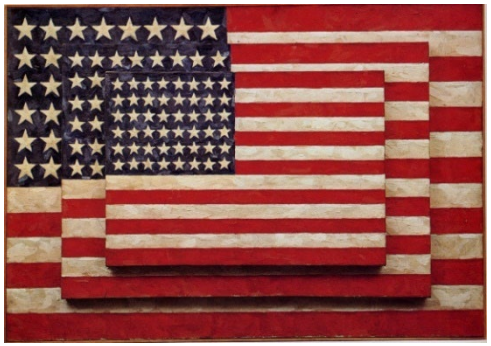
Pop artists wanted to represent the everyday elements of mass culture and the optimism of post-war society.

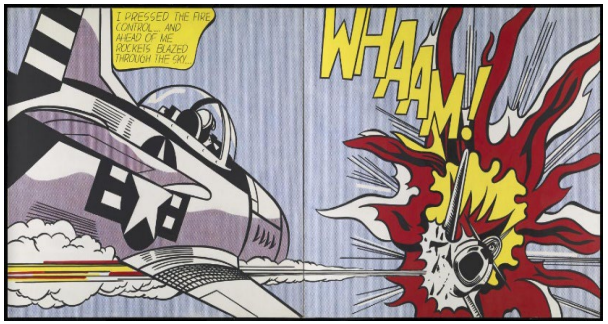
E. What were the aims of the Pop Artists?

By creating paintings or sculptures of mass culture objects and celebrities, the Pop Art movement aimed to blur the boundaries between 'high' art and 'low' culture. The idea that there is no ranking of culture, and that art may borrow from any source has been one of the most influential characteristics of Pop Art.

Pop Art aimed to employ images of popular culture in art, emphasizing the ordinary or tacky elements, most often using irony or sarcasm. Pop Art is colourful and is often associated with the artists' use of mechanical means of reproduction or rendering techniques, such as Silk-Screen printing.

These are some examples of famous Pop artworks:





Bourne Scholars Knowledge Organiser: Year 8 Autumn Term – Art

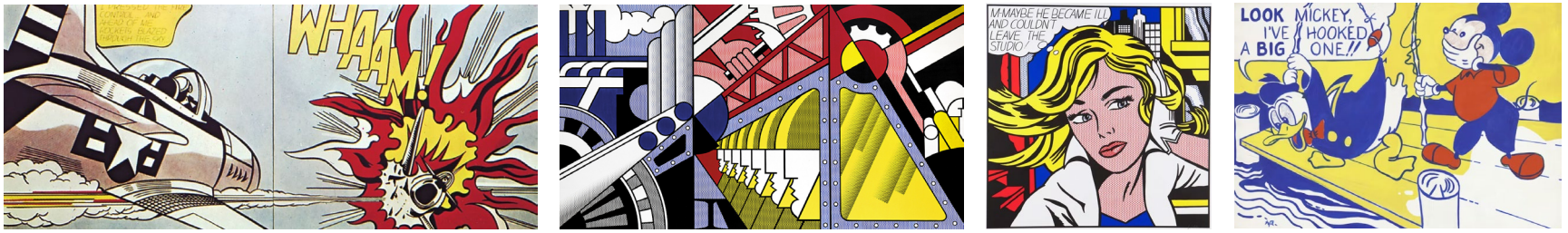
1. Pop Art:

The booming post-war western economies of the mid-1950s meant prosperity for many, particularly in America. Ordinary people had more money to spend on luxuries and entertainment.

The media and big business promoted a glossy and colourful lifestyle through advertising in cinemas, magazines, TV and comics. New bold visual styles emerged in popular culture.

2. Andy Warhol (1928 – 1987) was an American artist, film director, and producer who was a leading figure in Pop Art. Warhol created art in many ways, including painting, silk-screen printing, photography, film and sculpture. Warhol's style has been imitated many times such as in this Google banner:

3. Roy Lichtenstein (1923 – 1997) was an American painter, musician and film producer who also served in the Army. His work was not well-received by critics initially. His work defined the premise of Pop Art through parody. He became famous for his distinctive comic book style incorporating benday dots.



4. Benday dots – the Benday process named after illustrator and printer Benjamin Henry Day Jr. is a printing and photo-engraving technique dating from 1879.

The Bourne Academy

Knowledge Organiser: Year 8 Autumn Term - Computing

1. Data Types

a) Integers are whole numbers e.g. 1, 2, 3, 4

b) Float are decimal numbers e.g. 1.7, 3.25

c) Characters are any single character key you can type on the keyboard e.g. F, 5, %, #

d) String is a group of characters e.g. “hello”

e) Boolean is a data type with only two values, true or false e.g. 5 < 10 = TRUE

2. Boolean Operators

> greater than	< less than
= equal to	≠ not equal to

3. Mathematical Operators

+ addition	- subtraction
/ division	* multiplication

4. Computational Thinking

a) Decomposition is breaking down a complex problem into smaller more manageable parts

b) Abstraction making a complex problem simpler by hiding unnecessary details

c) Algorithm is a step-by-step solution

5. Programming Terms

a) Variable is a part of code storing information that can be changed

```
e.g. name = input("Type your name:")
```

b) Selection is a decision in the program

```
e.g.  if want cream hot chocolate:
          then add cream
      else:
          skip to next step
```

c) Iteration is repeating part of the code, usually in a loop

```
e.g.  while age < 18:
          attend school
      next step
```

d) Sequence is a set of instructions in order

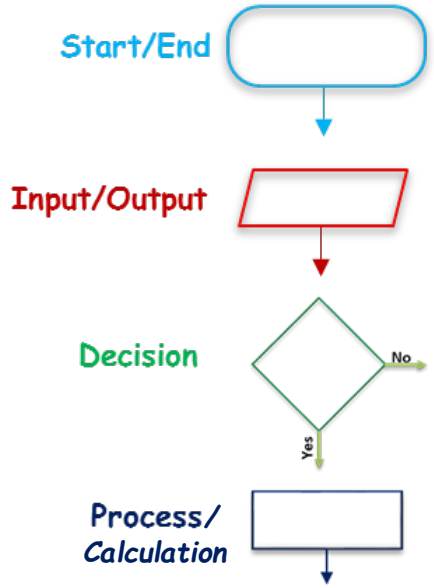
e) Syntax Errors are mistakes in the way the code is written

f) Logic Error occur when the program works but not the way it is expected to

g) Debugging is fixing errors in the code

h) Python is a general-purpose text-based programming language for a variety of uses

i) Flow Chart is a clear and visual way to plan a program or how to logically solve a problem



j) Block-Based Code is a drag-and-drop coding learning environment such as Scratch

e.g.

k) Text-Based Code creates programs with coding commands, such as using Python

```
e.g. name = input("Type your name:")
```

1. Programming Vocabulary

a) **Assignment** is setting the value of a variable in a computer program

b) **Constant** is a value in programming that does not change

c) Data is divided up and organised according to **data type**, e.g. numbers or characters

d) **Execute** a program means to run it

e) **High-level language** is a programming language, like Python, used to write programs

f) **Binary** is a base 2 number system only using 1's and 0's such as 11001100

g) **Machine code** is low-level code that represents how computer hardware and CPUs understand instructions using binary numbers

h) **Runtime** is when a computer program is executing or running

i) Python uses **indentation** (created by pressing the tab key) to identify blocks of code

j) **Syntax** is how you write code, such as using indents to identify blocks of code

k) **Computational thinking** is the ability to solve problems logically

2. Python Data Types

a) The code for an **integer** is **int**
e.g. age = int(12)

b) Code for **characters**, such as '#', '7', 'f', is **char** e.g. letter = char("g")

c) The code for **strings**, such as "Harry" is **str**
e.g. name = str("Harry")

d) The code for **Boolean**, such as "True", is **bool**
e.g. answer = bool("False")

e) To output text is **print** e.g. print("hello")

Challenge 1. Create Python code which uses a combination of all data types listed above (a-d). Go through each data type and come up with your own example in Python

Challenge 2. Create a password checker using the following steps:

1) Create a variable and make up a password
e.g. password = 123.

2) Ask the user to input their password guess
e.g. guess = input(…)

3) Using a while loop, if they get the password wrong (password != guess) it will keep looping a message that the password is wrong. Else, if they get a message the password is correct.

3. Python Turtle

a) **Module** is a pre-written chunk of code which can be loaded into your program from a library

Python has many modules in its built-in library, such as 'random', 'math', 'turtle'. The random module is used to generates random numbers and the turtle module is used to draw basic images

b) To use the turtle module in our program, we need to add **import turtle** at the start of our code

c) **Challenge** yourself by creating a range of shapes in Python using the turtle module. Ask for the "Turtle Challenge Sheet" which examples of code. Try to create the following shapes:

Challenge 3. Square (sides 100, line colour pink)

Challenge 4. Rectangle (longer sides 200, shorter sides 100, green fill)

Challenge 5. Triangle (sides 100, blue line colour, red fill)

Challenge 6. Using what you've learnt and the Turtle Snowman help sheet, create your own snowman in Python using Turtle code

Street Dance

1. Background

- Street dance evolved from popular culture and social dance in America during the 1970s and it has since spread internationally.
- People would dance anywhere that had an open available space: a park, a street or a party.
- An important feature of street dance is that this was not a style that was 'learned' it was improvised in an informal space.
- It involved interaction between the dancers and dancers/watchers and encouraged creativity in the making up and structuring of movement.

The significant feature of the history of Street Dance was that it was the dance of young people. It offered opportunities for creative expression, gave a sense of freedom and a 'voice' to unrepresented and often invisible communities through the means of music and dance.

2. Stylistic Features of Street Dance	
a. Strong, sharp movement.	Grounded legs.
b. Movement led by the torso.	Strong relationship with the music.
c. Isolated movement.	Frequent use of unison.
d. Lots of formations.	High energy.

3. Movement Examples	
a. Footwork -	A style of street dance involving fast movement of your feet with accompanying twists and turns, originating in Chicago.
b. Glides and slides	A group of foot movements that try to create the illusion that you are moving smoothly across the floor or that your legs are walking, while your body is moving in an unexpected direction.
c. Contractions	The movement of muscles that is required to move different parts of your body.
d. Knee Spin	A spin on one or both knees, typically in a kneeling position.

Dance Through the Decades

4. The Charleston

Charleston was a social jazz dance which became highly popular in the 1920s. It was based on a dance called the Juba, invented in Africa and popularized in the US in Charleston.

It was performed as a solo, with a partner or as a group.

Stylistic Features

- Quick footwork
- High energy
- Forwards and backwards kicks
- Animated facial expressions
- Swinging arm movements

5. Rock n Roll

Rock and Roll dance emerged in America in the 1950s.

Rock and Roll of the 1950s became popular with teenagers, Rock and Roll was thought to be both the result and the cause of youthful rebellion against the nation's social problems at the time. As a result of parents' complaints, the Rock and Roll industry was told to clean up its act and provide better role models for the youth of the time.

Stylistic Features

- Partner work
- Flicks and kicks
- Fast footwork
- High energy

6. Disco

Disco dancing is associated with the disco music and disco dance clubs of the 1970s. Disco dancing typically happens on the dance floor of a club, with flashing or strobing lights, huge sound systems, and a disco ball hanging from the ceiling. Disco dancing is usually freestyle, but some disco dances have a small amount of choreography.

Stylistic Features

- Side steps
- Hip movements
- Pointing fingers
- Pivot turns

1. Key Concepts	
Concept	**Definition**
a. Performance Skills	Includes facial expression, focus, posture, timing, projection, spatial awareness, energy.
b. Choreographic Devices	Canon, unison, repetition, contrast, mirroring, retrograde, accumulation.
c. Dance Actions	Travel, turn, jump, gesture, stillness, fall, transfer of weight.
d. Dynamics	Fast/slow, sudden/sustained, strong/light, flowing/abrupt.
e. Space	Levels (high, medium, low), direction, pathway, formations, proximity to others.
f. Relationships	Lead and follow, contact, counterbalance, action/reaction, mirroring, complementary.
g. Structure	Binary (AB), Ternary (ABA), Rondo (ABACA), Narrative, Episodic.
h. Stimulus	Starting point for choreography – could be visual, auditory, textual, kinaesthetic, etc.

2. Key Vocabulary	
Term	**Definition**
a. Motif	A movement phrase that is developed and repeated throughout a dance.
b. Development	Changing a motif using choreographic devices.
c. Formations	The arrangement of dancers in space – e.g., lines, circles, staggered.
d. Transitions	The links between movements or sections – must be smooth and intentional.
e. Improvisation	Creating movement spontaneously – often used in the choreographic process.
f. Rehearsal Discipline	Working collaboratively, being prepared, punctual, focused.
g. Safe Practice	Warm-up/cool down, appropriate attire, spatial awareness, hydration.

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Knowledge Organiser: Year 8 Autumn Term – Drama

1. Drama Techniques	**Definition**
a) Ensemble	A group of musicians, actors, or dancers who perform together.
b) Choral speech	Choral speech is a group of actors that are speaking or narrating at the same time.
c) Choral movement	Choral movement is a powerful technique to employ in both devised and scripted performance. A group of actors moving at the same time.
d) Split screen	In drama and theatre, the term is used to describe two or more scenes which are performed on stage at the same time.
e) Physical theatre	This is a style of theatre, where the cast make the scenery, set, and props out of their bodies to help tell the story on stage.
f) Role play	Actors take on the role of a character within a scene/performance.
g) Improvisation	Improvised drama is work that has not been scripted, the dialogue, characters and actions are made up as you go along. Spontaneous improvisation is created in the moment; a rehearsed role play is planned and prepared.
h) Character	The character you create and perform using a range of skills.
2. Drama Skills	
a) Gait	Gait is a person's pattern of walking
b) Posture	Posture is the position in which you hold your body while standing, sitting, or lying down
c) Gesture	A movement of part of the body, especially a hand or the head, to express an idea or meaning

Knowledge Organiser: Year 8 Autumn Term – Drama

3. Style of theatre	**Definition**
a) Non-naturalistic	Non-naturalistic theatre is a broad term for all performance styles that are not dependent on the life-like representation of everyday life
b) Bertolt Brecht	Bertolt Brecht was born in Germany in 1898 and died aged 58 in 1956. He was a poet, playwright and theatre director. His most famous plays include Life of Galileo, Mother Courage and Her Children and The Caucasian Chalk Circle.
c) Stanislavski	Stanislavski was a Russian theatre practitioner who was born in 1863. His style focused on techniques like emotional memory, objectives, and the "magic if" to help actors create believable and deeply human performances.
4. Vocal skills	**Definitions**
a) Pitch	Pitch, in speech, the relative highness or lowness of a tone.
b) Pace	How fast or slow you are moving or speaking
c) Tone	An individual way of speaking to express an emotion
d) Projection	Voice projection involves the use of a loud, clear voice.

5. Evaluating	**Step One**	**Step Two**	**Step Three**
A. What went well?	Select either a physical or vocal performance skill to evaluate	While you watch the performance look out for specific examples of how the skill is being used and the impact it has.	The way the group used _____ was very successful because it showed the audience that…… .
B. Even Better If…			The group could improve further by adding ……. This would have shown the audience that…… .

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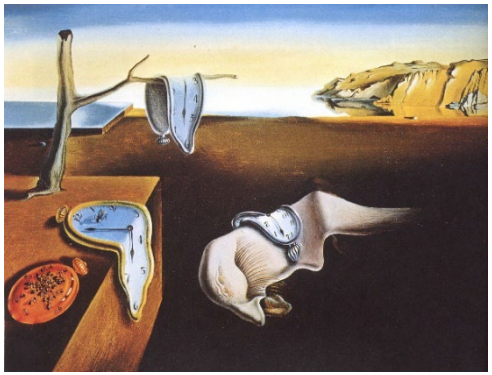
Bourne Scholars Knowledge Organiser: Year 8 Autumn Term - Drama

1. Higher order thinking – How to devise from a stimulus.

You will devise a short piece based on the painting below.



a) Research

This painting is The Persistence of Memory by Salvador Dali. Complete extensive research around the painting to help you understand the Social, Historical, Cultural and Ethical aspects of the piece.

What style will your piece be?

1. Naturalistic
2. Non-Naturalistic

b) Creative Intentions.

What are your creative intentions for the piece? What do you want your audience to feel? Is there a specific message?

2. Problem Solving – The Design Aspect

When in the planning/design phase of your performance, both lighting and sound are important aspects.

a) Lighting Design – Design 5-10 different lighting states that will enhance your performance. Do you have a spotlight? Any colours? Red, Blue, Green, or White?

b) Sound Design – Would any specific sounds or music help to support your creative intentions?

c) Costume – Design the costumes for your main characters. What is your rationale behind the costumes? Why did you choose certain items? How much would the costumes cost? Add this to your budget.

What is your estimated total cost?

3. Describe and Explain how the following link to The Persistence of Memory.

Social

Historical

Cultural

Ethical

4. Analyse and Develop

Giving feedback to your actors as a director is a vital part of creating a performance.

How do you decide what is a good idea?

How do you select material that is of a high standard and how do you reject certain material?

1. Conventions	Definition
a) Convention	The way in which something is usually done.
b) Detective	A person whose occupation is to investigate and solve crimes.
c) Motive	A reason for doing something.
d) Deduction	A conclusion that can be drawn from certain facts.
e) Suspect	A person who is believed to be guilty of committing a crime.

2. Speech marks	Rules
a) “ ”	**1.**Each new character’s speech starts on a new line. **2.**You need a piece of punctuation before the speech eg. a comma. **3.** Speech is opened and closed with speech marks. **4.** Each line of speech starts with a capital letter. **5.** The line of speech ends with a comma, exclamation mark or question mark inside the speech marks.

3. Structural Elements	Definition
a) Exposition	The beginning of a narrative where the readers learn the characters and setting.
b) Rising Action	A series of relevant incidents in a narrative that create suspense, interest and tension.
c) Climax	The most intense, exciting or important point of a narrative.
d) Falling Action	A series of incidents in a narrative where the suspense and tension decreases.
e) Resolution	The final stage of a narrative in which the main conflict is resolved.
f) Foreshadowing	A hint at a future event.
g) Foreboding	A feeling that something bad will happen.
h) Semantic Field	A group of words that all link with one topic or theme.
i) Tension	A feeling of mental or emotional strain.
j) Characterisation	The way an author creates a character through their actions, appearance and dialogue.

1. Key Concepts	Definition
a) Propaganda	Information, especially of a biased or misleading nature, used to promote a political cause or point of view.
b) Patriotism	Devotion to and vigorous support for one's country.
c) Conflict	Fighting between countries or groups of people
d) Jingoism	Extreme patriotism, especially in the form of aggressive or warlike foreign policy
e) Conscription	Compulsory enlistment for state service, typically into the armed forces

2. Key Terminology	Rules
Symbolism	The use of symbols to represent ideas or qualities.
Assonance	A repeated vowel sound for aural effect.
Anaphora	A repeated word or phrase at the start of successive lines in a poem.
Metaphor	A direct comparison of two ideas or objects.

3. Poems	Information
a) Who's for the Game (1915)	Written by Jessie Pope at the start of WWI- propaganda poem-persuasive extended metaphor of a game, trivialising the war itself and encouraging young men to join up.
b) In Flanders Field (1915)	Written by John McCrae a Canadian poet, soldier, and physician as a memorial to those who died in Ypres. Natural imagery, determined tone to show how valued these men were.
c) The Soldier (1914)	Written by Rupert Brook, a deeply patriotic and idealistic poem that expresses a **soldier**'s love for his homeland—in this case England, which is portrayed as a kind of nurturing paradise.
d) Joining the Colours (1914)	Written by Katharine Tynan depicting the jubilation as a village of young men join the war effort and are celebrated with a joyous parade.

4. Non-Fiction Types	Definition
Letter	Correspondence between two people in writing.
Memoir	Historical account written from personal knowledge.
Article	Written journalism found in a newspaper.

Autumn Term 1 – Detective Writing

1. Extension Activities	Details
a) Detective authors	Research a famous detective author. Make a list and for each one provide an example of the detective novel they have written. Example authors: Agatha Christie / Arthur Conan Doyle.
b) Detective fiction	Write a recipe for a detective story, using typical recipe language. For example: Take a large spoonful of… add a pinch of... stir through...
c) Detective cases	Create your own case file including suspect profiles, details about the crime and witness statements.
2.Extended Vocabulary	**Definition**
a) Sleuth	Someone who looks for information to solve crimes.
b) Antagonistic	Acting closed off and frustrated towards something/someone.

Autumn Term 2 – World War 1

1. Extension Activities	Details
a) Attitudes towards 'The Great War'.	Research the public view of 'The Great War' both at its start, in 1914, and how this had changed by its culmination in 1918.
b) Correspondence from the front	Write a letter as a soldier on the front line to his parents/best friend explaining his experience of war. Remember to use your letter conventions i.e. Dear Father… Yours sincerely…
c) Armistice	Write a poem for Remembrance Day remembering the key ideas of sacrifice, struggle, resilience and victory.
2.Extended vocabulary	**Definition**
a) Oxymoron	Something (such as a concept) that is made up of contradictory or incongruous elements.
b) Cynicism	A general distrust of the motives of others.
c) Extended metaphor	A metaphor that unfolds across multiple lines, or paragraphs, making use of multiple related metaphors related to the same idea.

The Bourne Academy

Knowledge Organiser: Year 8 Autumn Term Hospitality & Catering

(1) Key Word	Definition
a) **Debone**	To remove bones from meat or poultry before cooking.
b) **Hygiene**	Keeping yourself and your kitchen clean to prevent food poisoning.
c) **Gluten**	A protein in wheat flour that gives bread elasticity and structure.
d) **Emulsify**	Mixing two liquids that normally separate, like oil and vinegar in coleslaw dressing.
e) **Contamination**	When harmful bacteria are spread from one food or surface to another.
f) **Cross-Contamination**	Transfer of bacteria between raw and cooked foods.
g) **Bacteria**	Microscopic organisms that can cause food poisoning if not controlled.
h) **Macronutrients**	The organs responsible for gas exchange in mammals, birds, reptiles, and amphibians.
i) **Micronutrients**	Vitamins and minerals needed in small amounts for health.
j) **Personal Hygiene**	Actions that keep the body clean to prevent the spread of bacteria in food.

(3) Macronutrients

Nutrient	Function	Examples
Protein	Growth and repair of cells	Meat, fish, beans, eggs
Fat	Energy, warmth, protects organs	Butter, oil, cheese, nuts
Carbohydrate	Main source of energy	Bread, pasta, rice, potatoes

Macronutrients are nutrients needed by the body in large amounts, including **protein**, **fat**, and **carbohydrates**, which provide energy, growth, and repair.

(4) Micronutrient

Nutrient	Function	Food Source	Deficiency
Vitamin A	Good eyesight, healthy skin	Carrots, eggs	Poor vision
Vitamin C	Healing, immune system	Citrus fruits, peppers	Scurvy
Vitamin D	Strong bones and teeth	Oily fish, sunlight	Rickets
Iron	Carries oxygen in blood	Red meat, spinach	Anaemia
Calcium	Healthy bones and teeth	Milk, cheese	Weak bones

Micronutrients are vitamins and minerals that support good health.

(2) Vegetable cuts

Vegetable cuts are used to improve presentation, ensure even cooking and create professional results. The main cuts include **julienne**, which are thin matchstick-sized strips often used for salads or stir-fries; **brunoise**, which are tiny, neat cubes made from julienne pieces; **baton**, which are thicker rectangular sticks used for crudités or chips; and **chiffonade**, which involves rolling leafy vegetables or herbs like spinach or basil and slicing them into fine ribbons.

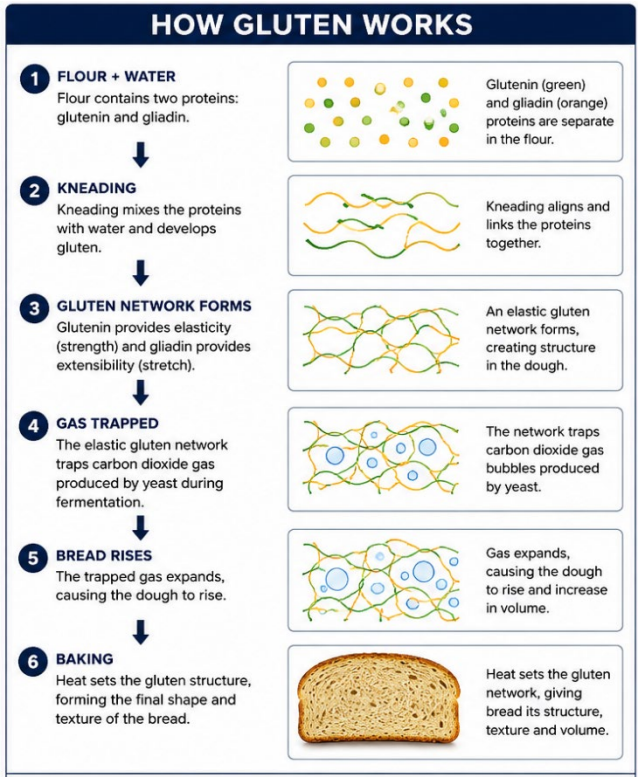
Bourne Scholars Knowledge Organiser: Year 8 Spring term – Hospitality and Catering

1. The Science of Bread Making

Gluten is formed when water is mixed with flour and develops through kneading. Gluten creates an elastic network that traps carbon dioxide produced by yeast during fermentation. This allows bread to rise and develop its structure.

Scholar Question:

Why would bread made with strong bread flour usually rise higher than bread made with plain flour?

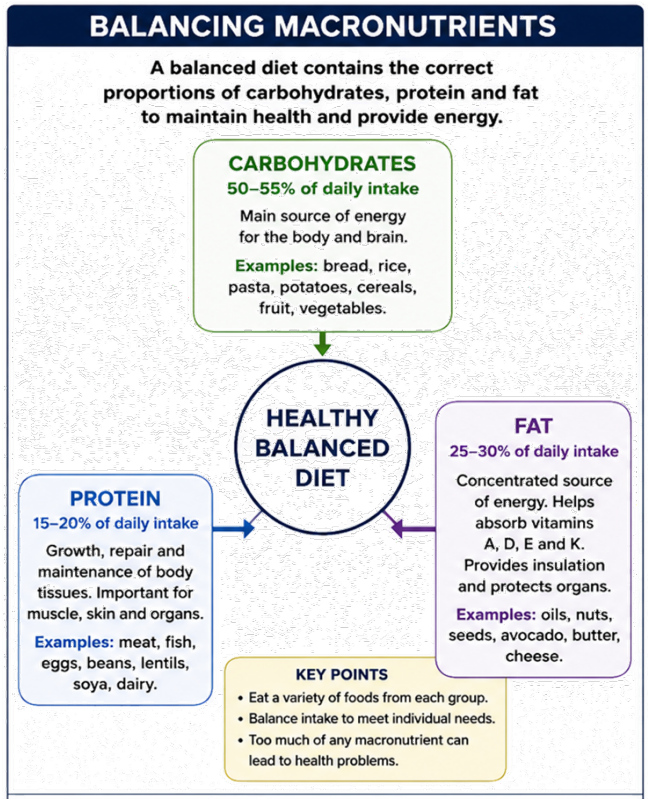


2. Balancing Macronutrients

A balanced diet contains the correct proportions of carbohydrates, proteins and fats. Athletes, children and elderly people may require different amounts depending on their needs and lifestyle.

Scholar Question:

Should athletes consume more protein than the average person? Explain your answer**.**



3. Food Poisoning and Personal Hygiene

Bacteria can spread quickly through poor personal hygiene and cross contamination. Professional kitchens use strict procedures to reduce the risk of food poisoning.

Scholar Question:

Which do you think is more important: personal hygiene or kitchen hygiene? Justify your answer.

4. Food Fortification

Food fortification is the process of adding nutrients to foods to improve public health. Examples include adding calcium to bread flour and vitamin D to some dairy products. Fortification can help reduce nutrient deficiencies across a population.

Scholar Question:

Should governments require more foods to be fortified with vitamins and minerals? Explain your answer.

5. Professional Knife Skills

Professional chefs use precise knife cuts to improve presentation, reduce waste and ensure even cooking. Consistency in size helps ingredients cook at the same rate and creates a professional appearance.

Scholar Question:

Why is a brunoise cut more difficult to achieve than a baton cut?

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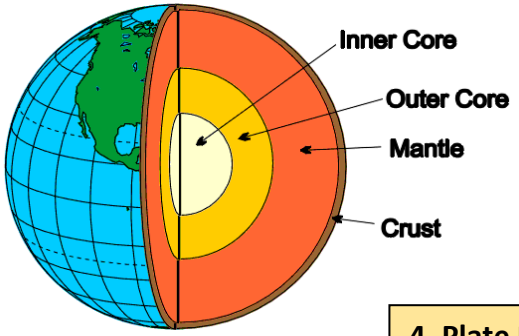
Knowledge Organiser: Year 8 Autumn Term - Geography

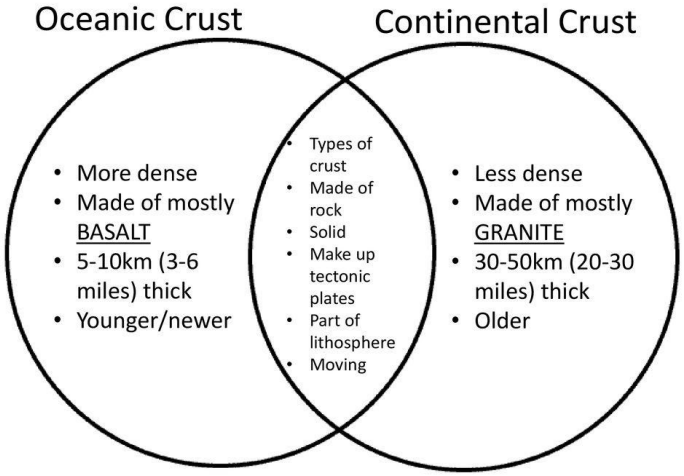
1. Key Vocabulary

a. Earth's structure (layers)	1. inner core, outer core, mantle and crust
b. Tectonic plates	2. large portions of the earth's crust that move because of convection currents in the mantle
c. Convection currents	3. rivers of molten rock that move underneath the crust and slowly drag tectonic plates
d. Earthquake and volcano preparation	4. monitoring, prediction, protection, planning
e. Development	5. The process of change that affects people's lives.
f. Life Expectancy	6. The average age a person can expect to live to.
g. Literacy Rate	7. The % of people that can read and write beyond the age of 15.
h. Development Indicators	8. Ways of measuring a countries progress and development. For example literacy rate.
i. HIC	9. High Income Countries – Some of the most development countries in the world (UK, France , USA…)
J NEE	10.Newly Emerging Economy – Countries that rapidly becoming more developed (China, Brazil, Nigeria….)
k. LIC	11.Low Income Countries- Some of the least developed countries in the world (Ethiopia, Afghanistan…)

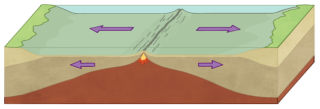
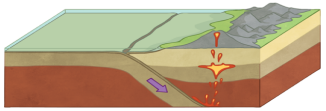
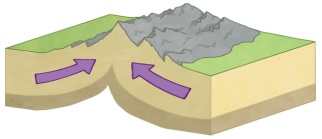
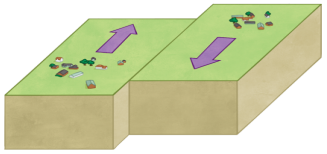
2. Structure of the Earth



3. Oceanic and Continental Crust



4. Plate Boundaries

Type of boundary	Diagram	What happens?
Constructive		Magma rises up, melts the mantle & crust. **Plates are pushed apart,** magma fills the gap and cools to construct new land. Small earthquakes and gently erupting shield volcanoes are created.
Destructive		Plates **push together**. Denser, heavier oceanic crust **slides underneath** continental crust. Extremely powerful earthquakes happen here and some of the most explosive stratovolcanoes.
Collision		Plates **push together**. Crust is same type and weight, so **both push upwards** creating fold mountains. Extremely powerful earthquakes happen here but no volcanoes are created.
Conservative		Plates pushed in **opposite (or same) direction**. Rub alongside each other building pressure and friction. Extremely powerful earthquake happen here but No volcanoes, because no rock is being melted.

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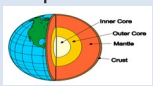
Knowledge Organiser: Year 8 Autumn Term - Geography

5. Plate Tectonics in Oceania and South East Asia: How do plates move?

The structure of the Earth

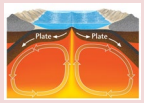
The Earth is separated into four layers:



The inner core: a ball of solid iron and nickel
The outer core: liquid iron and nickel
The mantle: semi-molten rock (magma) that moves slowly
The crust: thin, outer layer divided into slabs of rock called tectonic plates

Tectonic plates are moving because of convection currents in the mantle underneath the crust. The places where plates meet are called plate margins or plate boundaries. This is where tectonic activity (volcanoes and earthquakes) occurs.

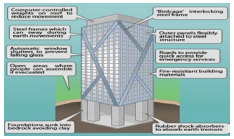
Convection Currents



1. The core heats the molten rock.
2. The molten rock rises because it is light.
3. When the molten rock reaches the crust (the plate) it drags the plate with it in the direction it is going.
4. The molten rock will lose its heat when dragging the plate.
5. The molten rock becomes cool and heavy and falls back towards the core.

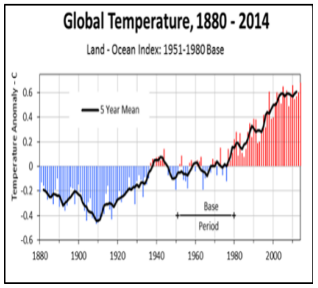
Plates either move towards each other (**destructive** or **collision** margin) away from each other (**constructive**) or slide past each other (**conservative**)

6. How can we prepare for earthquakes and volcanoes?

Monitoring	Prediction
Seismometers measure earth movement and a seismograph records earthquakes. 	Scientists study historical records of earthquakes at plate margins and have identified locations that they believe are at most risk. 
Protection	**Planning**
Reinforced buildings and making building foundations that absorb movement. Automatic shut offs for gas and electricity 	Avoid building in at risk areas Training for emergency services and planned evacuation routes and drills. 

7. Causes of human made global warming

Evidence for climate change shows changes before humans were on the planet. So some of it must be natural but recent changes in the climate can be put down to human activity.



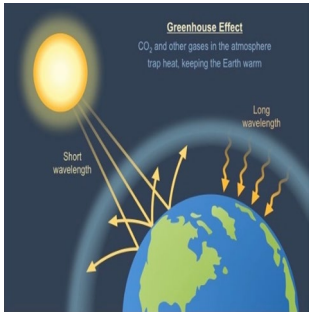
Human Causes

>Burning Fossil fuels – release carbon dioxide with accounts for 50% of greenhouse gases

>Deforestation – logging and clearing land for agriculture increases carbon dioxide in the atmosphere and reduces ability to planet to absorb carbon through photosynthesis.

>Agriculture – accounts for around 20% of greenhouse gases due to methane production from cows etc. Larger populations and growing demand for meat and rice increase contribution.

8. How does the release of greenhouse gases result in global warming?



>Step 1: Solar radiation reaches the Earth's atmosphere - some of this is reflected into space.
>Step 2: The rest of the sun's energy is absorbed by the land and the oceans, heating the Earth.
>Step 3: Heat radiates from Earth towards space.
>Step 4: Some of this heat is trapped by greenhouse gases in the atmosphere, keeping the Earth warm enough to sustain life.
>Step 5: Human activities such as burning fossil fuels, agriculture and land clearing are increasing the amount of greenhouse gases released into the atmosphere.
>Step 6: This is trapping extra heat and causing the Earth's temperature to rise.

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Bourne Scholars Knowledge Organiser: Year 8 Autumn Term – Geography

Place - when you locate a place you need to discuss its **relationship to other places**. **Task:** Complete a CLOCC description of a city using the map in your planner.

1)

C - Continent - Christchurch is in the continent of Oceania. **L** - Latitude - New Zealand exists at 40 degrees south of the equator. **O** - Oceans - Neighbouring oceans include the south Pacific. **C** - Country - Christchurch is in the country of New Zealand. **C** - Capital The capital of New Zealand is Wellington.

Inequality - this is experienced after hazards. **Question:** Why do LIC suffer more than a HIC after a hazard?

2)

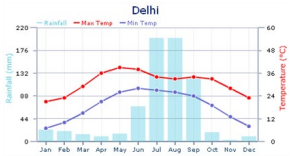
A.Christchurch Earthquake 2011
1. 185 killed
2. 3129 injured
3. 100,000 properties damaged
4. $28 billion of damages caused

B. Nepal Earthquake 2015
1.8632 killed
2.19,009 injured
3.Hundreds of thousands of people made homeless
4. Economic loss was 50% of GDP

Time - when you look at any: graph, chart or the formation of a feature you need to consider how a factor has **changed over time.**

3)

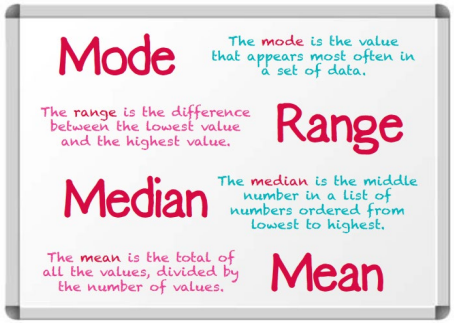
Month	Temp	Rainfall
January	8	120mm
February	9	125mm
March	11	140mm
April	12	105mm



Task: create a dataset and draw a graph to

Mathematical Skill - when we look at a data set, we can find patterns or meaning in it by calculating the following:

We can use the: mean, median, mode and range to look at data and **make decisions about it**



Task: write out strings of numbers and calculate the: mean, median, mode and range

4)

Enquiry - there will be opportunities for you to carry out **enquiry**. **Task:** Choose a debate and back it up with evidence

1. The Taal eruption affected people more than it affected places
2. Christchurch is not vulnerable to earthquakes or volcanoes
3. Oceania is rich
4. Pollution of the Citarum doesn't matter - it is halfway across the world.
5. Cities are done changing.
6. We cannot prepare for earthquakes and volcanoes?
7. Overpopulation is going to happen.

5)

Sustainability - "meeting our needs, without compromising needs of the future generations"

Question: Consider the sustainability of fast fashion brands along the Citarum River

Advantages
>Fast Fashion allows for more affordable clothing
>The textile industry provides jobs for people on manufacturing lines

Disadvantages
>Pollution causes ailments such as organ damage, itchiness,and impetigo
>Crop yields have reduced causing huge losses for farmers.
>Over 60% of the fish in the Citarum have died

6)

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Knowledge Organiser: Year 8 Autumn Term – History (Getting the Vote)

A. Timeline

1	**1800**	Whether a person could vote was based on where they lived and what they owned. No women could vote.
2	**1897**	**Millicent Fawcett** established the NUWSS.
3	**1903**	**Emmeline Pankhurst** established the WSPU.
4	**1914**	The First World War began and women began war work.
5	**1918**	Women over the age of 30 who were property owners or who were married to a man who owned property were given the vote.
6	**1928**	All women and men aged over 21 could vote.

B. Key Individuals

1	**Millicent Fawcett**	Formed the NUWSS and believed in logical argument to persuade people to support votes for women.
2	**Emmeline Pankhurst**	Used more violent methods to raise the profile of women's suffrage.
3	**Marion Wallace Dunlop**	The first imprisoned Suffragette to go on hunger strike.
4	**Emily Davison**	Jumped in front of the King's racehorse to raise the profile of women's suffrage.

C. Key Words/Terms

1	**MP**	A Member of Parliament is the person elected by all those who live in a particular area to represent them in the House of Commons
2	**Constituency**	An area represented by an MP
3	**Franchise**	Those who could vote in an area
4	**Rotten boroughs**	An area with only a few voters but at least one MP
5	**Democratic**	In a democracy the people have a say in how the government is run. They do this by voting.
6	**Angel in the House**	Women had to create a comfortable and loving home, where her husband and children would be supported and protected from the evils of the outside world.
7	**Spheres of influence**	Women's influence was restricted to the home, men were charged with working and politics.
8	**Suffrage**	The right to vote in elections
9	**Suffragists**	Organisation of women who believed in peaceful protests.
10	**Suffragettes**	Organisation of women who believed in militant tactics.
11	**Conservatism**	Commitment to traditional values and ideas with opposition to change
12	**Liberalism**	Respect of people's freedom and equality
13	**Reform**	To change something, making it better.

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Knowledge Organiser: Year 8 Autumn Term - History (The First World War)

A. Summary
The First World War started in 1914 when tensions that had been building up between European countries since 1871 suddenly exploded into war.

B. Key Words	
1. Balance of power	A situation where countries have roughly equal power to each other.
2. Mobilise	Prepare and organize troops for active service.
3. Kaiser	German word for emperor. Used the describe the head of unified Germany after 1871.
4. Great powers	Countries that have international influence and military strength.
5. The Balkans	An area in south-east Europe that included Albania, Bosnia, Bulgaria, Herzegovina, Greece, Kosovo, Macedonia, Montenegro, Serbia and Turkey.
6. Alliance	An agreement between countries that benefits each of them.
7. Annex	Seizing an area of land and making it part of your country.
8. Conscription	Forcing people to join the army, rather than relying on people volunteering.
9. Allied forces	British troops and those of Britain's allies.
10. Mutiny	When soldiers or sailors' rebel and refuse to follow orders.

C. Timeline	
1. 1870-71	The Franco-Prussian War. France declared war on Prussia following an insulting telegram. France lost and Germany was created.
2. 1897	The Schlieffen Plan was for Germany to avoid fighting Russia and France at the same time. The plan was to quickly attack and defeat France first, before turning to fight Russia.
3. 1898	The new Kaiser, Wilhelm II announced his intention to build a powerful German navy.
4. 28 June 1914	Franz Ferdinand, heir to the Austro-Hungarian Empire was assassinated in Bosnia by the Black Hand. The Black Hand was young Serbian army officers, and their aim was to unite all Serbs in the Balkans.
5. 28 July 1914	Austria-Hungary declares war on Serbia and shells Belgrade, Serbia's capital.
6. 1 August 1914	Germany declares war on Russia and mobilises its army. French troops prepare for war.
7. 3 August 1914	Because of the Schlieffen Plan, Germany declares war on France and invades Belgium to get to France.
8. 4 August 1914	Britain had promised to defend Belgium as a neutral country and declares war on Germany.
9. December 1914	It was clear the Schlieffen Plan had not worked. The German advance into France had not been quick because Belgian, French and British troops had fought back more strongly that anticipated.
10. January 1916	British parliament passed an Act that introduced conscription into the British army for the first time: it became compulsory for single men ages between 18 and 41 to join up. Later in the year, it was extended to include married men.
11. 1 July 1916	The Battle of Somme was an allied attack on German trenches. By the end of the first day, 57,470 Allied and 8,000 German soldiers were dead or wounded.
12. 1918	The First World War was the worst the worst war the world had seen. 616,382 British servicemen were killed. Most of those who died were men ages between 18 and 25.

AO1: Demonstrate knowledge and understanding of the key features of the periods studied.

1.1 Chronology
- Create an A3 timeline of the fight for women's suffrage from the establishment of the NUWSS.

1.2 Historical Terminology
- Define the following words: Suffrage, Parliament, Constituency, Collaborate, Capitalist, Boycott, Conscription, Dual Standards, Propaganda

1.3 Key Features (Historical Knowledge)
- Explain TWO events in the 20th century which influenced politicians' attitudes to women's suffrage.

AO2: Explain and analyse historical events and periods studied using historical concepts.

2.1 Change & Continuity
- Research how the WSPU changed their attitude to women's suffrage during the First World War and then their attitude following the end of the war.

2.2 Cause and Consequence
- Record 3 arguments that would be used to argue against women having the vote.

2.3 Significance
- Research and evaluate the impacts of Emily Davison on the fight for women's suffrage. How did people react?

AO3: Analyse, evaluate and use primary sources to make judgements.

3.1 Valid inferences
- What can you infer from the source about the conditions of the trenches?

3.2 Nature, Origin, Audience, Purpose
- What is the nature, origin, audience and purpose of the source?

December 1915 Reached trenches at 5.30. Bullets and bomb fragments bursting over our heads. Slept in a dug-out, lying with legs over one another and hundreds of rats as big as rabbits crawling all over us and biting holes in bags of our rations.
From the diary of Sergeant William Whitmore

3.3 Usefulness
- What might the limitations of the source be for a historian researching conditions of the trenches?

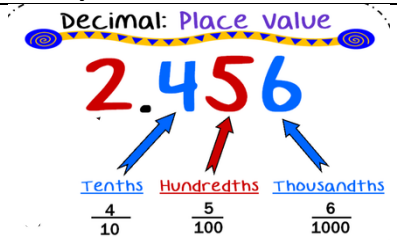
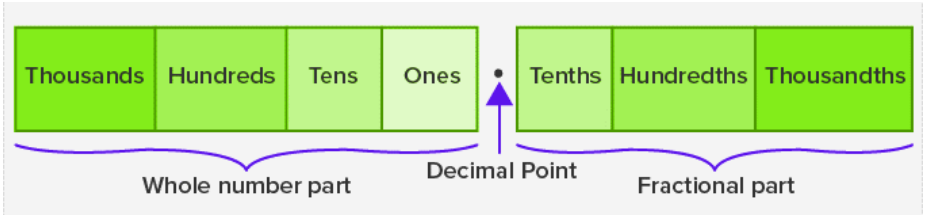
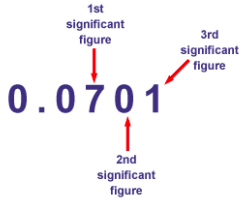
AO4: Analyse, evaluate and make judgements about interpretations.

4.1 Identifying views
- What is the view given by Spring about the gains made from the experiences of war?

4.2 Analysing interpretations
- What evidence can you find to support Spring's view?

4.3 Evaluating Interpretations
- Find two interpretations to support Spring's view and find two interpretations to counter Spring's view. Which do you agree with? Why?

High velocity bullets and shrapnel produced severe wounds. X-rays of bones became commonplace. Bone surgery developed as a highly skilled branch of surgery. Despite steel helmets, 10 percent of all injuries were to the head. Surgery to the eye, face, ear, nose and throat, and brain, and plastic surgery developed rapidly under war stimulus
From C. Spring, *Medicine at War,* published in 1970.

1. Keyword	Definition	Example	2. Decimal Place Value Chart
a. Decimal Place	The position of a digit to the right of a decimal point.		
b. Significant Figure	The digits in a number that make it meaningful in relation to its place value. Significant figures start from the first non-zero digit.		**3. Worked Examples**
c. Error Interval	The upper bound and lower bound of a number which provides a range of possible values that a number could have been before it was rounded.	A number rounded to 1 decimal place is 0.6 The error interval is: $0.55 \leq x < 0.65$	
d. Approximation	Roughly calculate or judge the value or number of something $\approx$ means approximately.	The approximate height of the man is 1.8 metres Height ≈ 1.8 m	
e. Estimate	Approximate an answer. Round each number in the calculation to one significant figure.	$63 + 38 \approx 60 + 40$ ≈ 100	**4. Sparx Independent Practice Codes** M111, M431, M994, M131, M878, M730

a. Round 14.582 to one decimal place

14.582

The digit 5 is the first decimal place

The digit 5 is next to 8, meaning the 5 rounds up to 6.
Answer = 14.6

b. Work out an estimate for the value of $\frac{48.7 \times 61.2}{11.3}$

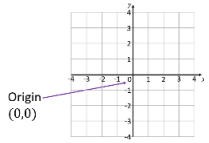
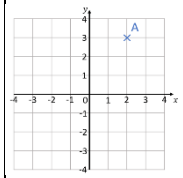
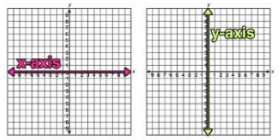
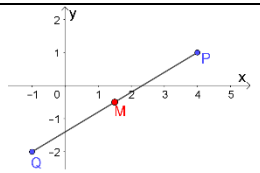
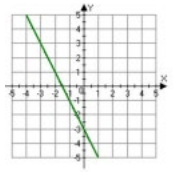
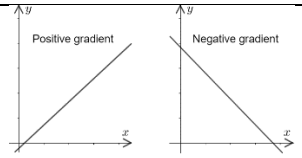
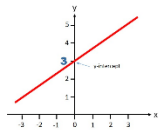
$\frac{48.7 \times 61.2}{11.3} = \frac{50 \times 60}{10}$

i. Round the numbers to one significant figure,

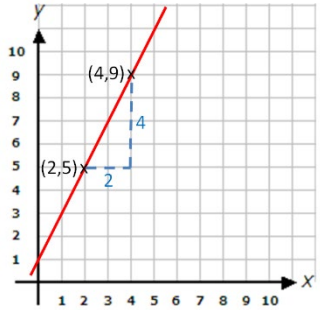
$\frac{3000}{10} = 300$

ii. Carry out the calculation.

Knowledge Organiser: Year 8 Autumn Term - Mathematics - Linear Graphs

1. Keyword	Definition	Example
a. Origin	Where the x and y axis intersect (meet). The coordinate of the origin is $(0,0)$	
b. Co-ordinates	Co-ordinates are numbers giving the position of a point on a graph where they meet on the x and y axis. The order is always (x, y)	 The coordinate of point A is $(2,3)$
***c.* x axis and y axis**	The horizontal axis or the line $y = 0$ The vertical axis or the line $x = 0$	
d. Midpoint	A coordinate point that is halfway between two other points on a line segment (part of a line)	 M is the midpoint of P and Q
e. Linear Graph	A graphical representation of a straight line. It is represented by a formula given in the format $y = mx + c$	
f. Gradient	The gradient of a line is a measure of how steep the line is. It is referred to as the letter m in the formula. $Gradient = \frac{change\ in\ y}{change\ in\ x}$	
g. y intercept	Where a line intercepts (crosses) the y axis. It is referred to as the letter c in the formula.	

2.Worked Examples



a. Calculate the gradient of the line

$$Gradient = \frac{change\ in\ y}{change\ in\ x} = \frac{4}{2}$$

$$Gradient = 2$$

b. State the coordinates of the y intercept of the line

The y intercept is at the point $(0,1)$

c. Write the equation of the line in the form of $y = mx + c$

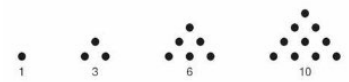
m means gradient $\quad m = 2$

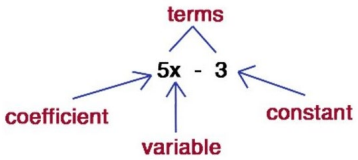
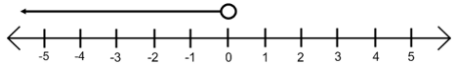
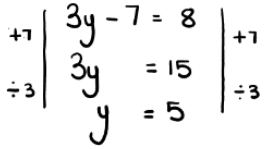
c means y intercept $\quad c = 1$

The equation of the line is $y = 2x + 1$

3.Sparx Independent Practice Codes:

M618, M622, M797, M932, M544, M888, M843, M771, M205

1.Keyword	Definition	Example	2. Worked Examples
a. Sequence	A list of numbers or objects in a special order		a. What is the term-to-term rule of this sequence? $\overset{\times 2}{1},\ \overset{\times 2}{2},\ \overset{\times 2}{4},\ \overset{\times 2}{8},\ \overset{\times 2}{16},\ \overset{\times 2}{32}$ The term-to-term rule is multiplying the previous term by 2 b. Find the nth term of the following sequence: $\overset{+3}{3},\ \overset{+3}{6},\ \overset{+3}{9},\ \overset{+3}{12},\ \overset{+3}{15}$ The nth term is $3n$ c. Find the 5th term of the sequence with the rule $4n - 1$ 5th term means $n = 5$ $4 \times 5 - 1 = 19$ The 5th term is 19
b. Ascending	Increasing in size (smallest to largest)	$3,\ \overset{+4}{\rightarrow}\ 7,\ \overset{+4}{\rightarrow}\ 11,\ \overset{+4}{\rightarrow}\ 15,\ \overset{+4}{\rightarrow}\ 19,\ \overset{+4}{\rightarrow}\ \ldots$	
c. Descending	Decreasing in size (largest to smallest)	$6 \quad 2 \quad -2 \quad -6 \quad -10$ $-4 \quad -4 \quad -4 \quad -4$	
d. Term	A value within a sequence. The first term in the sequence is when $n = 1$	1, **3**, 5, 7, 9… 3 is the second term of the sequence	
e. Linear Sequence	A sequence going from one term to the next by adding or subtracting the same number. Also known as an arithmetic sequence	$1, \quad 5, \quad 9, \quad 13, \quad 17$ $+4 \quad +4 \quad +4 \quad +4$	
f. Geometric Sequence	A sequence going from one term to the next by multiplying or dividing by the same number.	**2, 4, 8, 16, 32** **x2 x2 x2 x2**	
g. nth term	The nth term is a formula used to find any term in a sequence. The 'n' stands for the term number. It is usually written as an expression in terms of n.	$4, 7, 10, 13, 17 \ldots$ The nth term of the sequence is $3n + 1$	**3. Sparx Independent Practice Codes:** M381, M241, M166, M991, M866, M418, M981

Forming and Solving Equations and Inequalities					
1. Keyword	**Definition**	**Example**	**Keyword**	**Definition**	**Example**
a. Expression	A statement using numbers and letters.	$4x + 8$	**h. Integer**	A whole positive or negative number including 0.	$-5 \quad 100 \quad \frac{10}{2}$ These are all integers
b. Variable	A symbol or letter used to represent an unknown value		**i. Inequality**	A relationship between two expressions that are not equal	$<$ less than $\leq$ less than or equal to $>$ greater than $\geq$ greater than or equal to $\neq$ not equal to
c. Simplify Expression	Also known as collecting like terms, which are terms that have the same variable and power	$3y + 2x + 4x - y + 6$ Simplified expression is $2y + 6x + 6$	**j. Satisfy an Inequality**	Find the values that make the inequality true	$-3 < x \leq 2$ The integers that satisfy the inequality are: $-2, -1, 0, 1, 2$
d. Equation	A statement showing that two expressions are **equal**	$6y = 12$ $5x + 4 = 24$	**k. Inequality on a Number Line**	Use open or filled circles to show the values of an inequality ○ means $<$ or $>$ ● means $\leq$ or $\geq$	$x < 0$  $x \geq 2$ 
e. Solve	To find the value of a variable in an equation or inequality				
f. Inverse Operation	The opposite or reverse calculation	The inverse of addition is subtraction. The inverse of multiplication is division	**2. Sparx Independent Practice Codes:**		M813, M830, M175, M428, M417, M327, M208, M979, M795, M531, M949, M120, M237, M792, M960, M100, M908, M707, M509, M554, M957, M384, M118, M732
g. Substitution	Replace a letter with a value	Find the value of $2a$ when $a = 5$ *so* $2 \times 5 = 10$			

1. Mathematical vocabulary

Define each of the words given.
Give an example for each.

a. Fibonacci sequence
b. Triangular numbers
c. Geometric sequence

2. Mathematician Research

Who are they?
What are they famous for?
What contributions have they made to maths?

Srinivasa Ramanujan Iyengar

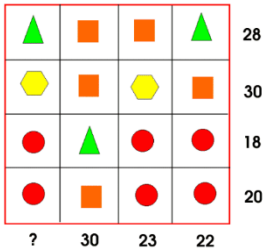
3. Watch

BBC Magic Numbers Mysterious World of Maths 1of3 720p HDTV x264 AAC MVGroup org - YouTube (58 mins 45 Secs)

4. Thinking Mathematically

a. What's it worth?

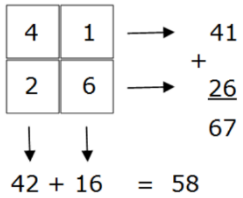
Each symbol has a numerical value. The total for the symbols is written at the end of each row and column.



i. Can you find the missing total that should go where the question mark has been put?
ii. Can you find any other ways of solving the problem?
iii. Can you create your own mild, medium, hot version?
iv. Watch this webinar for students. https://youtu.be/G-r8MzmlqSU

b. Add to 200

Choose any four digits (from 0, 1, 2, ... , 9) and place them in the cells below (you can repeat digits).
Read the vertically add them together. Read them horizontally and add them together.



i. Is there a quick way to tell if the total is going to be even or odd?
ii. Can you make a total of 200?
iii. How many ways are there of doing this?
iv. Which numbers between 0 and 396 is it possible to make?
v. What if we used 3 digits?

58 + 67 = 125

c. The Simple life

i. True or false, when you simplify all the expressions below they all give the same solution?

$$3(x+6y)+2(x-5y)$$
$$4(2x-y)-3(x-4y)$$
$$-2(5x-y)+3(5x+2y)$$

ii. Here are 5 expressions

$(x+y)$ $(x+2y)$ $(x-2y)$ $(x+4y)$ $(2x+3y)$

Choose any pair of expressions and add together multiples of each like in part i.

iii. Can you create your own set of expression for this to work?
iv. What about with 3 variables?

5. Short Problems

a. Jane made a mistake when writing down a multiplication, and she multiplied by 54 instead of 45. Her answer was 198 more than it should have been.
What number did she multiply 54 by?

b. A book has 89 pages, but the page numbers are printed incorrectly. Every third page number has been omitted, so that the pages are numbered 1,2,4,5,7,8,... and so on.
What is the number on the last printed page?

c. Granny's watch gains 30 minutes every hour, whilst Grandpa's watch loses 30 minutes every hour. At midnight, they both set their watches to the correct time of 12 o'clock. What is the correct time when their two watches next agree?

The Bourne Academy

Knowledge Organiser: Year 8 Autumn Term - Music

1. Elements of Music – Keywords in Music

a) Pulse	Steady beat, like a heartbeat.
b) Rhythm	A pattern of note durations.
c) Pitch	How high or low a note is. (Example: The piano played a high-pitched note).
d) Tempo	The speed of the music (Example: The tempo of the music was fast/slow).
e) Dynamics	How loud or quiet the notes are played. (Example: Make sure the dynamics for this melody are played loudly/quietly).
f) Melody	The main tune of a piece of music.
g) Harmony	The sound when notes are played together.
h) Texture	How many layers are in the music (thick or thin).

2. Features of Reggae

a) Rhythm	Strong off-beat feel on the 2 and 4 – skank rhythm, syncopation.
b) Tempo	A moderate or slow tempo – relaxed in feel.
c) Texture	Layers of instruments. Chords, bassline, drum beat, riff, vocals.
d) Dynamics	Often steady throughout.
e) Structure	Verse and chorus pattern / Pop song structure.
f) Melody	Often used of guitar or keyboard riff; a short-repeated melody.
g) Bassline	Repetitive and syncopated – creates the groove.
h) Instrumentation	Drum kit, Bass guitar, Electric pianos (Fender Rhodes), Electric guitar, Percussion, Lead vocals, Backing vocals.

3. Listening and Appraising

Listen for:

a) Offbeat chords played by the keyboard or guitar.
b) Bass groove. Syncopated (using dotted note durations or quavers).
c) Repetition. Riff from the guitar or the keyboard.
d) The texture. How does it change throughout the song.
e) Are there backing vocals?
f) What are the lyrics about?
g) What instruments do you hear?

4. Ukulele strings and riff

```
A|–––––––––|--------|--------|--------|
E|–––––––3|--0--  --|–––––3|--0-----|
C|––––0 2 0–|---2-0-|--0 2 0–|----2-0 |
G|–––––––––|  –––––|--------|--------|
```

5. Performing Skills

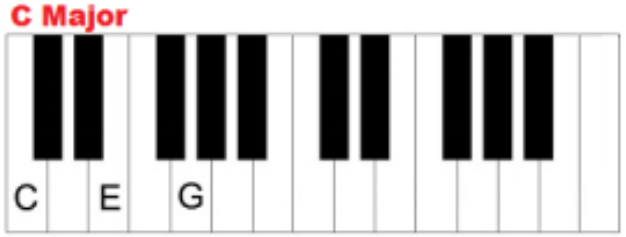
To perform successfully you need to:

a) Keep a steady pulse
b) Listen to others
c) Change chords on time
d) Play on the offbeat for chords
e) Play together accurately
f) Sing out

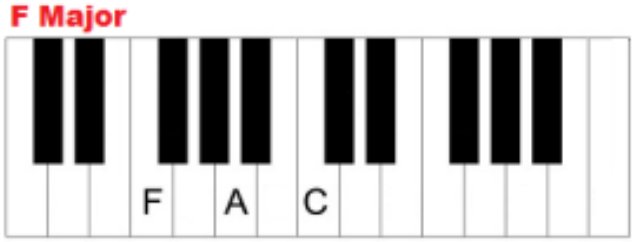
6. Chords

2 or more notes played at the same time. They accompany **melodies** and create **harmony**.

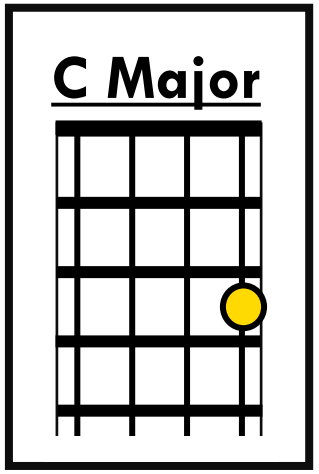
a)



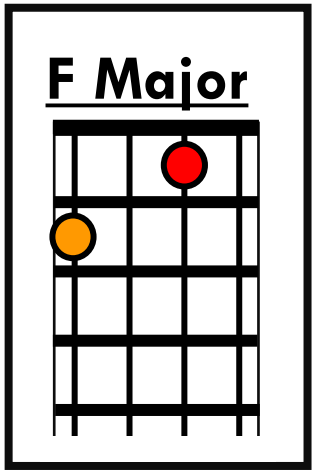
b)



c)

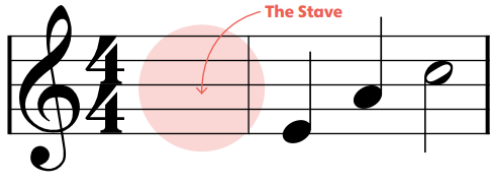
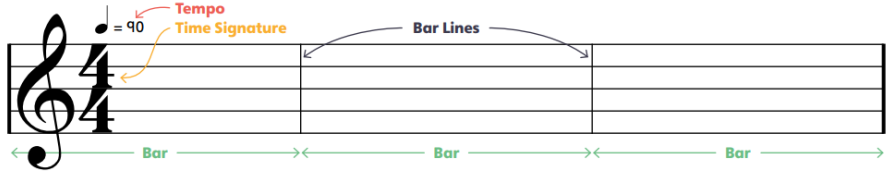


d)



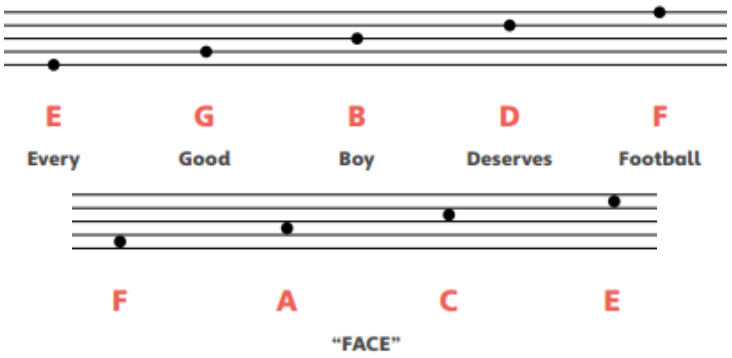
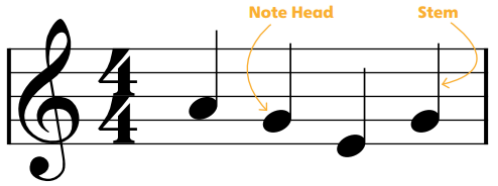
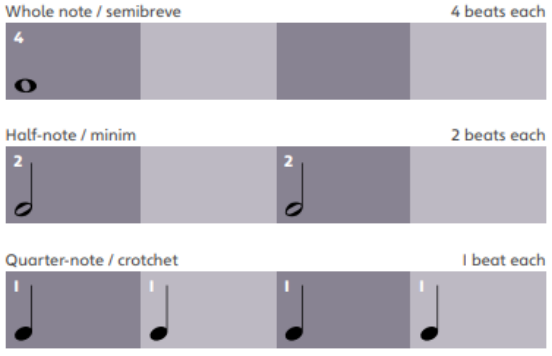
Bourne Scholars Knowledge Organiser: Year 8 Autumn Term - Music

1. Keywords and Definitions

Keyword	Definition	Example
a) Stave	The stave consists of five lines. Notes can be placed on any of these lines or any space between the lines.	
b) Bars	Music is divided into groups of beats called bars. Vertical lines on the stave are called bar lines. They show where each bar begins and ends.	
c) Tempo	The tempo of a piece tells us how fast or slow it is.	
d) Time Signature	The time signature tells us how many beats there are in every bar, and what kind of beat it is.	
e) Clef	This is the treble clef. It tells you which note each line and space of the stave represents. There are lots of different kinds of clefs which place the notes on different lines and spaces. The piano uses two – the treble clef and the bass clef.	
f) Musical Alphabet	Each note in music has a letter, from A to G. We call this the 'musical alphabet' and you will find this on the white keys of the piano.	

Bourne Scholars Knowledge Organiser: Year 8 Autumn Term - Music

2. Keywords and Definitions

Keyword	Definition	Example
a) Notes	The notes that fall on the lines of the stave can be remembered by the phrase 'Every Good Boy Deserves Football' – or you could make up your own. The spaces between the lines can be remembered easily because they spell the word 'FACE'. If you get stuck, remember 'FACE in the space!'	
b) Rhythm	The rhythms in musical notation are described on the stave by different note heads and stems. These tell you where in the music each note should be played and how long it should be played for.	
c) Duration	Musical notes last for different lengths of musical time, called beats. Beats can be fast, slow, or anything in between, depending on the tempo (speed) of the music. • A note that lasts for four counts, or beats, is called a whole note or semibreve • A note that lasts for two counts, or beats, is called a half note or minim. • A note that lasts for one count, or beat, is called a quarter note or crotchet.	

Knowledge Organiser: Year 8 Autumn Term – Physical Education: Invasion Sports

1. Tactical Awareness	
a) Switching Play	Moving the ball from one side of the pitch to the other. This pulls defenders out of position to create attacking opportunities.
b) Width	Spreading players out across the pitch near to the sideline. This gives you an opportunity to switch the play and gives players more time on the ball.
c) Player for player marking	Each defender marks a specific attacker. This limits space and makes it harder for attackers to receive the ball.
d) Zonal marking	Defenders guard a set area instead of a specific player. This is more organised and prevents gaps from opening in defence.
e) Formation	The structure or layout of players on the pitch. This keeps players organised and helps balance attack and defence.
2. Technique	
a) Passing	Use a range of passes such as through balls and bounce passes to break defensive lines and exploit space.
b) Receiving	Receive the ball whilst scanning the pitch and moving into space to prepare you for your next action.
c) Dribbling	Use changes of pace and feints to beat defenders. Keep your head up to spot teammates and opportunities.
d) Shooting	Select the right technique (e.g. power) based on the situation. Shoot quickly whilst under pressure while maintaining control.
e) Defending	Use a low stance to force attackers away from the goal. Choose whether to tackle, delay or intercept based on their movement.

Knowledge Organiser: Year 8 Autumn Term – Physical Education: Invasion Sports

3. Leadership and Roles

a. Referee/ Umpire	b. Coach	c. Manager	d. Captain
Enforces rules, ensures fair play and makes final decisions.	Teaches skills, gives feedback and improves team performance.	Organises the team, plans fixtures and handles administration.	Leads by example, motivates team and communicates on field.

4. Key Vocabulary

a) Possession	Maintaining control of the ball as a team. Achieved through successful passing and making space.
b) Transition	Switching between attack and defence quickly within a game.
c) Pressing	Applying pressure to opponents to regain the ball.
d) Marking	Staying close to an opponent to prevent them receiving or using the ball.
e) Overload	Outnumbering opponents in a specific area of the game (e.g. 3 vs 2 in attack).
f) Respect	Valuing rules, opponents and officials regardless of the result.
g) Communication	Using verbal and non-verbal cues to support teammates.

Bourne Scholars Knowledge Organiser: Year 8 Autumn Term – Physical Education

1. Higher Order Thinking	2. Research
a) Choose a position in an invasion sport and describe the role of a player in that position. b) Define the term 'fair play' and discuss how it is linked to officiating in team sports. c) What is more important for a midfield player in football, passing, shooting or defending? Justify your answer.	a) Research an invasion sport that we have not covered within PE lessons. Find out about the key rules, skills, techniques, positions and tactics. b) Apply skills from other invasion sports to the new sport that you have researched. What similarities are there and what are the differences?
3. Application	**4. Analysis**
a) During a game of basketball, you notice that the other team is tall and good at blocking shots. How would you adapt your attacking tactics and skills to overcome this defensive challenge? b) Holly is a 30-year-old women, she plays hockey on a Saturday. Holly is an attacking player. Explain what this means and what skills she will need to be good at. c) Why is teamwork important to a successful team? Can you give an example from a sport you play or watch.	Watch the clip of the England netball team winning gold at the Commonwealth games by following scanning the QR code. Analyse the following skills and tactics used to allow them to score a last second winning goal. - Knowledge of the rules - Creating space - Using a range of passes

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Knowledge Organiser: Year 8 Autumn Religious Studies

1. Key Words

a. **Human Rights** – basic entitlements of all humans because they are humans
b. **Prejudice** – prejudging someone as inferior or superior without cause
c. **Discrimination**– acts of treating groups or individuals differently, based on prejudice
d. **Extremism** – Believing in and supporting ideas far away from what most consider correct
e. **Personal conviction** – Something a person feels strongly or believes in
f. **Social justice** – promoting a fair society but challenging injustice and valuing

2. Christian Attitudes towards human rights

- All people are created in God's image – characteristics of God are reflected in human beings so human life should be valued and not destroyed.
- Agape love – selfless, unconditional love – foundations of all the principles of Christian social teachings
- Liberation Theology – Jesus' example was to help liberate those in need, he could be seen as a 'robin hood' like figure supporting the vulnerable.

3. Muslim Attitudes towards human rights

- Every human has worth and should have their dignity protected as an absolute right. Life is given by God and cannot be taken away.
- Muslims are expected to oppose injustice and oppression.
- The Qur'an teaches of equality for all humans, who have special duties in creating a just and fair society.

4. Case Study: Oscar Romero

- A Christian Archbishop of San Salvador
- His friend and fellow priest Rutilio Grande was murdered
- He used his position to speak out against the inequality and human rights violations occurring against the people of El Salvador
- He was assassinated in 1980

5. Case Study: Suffragettes

- Victorian women had few rights
- Until 1884 wives were listed as property of their husbands
- 1903 – The Suffragettes movement was formed
- Women fought & campaigned for their rights
- 1918 - Women over 30 had the right to vote

Martin Luther King

- A charismatic Christian Baptist Minister, who fought against racism and inspired many others to join him
- He used non-violent methods of protests to support civil rights for black Americans.
- People of all races and religions joined his protests.
- He staged sit ins, marches and speeches.
- He followed his religious beliefs and the example of Jesus so 'turned the other cheek' when violence was used against him and his supporters.
- He gave a number of inspirational speeches, include 'I have a dream in 1963.
- He won the Noble Peace Prize in 1964.
- He was assassinated in 1968.

Malcolm X

- His original surname was 'Little' which highlighted his family roots being linked to slavery
- He had a tough upbringing, after his father's death, mother's hospitalisation and being placed into many care-homes
- He was written off as a failure even though he was a very bright and capable student
- He was arrested and imprisoned.
- He became a Muslim and found his calling in life as a human rights activist.
- He was a vocal spokesman supporting civil rights for black Americans but was prepared to use force to have his message heard.
- He criticised Martin Luther King's emphasis on non-violence

Rosa Parks

- A quiet Christian middle aged woman, who was an American activist in the civil rights movement
- In 1955, in Montgomery, Alabama she refused to leave her seat to allow a white woman to sit in it
- She was arrested and charged with disorderly conduct
- This act of defiance lead to the Montgomery Bus Boycotts, where people refused to ride on the buses because of Rosa Parks arrest and the inequality that faced people in America at that time
- Martin Luther King helped lead the boycott which lasted for over a year
- But the Supreme Court eventually ruled that segregation

Malala Yousafzai

- A young Muslim girl, who believed and stood up for equality at all costs.
- She campaigned for the rights of girls to be educated
- Started when she was 11 using an online blog highlighting her views on promoting the right for girls to be educated which brought media attention to the issue
- She was issued with death threats for this from the Taliban
- She was shot in the head on her way home from school by the Taliban to silence her
- She survived and despite suffering severe injuries.
- Continues to campaign for issues of social justice

A) Challenge Tasks	B) Research Challenge	C) Wider Links Challenge
1. Create 10 true or false statements on today's topic 2. Transform your learning into a series of images using up to 5 words 3. Plan an alternative lesson about what we have learnt today 4. Construct a timeline showing your learning through today's lesson 5. Produce a summary of today's lesson – then reduce the number of words used to a single sentence or three bullet points 6. Turn today's learning outcomes into questions 7. Select 5 key terms that you have used today and create a summary using all of the terms 8. Create 5 questions your teacher might ask about today's learning 9. Use a thesaurus to add more ambitious vocabulary into your work 10. If today's lesson were an album, what would it be called? What songs would be on it? 11. Include three quotations / arguments to support your answer 12. Add a justified conclusion to your evaluative writing	**Human Right Individuals** A. Research Elizabeth Fry (Christianity) B. Research C.S. Lewis (Christianity) C. Research Shirin Ebadi (Islam) D. Research Fahma Mohammed (Islam) E. Research Mahatma Gandi (Hinduism) F. Research Emmeline Pankhurst (suffragettes) G. Research Greta Thunberg (suffragettes) H. Research your own role model that you think has made a positive different, e.g. Marcus Rashford, etc. **Human Right Groups** I. Research Christian Aid J. Research the salvation army K. Research Islamic Relief L. Research and find quotations that support why Christian's campaign for human rights M. Research and find quotations that support why Muslim's campaign for human rights	I. Use the internet to find any examples of human rights being broken / issues II. Evaluate why human rights abuses still occur? Is there any solution? III. Describe the impact of today's learning on your wider outlook IV. Explain how you might use today's learning outside of school V. Describe how today's learning relates to another of your subjects

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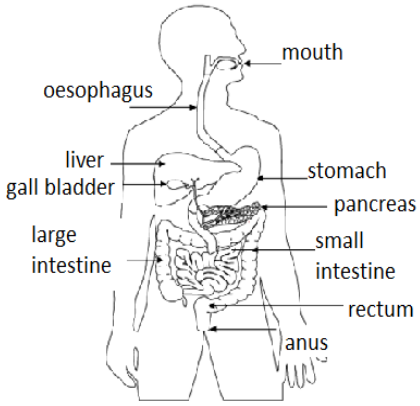
Knowledge Organiser: Year 8 Autumn Term Science B4 Breathing and Digestion

(1) Key Word	Definition
a) Alveoli	Tiny air sacs in the lings, where gas is exchanged during breathing.
b) Bile	A substance produced in the liver. It emulsifies fats to prepare them for digestion.
c) Bronchi	The plural of 'bronchus'. The bronchi are the two major air tubes in the lungs.
d) Bronchioles	The many small, branching tubules into which the bronchi subdivide.
e) Diaphragm	A large sheet of muscle that separates the lungs from the abdominal cavity.
f) Digestion	The breakdown of large insoluble food molecules to smaller soluble ones.
g) Enzyme	A protein which catalyses or speeds up a chemical reaction.
h) Lungs	The organs responsible for gas exchange in mammals, birds, reptiles, and amphibians.
i) Respiratory System	The organ system where the air is taken into and out of the body, and gas exchange happens.
j) Trachea	The windpipe, the tube that leads from the mouth towards the lungs.

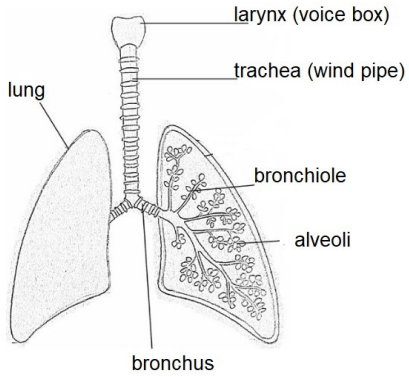
(2) Digestion

The organs of the digestive system are adapted to break large food molecules down into smaller ones which can travel in the blood to cells, and are used for life processes. This is known as

(3) The Digestive System



(4) The Respiratory System

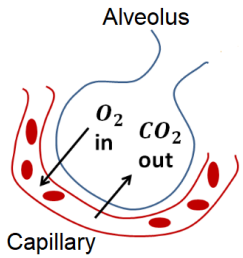


(5) Gas Exchange

The diffusion of oxygen from the air into the blood and the diffusion of carbon dioxide from the blood into the air.

The alveoli are adapted to for gas exchange:

- Alveoli increase the surface area of the lungs.
- Alveoli have very thin cell walls to allow substances to easily pass through.
- Alveoli are surrounded by lots of blood capillaries, which allow the gases to be transported through the body.



(6) **Enzymes** are proteins that break food down into smaller molecules. Different enzymes break down different food types.

- **Amylase** breaks starch into sugar
- **Protease** breaks down proteins into amino acids
- **Lipase** breaks down lipids (fats) into fatty acids

The Bourne Academy

Knowledge Organiser: Year 8 Autumn Term Science C4 Elements, Matter and the Periodic Table

(1) Key Word	Definition
a) Atom	The smallest particle of an element that can exist.
b) Chemical formula	Shows how many of each type of atom in a compound.
c) Chemical Properties	Describes how an element, or group of elements behaves in a chemical reaction.
d) Compound	Two or more **different** elements that have been chemically joined.
e) Element	A substance that is made up of only one type of atom.
f) Group	Columns on the Periodic table.
g) Mixture	Two or more substances that are not chemically joined (can be the same elements).
h) Molecule	Two or more atoms that have been chemically joined (can be the same type of atom).
i) Period	Rows on the Periodic table.
j) Periodic Table	A table that shows all of the elements arranged in rows and columns.

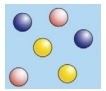
(2) Elements, Compounds and Mixtures

Element

An element is made of one type of atom only.

Compound

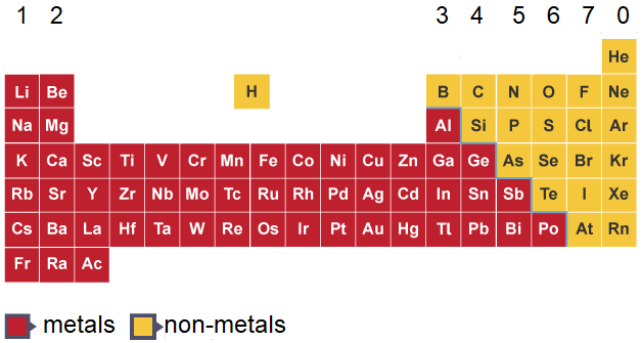
Two or more elements that have been chemically joined.



Mixture

Two or more substances that are not chemically joined

(3) The Periodic Table of Elements



The vertical columns are called **groups**. Elements in a group all react in a similar way.

The horizontal rows are called **periods**.

All elements have **symbols** and **names.**

(4) Metals and Non-metals

Metals are found on the left of the periodic table and non-metals are found on the right. **Properties of metals and non-metals are below.**

Metals	Non-metals
Solid at room temperature (except mercury)	Solid, or gas at room temperature (except bromine).
Good conductors of electricity and heat	Poor conductor (good insulators)
Shiny, strong, malleable (can be bent)	Dull, soft, brittle (they can shatter)

(5) Facts to Learn

Group 1 contains reactive metals called the **alkali metals**.

Group 7 contains reactive non-metals called the **halogens**.

Group 0 contains unreactive non-metals known as the **noble gases**.

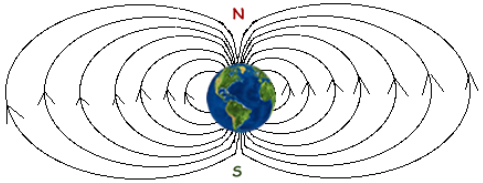
(6) Chemical Formula: how many of each type of atom in a compound?

H_2O: the chemical formula for water.

There are **2 hydrogen** atoms and **1 water atom**

(1) Key Word	Definition
a) Electromagnets	A non-permanent magnet which can be turned off and on by controlling the current through it.
b) Magnetic pole	The area at either end of a magnet where the magnetic field is strongest. We call them (N) and (S).
c) Magnets	A material that produces a magnetic field. Iron, cobalt and nickel are magnetic materials.
d) Permanent magnet	A magnet made from a magnetic material (iron, cobalt, or nickel). It cannot be turned off like an electromagnet.
e) Solenoid	A long piece of wire that has been wrapped into a coil. A solenoid is part of an electromagnet.

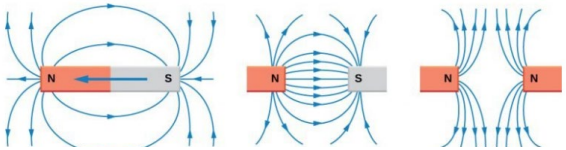
(2) The Earth's magnetic field



The Earth behaves like a huge magnet. It produces a magnetic field which runs from north to south. The field lines are most concentrated at the poles.

The north-seeking pole of a compass is attracted to the Earth's north pole. This allows us to navigate with a map.

(3) Magnets

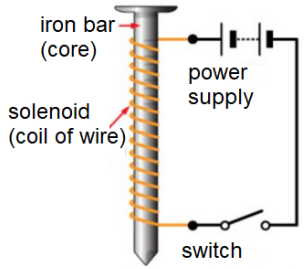


Like poles **repel** each other and **unlike** poles **attract** each other.

The field lines run from north to south. The stronger the magnet, the more field lines it will have.

The magnet is strongest at the poles. The magnetic field is strongest closer to the magnet and decrease with distance.

(4) Electromagnets



When a current flows through a wire, it causes a magnetic field. An electromagnet is a length of wire wrapped into a coil and attached to a power supply. An iron core inside the coil makes the electromagnet stronger. If the current is turned off, the electromagnet will no longer work.

(5) We can change the strength of an electromagnet in three ways:

- Increasing the number of coils in an electromagnet will increase the strength of the electromagnet.
- Adding an iron core to the solenoid (the coil of wire) will increase the strength of the electromagnet.
- Increasing the current flowing through the solenoid will increase the strength of the electromagnet.

Knowledge Organiser: Year 8 Autumn Term Science B4 Breathing and Digestion

(1) Key Word	Match The Definitions to Key Words
a) Alveoli	The plural of 'bronchus'. The bronchi are the two major air tubes in the lungs.
b) Bile	Breathing in and out.
c) Bronchi	The windpipe, the tube that leads from the mouth towards the lungs.
d) Bronchioles	A substance produced in the liver. It emulsifies fats to prepare them for digestion.
e) Diaphragm	The organs responsible for gas exchange in mammals, birds, reptiles and amphibians.
f) Digestion	The many small, branching tubules into which the bronchi subdivide.
g) Enzyme	A large sheet of muscle that separates the lungs from the abdominal cavity.
h) Lungs	The breakdown of large insoluble food molecules to smaller soluble ones.
i) Respiratory System	Tiny air sacs in the lungs, where gas is exchanged during breathing.
j) Trachea	A protein which catalyses or speeds up a chemical reaction.
k) Ventilation	The organ system where air is taken into and out of the body, and gas exchange happens.

(2) The Digestive System

a) Describe the movement of food through the digestive system.

b) Explain the function of the gall bladder in the digestive system.

c) How is the small intestine specialised to aid in nutrient absorption?

(3) The Respiratory System

a) Describe the movement of air through the respiratory system

b) Explan why the trachea contains cartillage.

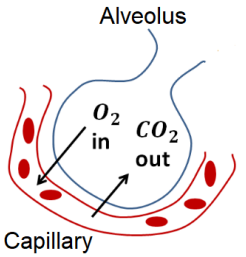
c) Explain what happens during an asthma attack and what can trigger it.

(4) Gas Exchange

a) Describe 3 ways the alveoli are specialised to aid in rapid gas exchange and justify how these specialisms help.

b) Give the name of the blood vessel that surrounds the alveoli. Why are other types blood vessels not found there?

c) State the component of blood that carries the oxygen away from the alveoli and explain how it is specialised.



(5) Digestion

a) How is the digestive system adapted to break down large food molecules?

b) What small molecules aid in the breaking down of large food molecules? Give some examples.

(6) Enzymes

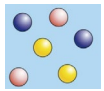
a) Research the lock and key theory. How can this theory be used to explain how substances are broken down?

(1) Key Word	Match The Definitions to Key Words
a) Atom	Rows on the Periodic table.
b) Chemical formula	A substance that is made up of only one type of atom.
c) Chemical Properties	A table that shows all of the elements arranged in rows and columns.
d) Compound	Two or more atoms that have been chemically joined (can be the same type of atom).
e) Element	Columns on the Periodic table.
f) Group	Shows how many of each type of atom in a compound.
g) Mixture	Two or more **different** elements that have been chemically joined.
h) Molecule	The smallest particle of an element that can exist.
i) Period	Describes how an element, or group of elements behaves in a chemical reaction.
J) Periodic Table	Two or more substances that are not chemically joined (can be the same elements).

(3) Elements, Compounds and Mixtures

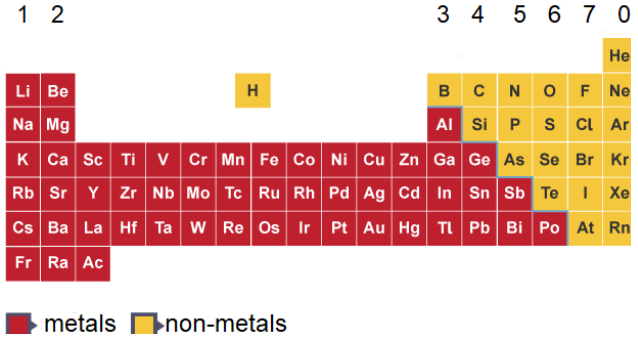
 **Element**

 **Compound**

 **Mixture**

2) A mixture was made between sand, water, the element Iron, and the compound sodium chloride (table salt). Explain how you would separate the substances in this mixture.

(2) The Periodic Table of Elements



1) Lithium reacts with water to produce an alkaline solution. How would you expect potassium to react with water? What will the pH of the solution be?

(4) Metals and Non-metals

3) Some metals are quite soft. What can be done to make a soft metal harder? What is this substance called?

4) Research why metals are generally hard and why metals can conduct electricity.

5) Research why non-metals are mostly gases at room temperature and why they do not conduct electricity.

6) Graphite is made of the non-metal carbon. Why can it conduct

(5) Facts to Learn

7) Research how the reactivity of the elements changes:

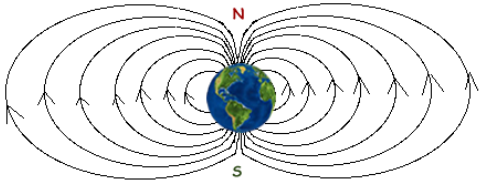
- Down group 7
- Down Group 1

(6) Chemical Formula

8) Work out the chemical formula for sodium chloride, magnesium chloride and aluminium chloride. Why does the ratio of atoms change?

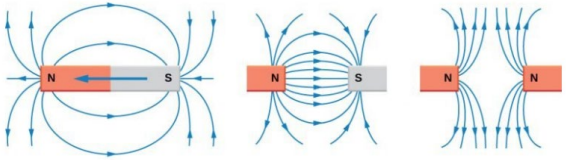
(1) Key Word	Match The Definitions to Key Words
a) Electromagnets	A magnet made from a magnetic material (iron, cobalt, or nickel). It cannot be turned off like an electromagnet.
b) Magnetic pole	A material that produces a magnetic field. Iron, cobalt and nickel are magnetic materials.
c) Magnets	A non-permanent magnet which can be turned off and on by controlling the current through it.
d) Permanent magnet	A long piece of wire that has been wrapped into a coil. A solenoid is part of an electromagnet.
e) Solenoid	The area at either end of a magnet where the magnetic field is strongest. We call them (N) and (S).

(5) The Earth's magnetic field



a) How can compasses be used to navigate around the world?
b) Explain what generates the magnetic field around the earth.
c) What other benefit, other than navigation, is there of the earth having a magnetic field?

(2) Magnets

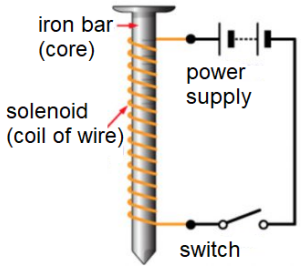


Like poles **repel** each other and **unlike** poles **attract** each other.

a) State the metals which are magnetic.

b) Explain how you could separate a magnetic metal from a mixture of other non-magnetic metals.

(3) Electromagnets



a) Research what the right-hand grip rule is. How does this explain how a magnetic field is generated around a wire?
b) Using gold instead of iron would not increase the strength of the electromagnet. Explain why.

(4) We can change the strength of an electromagnet in three ways:

a) Devise an experiment which you would be able to investigate how to increase the strength of an electromagnet. Think of the control, dependent and independent variable.

b) What would happen to the direction of a magnetic field if the current in the electromagnet was reversed?

The Bourne Academy

Knowledge Organiser: Year 8 Term – Autumn Subject - Spanish

Year 8 Unit 1: Things I like/dislike: free time			aa	…al gimnasio	…to the gym
a	¿Qué te gusta hacer en tu tiempo libre?	*What do you like to do in your free time?*	ab	…al parque	…to the park
b	Cuando tengo tiempo…	*When I have time…*	ac	…al polideportivo	…to the leisure centre
c	En mi tiempo libre…	*In my free time…*	ad	…a la piscina	…to the swimming pool
d	… me encanta…	*…I love…*	ae	…de paseo	…for a walk
e	…me gusta…	*…I like…*	af	…de pesca	…fishing
f	…no me gusta…	*…I don't like…*	ag	con…	*with…*
g	…odio…	*…I hate…*	ah	…mi amiga Ana	*…my friend Ana*
h	…jugar…	*…to play…*	ai	…mi amigo Pedro	*…my friend Pedro*
i	…al ajedrez	*…chess*	aj	…mis amigos	*…my friends*
j	…a las cartas	*…cards*	ak	…mi hermano	*…my brother*
k	…al baloncesto	*…basketball*	al	…mi hermana	*…my sister*
l	…al fútbol	*…football*	am	…mis hermanos	*…my siblings*
m	…a la Play	*…Playstation*	an	los lunes/los martes	*on Mondays/on Tuesdays*
n	…a videojuegos	*…videogames*	ao	los miércoles/los jueves	*on Wednesdays/on Thursdays*
o	…al tenis	*…tennis*	ap	los viernes	*on Fridays*
p	…en el ordenador	*…on the computer*	aq	los sábados/los domingos	*on Saturdays/on Sundays*
q	…hacer…	*…to do…*	ar	los fines de semana	*on weekends*
r	…ciclismo	*…cycling*	as	…porque…	*…because…*
s	…deporte	*…sport*	at	…es…	*…it is…*
t	…equitación	*…horse riding*	au	…no es…	*…it is not…*
u	…footing	*…jogging*	av	…tonto…	*…silly*
v	…natación	*…swimming*	aw	…aburrido	*…boring*
w	…senderismo	*…hiking*	ax	…divertido	*…fun*
x	…ir…	*…to go…*	ay	…emocionante	*…exciting*
y	…a casa de mi amigo	*…to my friend's house*	az	…interesante	*…interesting*
z	…al centro comercial	*…to the shopping centre*	ba	…saludable	*…healthy*

The Bourne Academy

Knowledge Organiser: Year 8 Term – Autumn Subject - Spanish

Year 8 Unit 2: Things I and others like to do in our free time			aa	…(yo) hago…	*…I do…*
a	¿Qué te haces en tu tiempo libre?	*What do you do in your free time?*	ab	…mi amigo/a hace…	*…my friend does…*
b	¿Qué hace tu amigo en su tiempo libre ?	*What does your friend do in their free time?*	ac	…mi amigo/a y yo hacemos...	*...my friend and I do…*
c	¿Qué deportes haces?	*What sports do you do?*	ad	…ciclismo	*…cycling*
d	¿Con qué frecuencia haces deporte?	*How often do you do sport?*	ae	…deporte	*…sport*
e	A menudo…	*Often…*	af	…equitación	*…horse riding*
f	A veces…	*Sometimes…*	ag	…escalada	*…climbing*
g	Casi nunca…	*Hardly ever…*	ah	…esquí	*…skiing*
h	De vez en cuando…	*From time to time…*	ai	…footing	*…jogging*
i	Cuando hace buen tiempo…	*When it is nice weather…*	aj	…natación	*…swimming*
j	Cuando hace mal tiempo…	*When it is bad weather…*	ak	…pesas	*…weights*
k	En casa…	*At home…*	al	…senderismo	*…hiking*
l	En el colegio…	*At school…*	am	…voy…	*…I go…*
m	Los fines de semana…	*At weekends…*	an	…mi amigo/a va…	*…my friend goes…*
n	Por la mañana…	*In the mornings…*	ao	…mi amigo/a y yo vamos...	*...my friend and I go…*
o	Por la tarde…	*In the afternoons…*	ap	…a casa de un amigo	*…to a friend's house*
p	Raramente…	*Rarely…*	aq	…al centro comercial	*…to the shopping centre*
q	Todos los días…	*Every day…*	ar	…al gimnasio	*…to the gym*
r	Una vez a la semana...	*Once a week...*	as	…al cine	*…to the cinema*
s	Dos veces por semana…	*Twice a week…*	at	...a la montaña	*…to the mountains*
t	…(yo)juego…	*…I play…*	au	…a la piscina	*…to the swimming pool*
u	…mi amigo/a juega…	*…my friend plays…*	av	…en bici	*…on a bike ride*
v	…mi amigo/a y yo jugamos...	*...my friend and I play…*	aw	…al parque	*…to the park*
w	…al ajedrez	*…chess*	ax	…al polideportivo	*…to the leisure centre…*
x	…al baloncesto	*…basketball*	ay	…de marcha	*…clubbing*
y	…a videojuegos	*…videogames*	az	…de paseo	*…for a walk*
z	…en el ordenador	*…on the computer*	ba	…de pesca	*…fishing*

Year 8 Unit 3: Linking weather and free time			aa	…equitación	*…horse riding*
a	¿Qué haces en tu tiempo libre?	*What do you do in your free time?*	**ab**	…escalada	*…climbing*
b	¿Qué haces cuando hace buen tiempo?	*What do you do when it's good weather?*	**ac**	…esquí	*…skiing*
c	¿Qué hace tu amigo en su tiempo libre?	*What does your friend do in their free time?*	**ad**	…footing	*…jogging*
d	¿Adónde vas los fines de semana?	*Where do you go at the weekend?*	**ae**	…los deberes	*…homework*
e	A veces…	*Sometimes…*	**af**	…natación	*…swimming*
f	Entre semana …	*During the week…*	**ag**	…senderismo	*…hiking*
g	Los fines de semana…	*On weekends…*	**ah**	…vela	*…sailing*
h	Cuando tengo tiempo…	*When I have time…*	**ai**	…voy…	*…I go…*
i	Cuando está despejado…	*When the sky is clear…*	**aj**	…mi amigo/a va…	*…my friend goes…*
j	Cuando está nublado…	*When the sky is cloudy…*	**ak**	…a casa de mi amigo	*…to my friend's house*
k	Cuando hace buen/mal tiempo…	*When the weather is good/bad…*	**al**	…a casa de su amigo	*…to his friend's house*
l	Cuando hace calor/frío…	*When it is hot/cold…*	**am**	…a la montaña	*…to the mountain*
m	Cuando hace sol/viento…	*When it is sunny/windy…*	**an**	…a la piscina	*…to the swimming pool*
n	Cuando hay niebla/tormenta…	*When it is foggy/stormy…*	**ao**	…a la playa	*…to the beach*
o	Cuando llueve…	*When it rains…*	**ap**	…al campo	*…to the countryside*
p	Cuando nieva…	*When it snows…*	**aq**	…al centro comercial	*…to the shopping centre*
q	…juego…	*I play*	**ar**	…al polideportivo	*…to the leisure centre*
r	…mi amiga María juega…	*my friend Maria plays*	**as**	**…**de marcha	***…****clubbing*
s	…al ajedrez	*…chess*	**at**	…de paseo	*…for a walk*
t	…a las cartas	*…cards*	**au**	…de pesca	*…fishing*
u	…al baloncesto	*…basketball*	**av**	…en bici	*…on a bike ride*
v	…con mis amigos	*…with my friends*	**aw**	…me quedo…	*…I stay…*
w	…con sus amigos	*…with his/her friends*	**ax**	…en mi casa	*…in my house*
x	…hago…	*…I do…*	**ay**	…en mi dormitorio	*in my bedroom*
y	…mi amigo Lionel hace…	*…my friend Lionel does…*	**az**	…Felipe se queda…	*…Felipe stays…*
z	…deporte	*…sport*	**ba**	…en su su casa	*…in his/her house*

Key Grammar

1. Infinitive - the root form of a verb. In English you can identify a verb in the infinitive form by the use of the word "to" before the action. E.g. to play, to do, to eat. In Spanish, an infinitive is recognised by the last two letters of the verb. There are three forms of infinitives in Spanish – ar, er and ir verbs.

Common AR verbs – hablar=to speak, preparar=to prepare, llevar=to carry/wear.
Common ER verbs – comer=to eat, beber=to drink
Common IR verbs – vivir=to live

2. Conjugation - the change that takes place in a verb to express tense, mood etc.
In Spanish, to conjugate a regular verb in the present tense, you need to follow this process.

a) Start with the infinitive – hablar,comer, vivir
b) Remove the infinitive ending – hablar, comer, vivir
c) Add the appropriate ending, depending on who the verb relates to. Hablo=I speak, comen=they eat, vivimos=we live

	AR verb endings	ER verb endings	IR verb endings
yo (I)	-o	-o	-o
tú (you sing.)	-as	-es	-es
él/ella (he/she)	-a	-e	-e
nosotros (we)	-amos	-emos	imos
vosotros (you pl)	-áis	-éis	ís
ellos/ellas (they)	-an	-en	en

N.B. In Spanish it is very rare to use personal pronouns with verbs, the ending is enough to tell you who the verb relates to.

3. Opinion+ infinitive
When you express an opinion about an activity or a verb, that verb should stay in the infinitive form. You should **not** conjugate the activity verb, **if** there is an opinion verb immediately before it.

✗ Me gusta **juego** a videojuegos

✓ Me gusta **jugar** a videojuegos

The Bourne Academy Scholars Programme

Knowledge Organiser: Year 8 Autumn Term Spanish

<table>
<tr><td colspan="2">1. Grammatical vocabulary</td><td colspan="2">2. Spanish Cultural Research</td></tr>
<tr><td colspan="2">i. What is the stem of the verb?
ii. What is an infinitive?
iii. What are the three endings of infinitives in Spanish?</td><td>i. Who is she?
ii. What is she famous for?
iii. Where did she come from?</td><td>Rigoberta Menchú</td></tr>
<tr><td>3. Dictionary corner</td><td colspan="3">Look up 5 adjectives that are different to the ones that we have studied in the lesson to describe free time activities.
1_____ 2_____ 3_____ 4_____ 5_____</td></tr>
<tr><td>4. Key Verbs</td><td colspan="3">What are the verb endings for the three different kinds of verbs in Spanish? Write them out below.</td></tr>
<tr><td></td><td colspan="3"><table>
<tr><td>Personal pronoun</td><td>AR verbs – e.g. hablar</td><td>ER verbs – e.g. Comer</td><td>IR verbs – e.g. Vivir</td></tr>
<tr><td>Yo (I)</td><td>hablo I talk</td><td>_____ _____</td><td>_____ _____</td></tr>
<tr><td>Tu (you sing)</td><td>_____ _____</td><td>comes you eat</td><td>_____ _____</td></tr>
<tr><td>él/ella (he/she)</td><td>_____ _____</td><td>_____ _____</td><td>vive he/she/it lives</td></tr>
<tr><td>nosotros (we)</td><td>_____ _____</td><td>_____ _____</td><td>_____ _____</td></tr>
<tr><td>vosotros (you pl)</td><td>_____ _____</td><td>_____ _____</td><td>_____ _____</td></tr>
<tr><td>ellos/ellas (they)</td><td>_____ _____</td><td>_____ _____</td><td>_____ _____</td></tr>
</table></td></tr>
<tr><td>5. Understanding grammar</td><td colspan="3">Find the answers to the following questions
a. Why is the following sentence incorrect? Me gusta juego a videojuegos
b. Research how to give someone else’s opinion and then change the above to “He likes videogames”.</td></tr>
<tr><td>6. Idioms</td><td colspan="3">Find out the meanings of these idioms.
1) Llover a cántaros _____
2) Hacer frío que pela _____
3) Estarse asando _____</td></tr>
</table>

The Bourne Academy

Knowledge Organiser: Year 8 Autumn Term - TED

1. Ergonomics and Anthropometrics

Ergonomics relates to how people comfortably and effectively use products, the 'fit' between the users and products they use.

An ergonomic phone would be easy to hold, have buttons shaped to be comfortable and easy to press, its edges will be rounded, and the ear and mouth pieces will be at suitable distances from your ear and mouths.

Anthropometrics are human body measurements. We use average measurements such as height, finger lengths and hand spans to ensure products are the correct size and safe to use. Anthropometric data is different for different ages, user groups and cultures.

2. Usability

Products must be designed to provide a workable solution to the primary user. It is important designs consider all of the primary user needs and provide a solution that is accessible.

The primary user is the person who will use your product most.

A stakeholder is someone who provides, sells or helps control the use of the product. This could include a teacher, a shop keeper, a sports coach or a parent.

3. New Technologies

These technologies often disrupt current design and manufacturing techniques and force industry to change.

These include:

Laser cutter

3D Printer

CAD Software

CNC Lathe

Robotics

Automated Manufacture

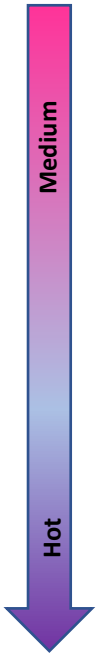
4. Life-cycle Assessment (LCA)

LCA evaluates the environmental impact of a product from 'cradle to grave': from the extraction of raw materials required to manufacture the product to end of use and disposal. It allows change to be instigated.

5. Product Analysis

A product analysis looks at current products and assesses whether they are successful or require improving.

When carrying out a successful product analysis you always ask yourself the following questions in relation to the product you are looking at….



1. Who is the product designed for? How do you know this?
2. How has the designer made the product easy to use?
3. What features does the product have which makes it a good product?
4. What features does the product have which could make it hard to use?
5. What materials have been used and why? Why Are their properties suitable for the product?
6. How would you improve the product? What would you develop further? Why would you make that change?

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6. Sustainability

Sustainability is the measure of how much manufacturing, materials and use of energy damages the environment.

Sustainable Materials can be recycled, reused and disposed of with minimal impact on the environment.

Sustainable Energy is energy that is created and used without a big negative impact on the environment.

Sustainable Design and Manufacturing is the planning for products to be manufactured to have a minimal negative effect on the environment.

Sustainability aims to reduce the impact products have on the environment. Designers and manufacturers can do this by following the rules of the **6 R's**:

Reduce, Reuse, Recycle, Repair, Rethink, Refuse.

7. Electronic Components

Different components have different functions:

Input Components: sets an electrical circuit in action. (Switch, LDR, Sensor)

Process Components: work together to ensure current and signals are sent between input components and output components. (Transistor, PIC Chip, Resistor)

Output components: is what the circuit results in and ultimately does. (LED, Motor, Buzzer, Speaker)

8. Material Properties

Material properties are the characteristics of materials and the way they perform.

Durable: Withstands wear and tear over time.

Hard: Withstands scratching.

Tough: Withstands sudden impact.

Strength to Weight ratio: Strong but still lightweight.

Ductile: Can be stretched.

Conductor: Allows heat or electricity to pass through.

Insulator: Does not conduct heat or electricity.

Corrosion resistance: Resistance to rust, chemicals and UV light.

Malleable: Can be shaped, bent and pressed into shape under pressure/force.

9. Risk Assessments

A **risk assessment** helps you work safely in the workshop. It evaluates how safe a task is.

Hazards are accidents that can occur.

Risk is how likely the hazard will happen.

Control measures are what you can do to avoid being injured.

10. Forces

Force is when pressure is applied to an object. A force can be a push or a pull.

Shear A good example of shear force is seen with a simple scissors. The two handles put force in different directions.

Tension is a pulling force.

Compression is a force that presses against an object from opposite directions.

Torsion is a twisting force.

11. Metals

There are three main groups of metals:

Ferrous metals contain iron. They are magnetic and will rust (corrode). Types of ferrous metals include mild steel.

Non-ferrous metals do not contain iron. They are non-magnetic and will not rust (corrode). Types of non-ferrous metals include aluminium and copper.

Alloys are a mix of metal. This means alloys have improved properties and are suitable for a range of different products. Types of alloys include pewter, brass and bronze.

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12. PPE

PPE stands for Personal Protective Equipment. This equipment keeps you safe during practical work. PPE includes:

Goggles **Aprons**

Protective footwear **Visors**

13. CAD/CAM

CAD stands for **C**omputer **A**ided **D**esign, it is used in lots of different industries such as construction, engineering and product design.

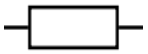
It is used because it is accurate, gives realistic 3D views of designs, is easy to correct mistakes without having to draw a drawing all again, and CAD drawings can be sent all over the world via email.

CAM stands for **C**omputer **A**ided **M**anufacturing, it is when machines are controlled by computers to make/produce/manufacture products.

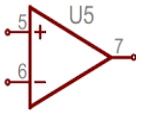
It is used because it is quicker, more accurate, reduces waste, never needs a break and can produce thousands of the same identical product per hour day in day out.

14. Electronic Circuit symbols

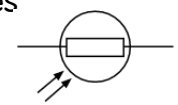
Resistors control the flow of current within a circuit. They stop high rates of current damaging electronic components.



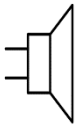
PIC Chips are programmed to send signals. Between inputs and outputs. They control circuits.



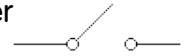
An **LDR** is a resistor which senses light. It allows current to run through it when it is dark.



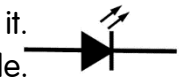
Speakers turn electrical signals into sound waves.



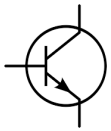
Switches are used to turn circuits on and off. They control when power enters a circuit and either complete or break the flow of current.



An **LED** is a type of bulb and emits light when current runs through it. LED stand for Light Emitting Diode.



Transistors act as a switch or latch within a circuit.



15. Biomimicry

This is where designs mimic naturally occurring designs found in nature.

Divers use flippers inspired by animals with webbed feet.

Kayak oars are designed to be aerodynamic like the fins on

16. Design Iteration

Iteration means to develop. When we iterate a design we develop it to become better. Every time we iterate an idea we will improve it. Iteration creates products that are developed to be better for the primary user, easier to use and perform better.

17. Quality control

We carry out regular checks to ensure mistakes are not made. Mistakes lead to wasted materials which impacts landfill (Pollutes the environment), wasted time and loss of profits. QC checks lead to higher quality products.

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1. Higher Order Thinking: Putting knowledge into context

Pick an everyday object or product. Something you can see or something you use at school or at home. Now keeping that object or product in mind, pick one of the questions below to discuss it in more depth. Each question is worth 6 marks.

Ergonomics and Anthropometrics:

Explain how the product been designed to fit the user and be comfortable to use? Discuss if it could be more considerate and be modified to fit the user better?

Material properties:

Discuss which materials and properties are required for this product to function at its best? Why are the materials suitable for the product and the way it is used?

Sustainability and Renewable energy:

Discuss whether you think the product is good for the environment. Describe how could it have been designed or manufactured to be more environmentally friendly?

Aesthetics:

Is the product visually appealing? Will it appeal to its user? Evaluate how you could develop the product to be aesthetically pleasing and suitable for its target user group?

2. Describe and Explain

Pick an area to discuss. How has this new technology had a positive impact on designing and manufacturing?

Laser cutter

3D Printer

CAD Software

CNC Lathe

Robotics

Automated Manufacture

Cloud Computing

Email

Virtual Reality

Internet of things

3. Careers

Using your own internet research explore the following design and engineering job sectors:

Product Designer

Mechanical Engineer

Aeronautical Engineer

Fashion Designer

Graphic Designer

Environmental Engineer

4. Visit, Watch, Do.

Visit this link to a sketch-a-day YouTube channel. Pick a video tutorial and develop your drawing skills by following the instructions and demos.

https://www.youtube.com/channel/UCBtSgEZk914z5InEs_U2J3w

5. Analyse and Develop

1. Who is the product designed for? How do you know this?
2. How has the designer made the product easy to use?
3. What features does the product have which makes it a good product?
4. What features does the product have which could make it hard to use?
5. How would you improve the product? What would you develop further? Why would you make that change?

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