THE BOURNE ACADEMY
KNOWLEDGE ORGANISER

everyone is a learner, everyone is a teacher

Year 7

Summer Term

2021-22

Ambitious
Self Confident
Physically Literate
Independent
Resilient
Emotionally Literate

Name: .....

House: .....

The Bourne Academy

Knowledge Organiser: Year 7 Summer Term

Contents

The Bourne Academy

Knowledge Organiser: Year 7 Summer Term

Excellence at The Bourne 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!

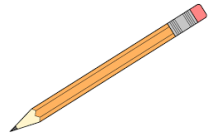
TEACH IT!
Teach someone your key facts and then get them to test you, or even test them!

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 out 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.

VISUAL ELEMENTS IN ART AND DESIGN:

- Line – a mark made using a drawing tool or brush. They can be thick, thin, horizontal, vertical, zigzag, diagonal, curly, curved, spiral etc.
- Shape – an area that is enclosed created through lines; two-dimensional, flat, or limited in height and width.
- Form – an area that is three-dimensional and encloses; includes height, width and depth (as in a cube, a sphere, a pyramid, or cylinder).
- Texture – how something feels. There are two types of texture; actual (tactile) texture and visual texture (that can be created).
- Pattern – a design in which lines, shapes, forms or colours are repeated. The part that is repeated is called a motif. Patterns can be regular or irregular.
- Tone – refers to the light and dark values used to render a realistic object. Shading is used to create shadows and create 'form'.
- Surface – the uppermost layer of a thing. The surface determines how a colour is reflected, absorbed or scattered, depending upon its texture.
- Media – the material and tools used by an artist, or designer to create a work of art, for example, "pen and ink" where the pen is the tool and the ink is the material.
- Expression – the ability to convey emotion or create a mood or feeling within a piece of art.
- Contrast – refers to the arrangement of opposite elements and effects. For example, light and dark colours, smooth and rough textures, large and small shapes.
- Proportion – refers to the dimensions of a composition and relationships between height, width and depth. Proportion also describes how the sizes of different parts of a piece of art or design relate to each other.
- Perspective – usually refers to the representation of three-dimensional objects or spaces in two dimensional artworks. Artists use perspective techniques to create a realistic impression of depth, and 'play with' perspective to present dramatic or disorientating images.
- Negative Space – is the space around and between the subject of an image. Negative space may be most evident when the space around a subject, not the subject itself, forms an interesting or artistically relevant shape.
- Mark making – describes the lines, dots, marks, patterns, and textures we create in an artwork. It can be loose and gestural or controlled and neat.
- Experiment – a desire to extend the boundaries of the art in terms of materials or techniques, which can include novel and provocative ideas expressed through traditional or innovative techniques, to explore creative possibilities.
- Space – or "positive space" in a work of art refers to a feeling of depth or three dimensions. It can also refer to the artist's use of the area within the picture plane.
- Design – refers to a visual look or a shape given to a certain object, to make it more attractive, make it more comfortable or to improve another characteristic.
- Vibrant – refers to the intensity of colour; they are bright and strong.

Aboriginals are the **indigenous** people, or the original inhabitants of Australia.

Humans are thought to have migrated to Northern Australia from Asia using primitive boats. A current theory holds that those early migrants themselves came out of Africa about 70,000 years ago, which would make Aboriginal Australians the oldest population of humans living outside Africa.

Early Aboriginal rock art includes Cave paintings dating back over 17,000 years.

Colours used were '**earthy**' colours because their palette was limited to colours found in nature; Reds, Oranges, Yellows, Browns, plus Black and White.

Aboriginal artwork contains **symbols**; **animals**; and lots of **dots**.

Aboriginal people are spiritual people with strong cultural beliefs and values.

Aboriginal Flag: The symbolic meaning of the flag colours –

Black – represents the Aboriginal people of Australia
Yellow circle – represents the Sun, the giver of life and protector
Red – the red can have two meanings: representing the red earth, and Aboriginal peoples' spiritual relation to the land; and the blood of the people

The **Dreamtime** is a commonly used term for describing important features of Aboriginal spiritual beliefs and existence. It is not generally well understood by non-indigenous people.

Aboriginals believe that the Dreamtime was way back, at the very beginning. The land and the people were created by the **Spirits**. They made the rivers, streams, water holes, the land, hills, rocks, plants and animals. It is believed that the Spirits gave them their hunting tools and each tribe its land, their totems and their **Dreaming**.

The Spirits made particular sites to show the Aboriginal people which places were to be sacred. The Aboriginals performed **ritual ceremonies** and customary **songs** near the sacred sites to please the Ancestral spirits and to keep themselves alive.

Dreamtime is the foundation of Aboriginal religion and **culture**. It dates back some 65,000 years. It is the story of events that have happened, how the universe came to be, how human beings were created and how their **Creator** intended for humans to function within the world as they knew it.

Aboriginals believe that humans are on an equal footing with nature; are part of nature and are morally obligated to treat animals, plants and landforms with **respect**.

The Aboriginal people have their own beliefs about death and consider this experience to be merely a transition into another life and the **afterlife** is very similar to their lives before death.

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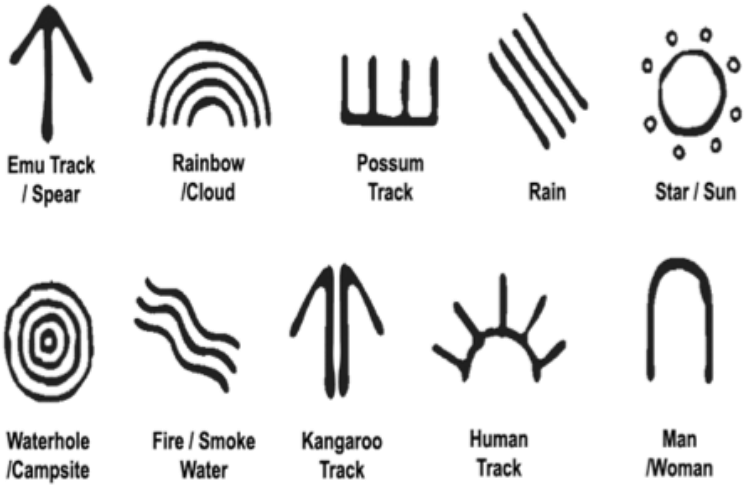
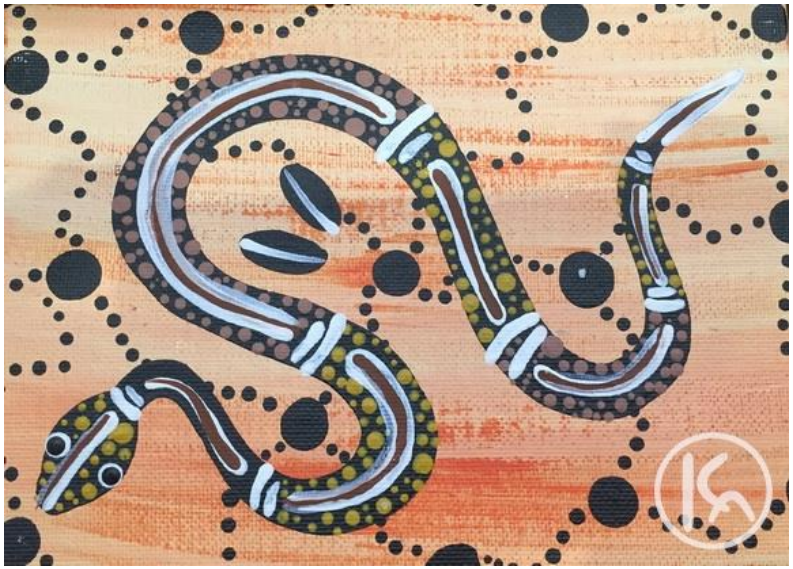
Knowledge Organiser: Year 7 Summer Term – Art

Aboriginal Art and Symbols:





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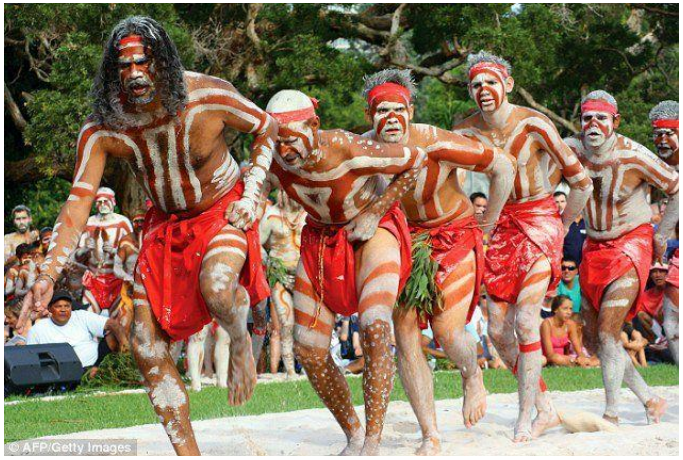
Knowledge Organiser: Year 7 Summer Term – Art

Aboriginal people and instruments; ceremonies and tribal dress



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Knowledge Organiser: Year 7 Summer Term – Computing

1. Programming Basics

a) Code - program instructions

b) Programming - writing a program giving instructions to a computer to perform a task

c) Flow Chart - visually planning' step by step, how to complete a task in a logical order

d) Sequencing - organising instructions in a sensible and logical order so the computer can correctly carry out your instructions

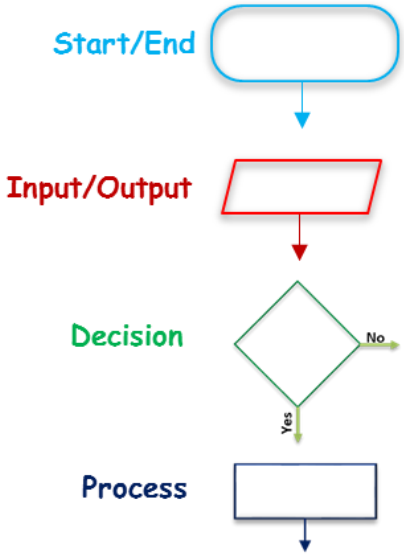
e) Scratch - creating programs using pre-written block-based code

f) Python - creating programs by typing text-based code

```
if answer > my_number:
    print "Too High!"
elif answer < my_number:
    print "Too Low!"
```

g) Algorithm - a set of instructions to complete a task or solve a problem.
For example: a recipe, which consists of specific instructions for preparing a dish/meal

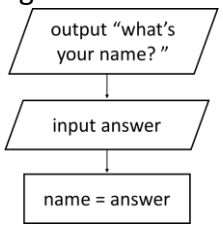
2. Flow Chart Symbols



3. Programming Terms

a) Variable - part of code storing information that can be changed. e.g.

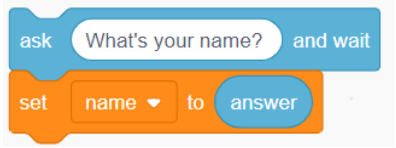
Flow Chart Example:



Text-Based code example:

```
name = input("Type your name:")
```

Block-Based code example:



3. Programming Terms

b) Selection - a decision in the program
Flow Chart Example:

Text-Based code example:

Block-Based code example:

c) Iteration - repeating actions e.g:

Flow Chart Example:

Text-Based code example:

```
while age < 18:
    attend school
next step
```

Block-Based code example:

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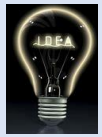
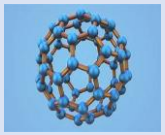
Knowledge Organiser: Year 7 Summer Term – Dance

1. Key Information

Actions	Space	Dynamics	Relationships	Motif	Communication	Structure
						
Jumps Turns Gesture Transference of weight Travel Stillness	Pathways Facings Levels Proximity Formations Size of movement	Fast Slow Sharp Soft Acceleration Deacceleration Sustained	Lead and follow Mirroring Call and response Formation Contrast Counterpoint	Researching Improvisation Generating Selecting Structuring Repeating Contrast	Intention Mood Meaning Idea Theme Style	Binary Ternary Rondo Narrative Episodic Transitions Unison Canon

2. Key Skills

Physical Skills	Performance Skills	Technical Skills	Mental Skills
Posture Alignment Posture Balance Co-ordination Extension	Projection Focus Facial expressions Musicality Sensitivity Phrasing	Action Space Dynamics Relations Timing Rhythm	Repetition Mental rehearsal Feedback Movement memory

3. Choreographic Devices

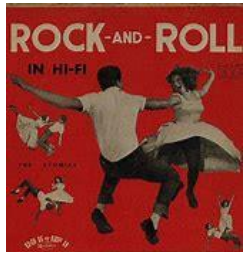
Stimulus → Research → Choreograph main motif

Choreographic Devices → Rehearsal → Performance

→ Evaluation

Charleston
– 1920s

Rock ‘n’ Roll
– 1950s



The Twist
– 1960s

Grease
– 1970s

Popping and locking
– 1980s

Hammer Dance
– 1990s

Soulja Boy
– 2000s

Gangham Style
– 2010

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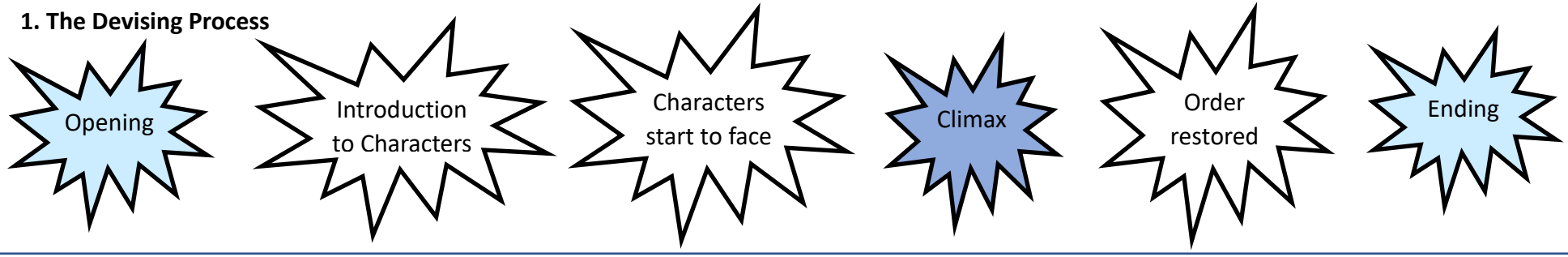
Knowledge Organiser: Year 7 Summer Term – Drama

1. The Devising Process



2. Creating an impact

Impact		
Atmosphere	Audience Response	Believability
Tense, Dangerous, Intriguing, Awe, Amazement, Anticipation, Surprising, Shocking, Awareness of Society, Comic, Pathos.	Applause, Laughter, Sympathy, Anger, Disappointed, Anti-Climax, Amusement, Admiration, Distaste, Contempt, Delight, Horror, Empathy, Irritation.	Natural, Believable, Realistic, Exaggerated.

3. Key Vocabulary

The Space	The area in which you perform
Rehearsals	A practice of the performance. You can have dress rehearsals and technical rehearsals.
A Script	Written by a playwright, which tells the actors what to say and do.
Stage Directions	Stage directions tell the actors how to speak or act their character in a certain way. Stage directions also explain how the staging may be in the performance.

Improvisation
Stereotype
Character
Soap Opera
Plot
Role Play
Naturalism

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Knowledge Organiser: Year 7 Summer Term – English – My Sister Lives on the Mantlepiece

1. Key Characters	
a) Jamie	The narrator of the novel. A 10-year-old boy who moves from London to the lake district with his sister, Jas, and Dad.
b) Rose	Jamie's older sister and Jas' twin. She was killed in a terrorist attack and her ashes are on the mantelpiece.
c) Jas	Jamie's older sister who wears black clothes and has pink hair. She helps to look after Jamie when Mum leaves.
d) Dad	Jamie, Jas and Rose's dad who struggles with alcoholism. He hates Muslims and blames the death of Rose on the entire Muslim population.
e) Mum	Jamie, Jas and Rose's mum who leaves the family after Rose's death due to having an affair.
f) Sunya	Jamie's friend from school. She is a Muslim and her friendship with Jamie is hidden from dad.
g) Roger	Jamie's ginger haired pet cat.

2. Themes	Definition
a) Grief	Intense sorrow, especially caused by someone's death.
b) Separation	The action of moving or being moved apart.
c) Identity	The creation of a person's character, personality and individuality.
d) Prejudice	An opinion that is not based on any fact or actual experience.
e) Bigotry	Prejudice against a person or people based on their membership of a particular group.
f) Terrorism	The act of using violence and fear to achieve aims.

3. Word Types	Definition	Example
a) Pronoun	Replaces a noun	<u>He</u> didn't complete <u>his</u> homework.
b) Preposition	Where something is or when something happened.	The birds flew high <u>above</u> our heads. <u>Tomorrow</u> they will all be gone.

4. Language terminology	Definition	Example
a) Extended metaphor	A metaphor that is developed or returned to over the course of a sentence, a paragraph, or even an entire text	In Romeo and Juliet, Romeo says Juliet 'is the sun'. The sun is a life-giving element showing that Romeo cannot live without her.

5. Clauses and sentence types	Definition	Example
a) Co-ordinating conjunction	A conjunction that joins two main clauses.	For, and, nor, but, or, yet, so
b) Subordinating conjunction	A conjunction that introduces a subordinate clause.	Because, although, if, whenever, when, as etc.

6. Structural terminology	Definition
a) Beginning/Middle/ End	The three parts that make up a story.
b) Pathetic Fallacy	The weather reflects the mood of a character or event.
c) Narrative voice	The perspective the story is told from. 1st / 2nd / 3rd person.
d) Context	Background information that influences a text: historical, political and social events or the writer's life and beliefs.

7. Punctuation	Symbol	Definition
a) Brackets	( )	Used to add less important information.
b) Comma	,	Used to separate items in a list. or Used to separate main and subordinate clauses.
c) Dash	-	Used to add more important information.

8. Vocabulary	Ambitious Vocabulary
Happy	Jolly, joyful, cheery, carefree, content
Sad	Depressed, dejected, sorrowful
Angry	Infuriated, irate, vexed, irked, aggrieved
Walk	Stroll, saunter, amble, trudge, stride, march
Talk	Chatter, gossip, discuss
Great	Extraordinary, special, exceptional, magnificent
Old	People - elderly, mature, senior Places and objects - historic, antique, ancient

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Knowledge Organiser: Year 7 Summer Term – Food – Sustainability and Environmental issues

1. Sustainability

A sustainable product is one that can be produced with out harming animals, humans, or the planet.

Green house gasses

The food industry accounts for 26% of global greenhouse emissions.

Water use

70% of our fresh water is used for growing crops

Waste

1.3 billion tons of food are wasted every year

Transportation

Transporting food within, to and around the UK produces 19 million tonnes of CO_2 annually – equivalent to around 5.5 million typical cars.

Caged hens

Each cage holds 80 hens and has a screened off area for laying, a scratch mat and low perches. Hens don't leave the cage until they go to slaughter. These cages are not big enough for hens to carry out natural behaviours

2. Food sources

Use organic, sustainably grown & harvested, free range, cruelty free, and fair trade foods.

Soil association

Less use of chemical fertilizers or pesticides. No genetically modified ingredients. Animals are not overcrowded and not given drugs to make them grow faster.

Fair Trade foods

Farmers receive a liveable wage, are provided with a safe working environment, and have access to education and health care.

The RSPCA Assured and MSC label makes it easy to recognise products from animals that have had a better life and that they have been sustainably sourced.

3. Manufacture/distribution

Reduce processing and shipping, use local and seasonal produce, use recycled and biodegradable packaging, no animal testing.

Food miles/ Carbon footprint

The distance the food or ingredients travel from production/growing to where it is consumed or sold.

Transporting food long distances creates CO_2, which pollutes our atmosphere.

4. Consumption (use)

Buying Buy organic, free range and fresh ingredients. Buy local and seasonal food. This will reduce the carbon footprint further. Choose foods with minimal or recyclable packaging (try and avoid single use plastics). Don't buy products that have been tested on animals.

Waste Compost leftovers or use them to make new dishes, only buy what you need, don't serve very large portion sizes, use food that goes out of date sooner first. Recycle or reuse packaging.

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Knowledge Organiser: Year 7 Summer Term – French – Module 3. Mon temps libre.

(A) La météo	**The weather**	**(B) Le sport**	**Sport**
Il fait..	The weather is …	Je joue…	I play
Beau	Nice	Au billard	Pool
Mauvais	Bad	Au foot	Football
Chaud	Hot	Au rugby	Rugby
Froid	Cold	Au hockey	Hockey
Il y a du soleil	It's sunny	La pétanque/aux boules	Boules
Il y a du vent	It's windy	Aux cartes	Cards
Il pleut	It's raining	Aux échecs	Chess
Il neige	It's snowing	Je suis	I am
Quand	When	Je ne suis pas	I am not
Je reste à la maison	I stay home	Assez	Quite
		Très	Very
		Sportif/sportive	Sporty
(C) Qu'est-ce que tu fais ?	**What do you do?**	**(D) Le sport dans les pays francophones**	**Sport in French-speaking countries**
Je fais…	I go…	On fait du ski…	We go skiing
Du skate	Skating	On fait du snowboard	We go snowboarding
Du patin à glace	Ice skating	On fait du rafting	We go rafting
Du ski	Skiing	On fait de l'alpinisme	We go mountaineering
Du vélo	Cycling	On fait de la voile	We go sailing
Du judo	I do judo	On fait de la planche à voile	We go windsurfing
Du théâtre	I do drama	On fait de la luge	We go tobogganing
De la cuisine	I cook		
De la danse	I dance		
De la gymnastique	I do gymnastics		
De la natation	I go swimming		
De l'athlétisme	I do athletics		
De l'équitation	I go horse-riding		

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Knowledge Organiser: Year 7 Summer Term – French – Module 3. Mon temps libre.

(E) Tu aimes faire ça ?	Do you like …?	(F) Questions et mots utiles	Questions and useful words
Qu'est-ce que tu aimes faire sur ton portable?	What do you like to do on your phone?	Qu'est-ce que tu aimes faire … ?	What do you like to do … ?
Qu'est-ce que tu aimes faire sur ta tablette	What do you like to do on your tablet?	Le weekend	At the weekend
J'aime	I like	Avec tes amis	With your friends
Je n'aime pas	I don't like	Quand il pleut	When it's raining
J'adore	I love	Est-ce que tu aimes … ?	Do you like … ?
Je déteste	I hate	Faire du judo	Judo
Bloguer	Blogging	Prendre des photos	Taking photos
Ecouter de la musique	Listening to music	Jouer aux échecs	Playing chess
Envoyer des SMS	Sending texts	Comment ?	How?
Prendre des selfies	Taking selfies	Quand ?	When?
Partager des photos	Sharing photos	Quel/Quels/Quelle/Quelles	Which?
Regarder des fims	Watching films	Avec	With
Tchatter	Chatting	En	In
Télécharger des chansons	Downloading songs	Sur	On
Parce que c'est …	Because it is …		
Amusant	Fun		
Marrant	Funny		
Ennuyeux	Boring		
Facile	Easy		
Intéressant	Interesting		
Rapide	fast		

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Knowledge Organiser: Year 7 Summer Term – Geography – Africa Part 1

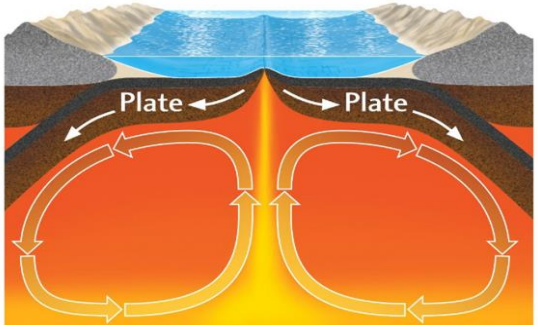
1. Key Vocabulary	
Development	The process of change that affects people's lives.
Development Indicator	A numerical scale to measure quality of life e.g. GDP.
High Income Countries	The wealthiest countries in the world e.g. UK.
Low Income Countries (LIC)	The poorest countries in the world e.g. Ethiopia.
Newly Emerging Economies	Countries which are developing rapidly e.g. Brazil.
Life Expectancy	The average number of years that a person is expected to live.
Human Feature	A feature in the landscape that was made by human beings.
Physical Feature	A feature in the landscape that was made by nature.

2. The African Continent

Africa contains 54 countries

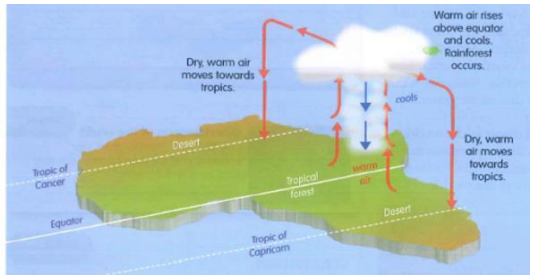
3. Plate Tectonics in Africa

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.
6. The process starts again.



4. Formation of Deserts

1. Hot, moist air rises near the Equator.
2. As the air rises, it cools and drops its moisture as heavy tropical rains. The resulting cooler, drier air mass moves away from the equator.
3. As it moves north/south, the air descends and warms up again.
4. The descending air prevents the formation of clouds, so very little rain falls on the land below.



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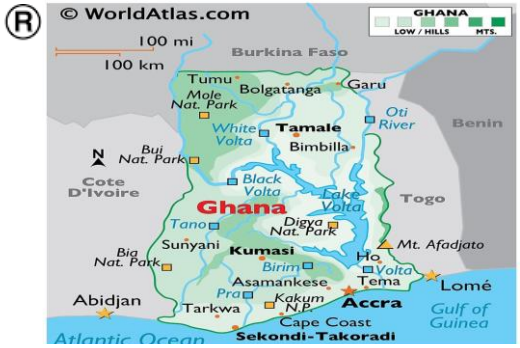
Knowledge Organiser: Year 7 Summer Term – Geography – Africa Part 2

5. Key Vocabulary	
Desertification	The process where fertile land becomes desert.
Water Borne Diseases	Illnesses caused by viruses and bacteria, that are ingested through contaminated water.
Famine	Extreme scarcity of food.
Fairtrade	An arrangement designed to help producers' countries gain a better price for their produce.
Ebola	An infectious and frequently fatal disease



7. Ghana Summary

- Ghana is a Low Income Country (LIC) in west Africa. 44% of the citizens work in agriculture. The majority of Ghanaians live in poverty.
- To try and reduce this, many farmers have joined Fairtrade where fair prices are paid to the farmers.
- Fairtrade also ensures decent working conditions and sometimes schools and community centres will be built.
- There are over 1.5million farmers and workers across the Fairtrade system. Our chosen food product to look at was chocolate, in reality the farmer only receives 8p, compared to the company's 28p (Cadbury).

6. The Somalia Crisis

- Somalia been in conflict since the 1960s.

- In 1991 the president was overthrown, and the country was thrown into chaos. For 20 years there was no government. In 1992, 2010- 2012 a famine killed an estimated 500,000 people.

- In recent years, Somalia has been linked to Islamic terrorism and also to piracy.

8. Goma Summary

- Goma is located in the Democratic Republic of the Congo (DRC).
- More than one million people live in the city of Goma.
- The DRC is a very unstable region politically as well as prone to outbreaks of Ebola. The Ebola outbreaks cause considerable issues due to the low number of doctors within the region.
- Goma faces an additional problem of Mt Nyiragongo - Africa's most active volcano. In 2002, an eruption levelled over 30% of the city of Goma. The next eruption is predicted to be even more significant and destructive than the eruption of 2002.

A. The Reformation & Tudors	
1. Who were the Tudors?	Henry Tudor was a member of the House of Lancaster, he had lived in France and was greatly helped in his bid for the English Throne by his mother, Margaret Beaufort. Henry Tudor defeated King Richard III (Yorkist) in August 1485 at the Battle of Bosworth Field; he became King Henry VII of England and ended the Wars of the Roses.
2. The Reformation in Europe	By 1500, the Catholic Church had developed a reputation for corruption and were criticised for being too wealthy and taking advantage of Christians. Protestants believed that each Christian should have a personal relationship with God and should have access to the Bible in their own language (instead of Latin, which only priests could read). Protestants began giving sermons which attacked the Catholic Church and used the newly invented printing press to spread their ideas.

Henry VII (Henry Tudor)	**Henry VIII** (Henry Tudor)	**Mary I** (Mary Tudor)	**Elizabeth I** (Elizabeth Tudor)

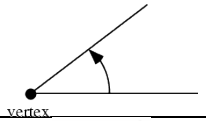
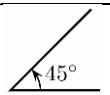
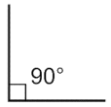
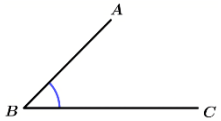
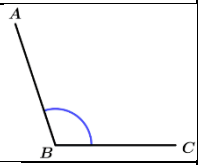
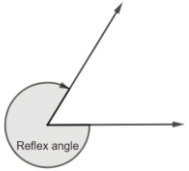
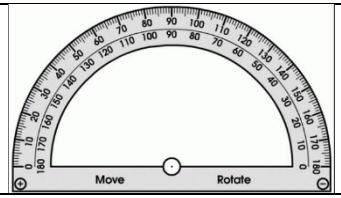
B. Key Dates	
1. Aug 1485	Henry Tudor wins the Battle of Bosworth Field; becomes King of England
2. 1509-1547	Henry VIII is King of England.
3. 1517	Luther nails his 95 Theses to the Church door in Wittenberg, starting the Reformation.
4. Jan 1533	Henry VIII marries Anne Boleyn, his second wife
5. Nov 1534	Act of Supremacy makes Henry the supreme head on earth of the Church of England

C. Keywords	
1. Dynasty	A succession of powerful people from the same family, e.g. Tudor Family
2. Lancastrian	Supporter of King Henry VI and his family during the Wars of the Roses
3. Yorkist	Supporter of the Duke of York and later his sons, during the Wars of the Roses.
4. Tudors	Royal dynasty that ruled England between 1485 and 1603
5. Reformation	A movement to reform the Catholic Church started by Martin Luther in Germany.
6. Protestantism	A form of Christianity that split with the Catholic church.
7. Break with Rome	England's decision to leave the Catholic Church in 1534.
8. Act of Supremacy	A law passed by Parliament which led to the creation of the Church of England.

D. The Reformation & Tudors	
Henry VIII's Religious Changes	To ensure full support for the Act of Supremacy, all public figures and churchmen were ordered to swear the **Oath of Supremacy** - anyone who refused was tried for treason and executed. The **Dissolution of the Monasteries -** the monasteries had provided, education, prayer and charity to the people of England for 1000 years but were also accused of being wealthy and corrupt. Henry was in need of money to fight wars. In 1536, he sent his men to strip the monasteries of their wealth and land and took it for himself; the monasteries were left to crumble. The Pilgrimage **of Grace** was a Catholic uprising against the Henry's religious changes. Henry promised they would be forgiven if they went home but later broke that promise and had 200 of those involved, executed.
Edward VI's (1547-1553) Religious Changes	He passed further Protestant reforms. For example: priests were allowed to marry, the Catholic **Mass** was abolished, church services in English became compulsory, he authorised the first prayer book in English- Thomas Cranmer's **Book of Common Prayer**. Any remaining Catholic features were ripped out of English Churches and Catholic rituals and ceremonies were banned.
Mary I (1553-1558)	Mary became queen in 1553, married the Catholic Philip II of Spain and embarked on a **counter-reformation** which reversed all of Edward VI's Protestant reforms (listed above). Mary I came to be known as **'Bloody Mary'** because she used **burning at the stake** to punish Protestants; she executed 283 Protestants including 56 women using this method, in just five years.
Elizabeth I (1558-1603)	When Elizabeth came to the throne, England was torn between those Protestants who wanted to see the Reformation taken further and those who had a deep affection for Catholic ceremonies and rituals. The **Elizabethan Religious Settlement** created a compromise; England's official religion was Protestantism but Catholics could worship in secret. Philip II of Spain launched a naval invasion of England (**Spanish Armada**), partially because of religion in 1588, however, English tactics and difficult weather conditions ensured the Spanish ships never made it to England.

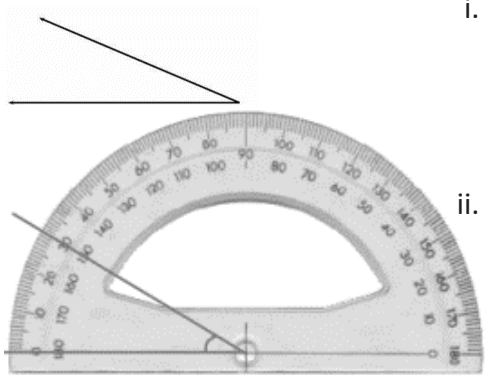
E. Key Dates	
1. 1536	Dissolution of the Monasteries by Henry VIII
2. 1536	Pilgrimage of Grace revolt
3. 1553	Mary I burns Protestants in Counter Reformation
4. 1587	Elizabeth I executed Mary Queen of Scots
5. 1588	Spanish Armada fails to land invasion force in England

F. Keywords	
1. Oath of Supremacy	An oath of allegiance to the monarch as Supreme Head of the Church of England.
2. Dissolution of the Monasteries	The Closure of all religious houses in England by Henry VIII.
3. Heir	A son or daughter who will inherit titles and land from their parents.
4. Counter reformation	Catholic fight back against the spread of Protestantism in Europe.
5. Nobility	The group of people in society directly below the King/Queen.
6. Elizabethan Religious Settlement, 1559	A compromise returning England to Protestantism while allowing Catholics to worship in secret.
7. Golden Age	A period of time which is considered a period of peace, prosperity and happiness.

1.Keyword	Definition	Example
a. Vertex	A point where two or more line segments meet.	
b. Angles	Angles are measured in degrees	This angle is 45° 
c. Right angles (Perpendicular)	Where two lines meet to form 90˚	
d. Acute angles	Angles less than 90° $0 \leq x < 90$	Angle ABC is an acute angle 
e. Obtuse angles	Angles greater than 90° but less than 180° $90 < x < 180$	Angle ABC is an obtuse angle 
f. Reflex angles	Angles greater than 180° but less than 360°	
g. Protractor	An instrument used to measure angles. Starting from 0 moving clockwise or anticlockwise.	
SPARX INDEPENDENT LEARNING		M502 M541 M780 M331 M818

2. Worked examples

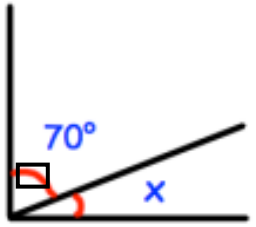
A. Write down the size of the angle below



i. Place the midpoint of the protractor on the vertex of the angle.
ii. Line up one side of the angle with the zero line of the protractor.
iii. Read the degrees

Answer = 30˚

B Calculate the size of the missing angle.



This is a right angle so needs to add up to 90° Therefore

$x + 70° = 90°$

-70 -70

$x = 20°$

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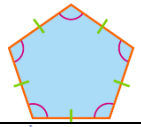
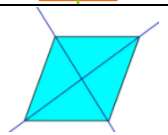
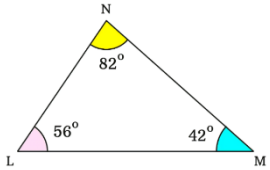
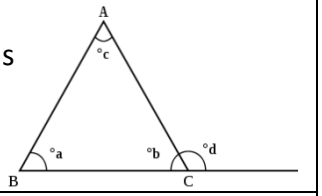
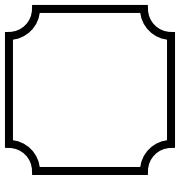
Knowledge Organiser: Year 7 Summer Term – Mathematics 3a Unit 8 – Classifying 2D shapes

1.Keyword	Definition	Example
a. 2D shape	A 2D shape has two dimensions. It has length and width.	 The circle and the rectangle are 2D shapes
b. Regular polygon	A polygon that has all the sides equal and all the angles equal.	This shape is a regular pentagon as all the sides and angles are equal 
c. Symmetry	An object is symmetrical, it means that it is equal on both sides.	The rhombus has two lines of symmetry 
d. Rotational Symmetry	A shape has rotational symmetry when it still looks the same after some rotation.	This shape has a rotational symmetry of order 5. 
e. Interior angles	An interior angle is an angle inside a shape.	The interior angles of a triangle add up to 180° 82 + 56 + 42 = 180 
f. Exterior angles	The exterior Angle is the angle between any side of a shape, and a line extended from the next side.	Angle d is an exterior angle of this triangle. 
SPARX INDEPENDENT LEARNING		M276 M523 M814

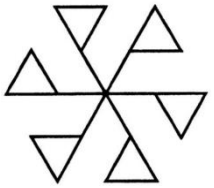
2. Worked examples

A. State the number of lines of symmetry and order of rotational symmetry for each shape below.

a) 

4 Lines of symmetry

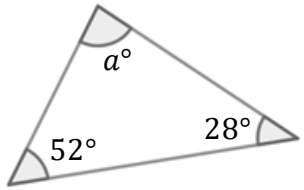
Rotational Symmetry of order 4.

b) 

0 Lines of symmetry

Rotational symmetry of order 6.

B. Find the unknown angle.

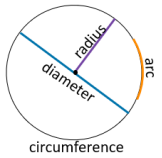
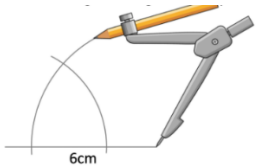
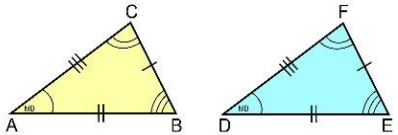
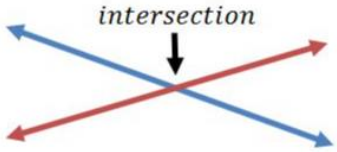
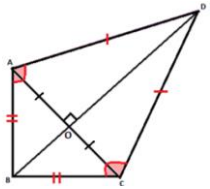


The sum of the interior angles of a triangle is 180°

$$a + 52 + 28 = 180°$$

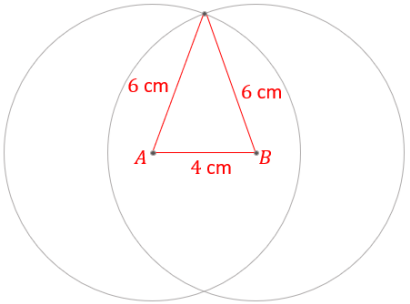
-52 -28 | -52 -28

$$a = 100°$$

1. Keyword	Definition	Example
a. Parts of a circle	Specific parts of a circle that need to be identified. Circumference, diameter, radius, arc.	
b. Construct	To draw accurate pictures using geometric properties.	
c. Congruent	When shapes are exactly the same in all properties.	 $\Delta ABC \cong \Delta DEF$
d. Intersection	A point where two or more lines cross.	
e. Quadrilateral	A quadrilateral is a polygon that has exactly four sides.	A kite is a quadrilateral 
SPARX INDEPENDENT LEARNING		M985 M196 M565

2.Worked examples

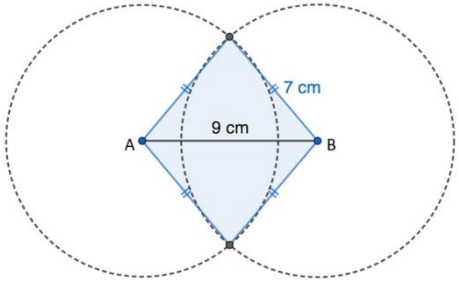
A. Construct a triangle with side lengths: 6cm, 6cm and 4 cm.



a. Draw a horizontal line of 4cm.
b. Set the compass to 6cm.
c. Draw a circle from point A.
d. Draw a circle from point B.
e. Using a ruler draw a line from point A to where the two circles intersect.
f. Draw a line segment from points A and B to where the two circles intersect.

B. Accurately construct a rhombus starting with side lengths of 7cm

a. Draw a horizontal line segment AB of 9cm
b. Set the compass to 7cm and draw a circle from point A.
c. Draw another circle from point B.
d. Draw line segments from point A and B to where



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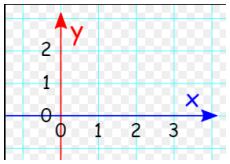
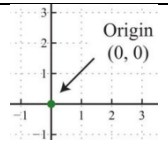
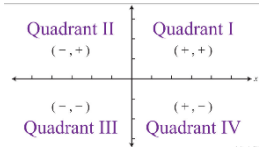
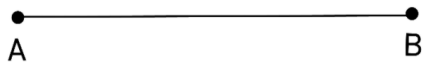
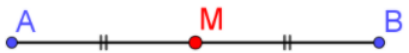
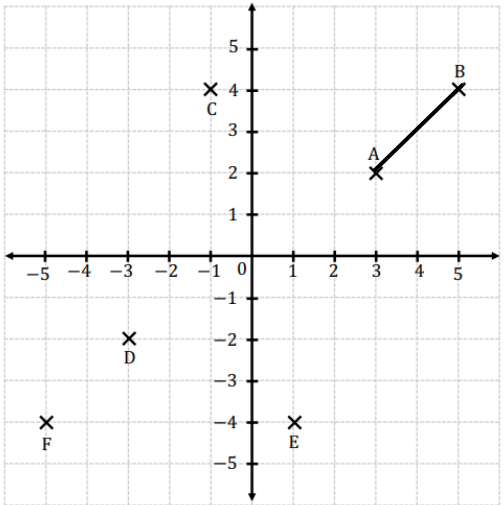
Knowledge Organiser: Year 7 Summer Term – Mathematics 3b Unit 10 – Coordinates

1. Keyword	Definition	Example
a. $x-$ axis	This is the horizontal axis or the line y = 0	The blue line is the x axis. The red line is the y axis. 
b. $y-$ axis	The vertical axis or the line x= 0	
c. Coordinates	Coordinates are numbers giving the position of a point on a graph.	(x, y)
d. Origin	Where the x axis crosses, the y-axis.	The origin is at the coordinates (0,0) 
e. Quadrant	Any of the 4 areas made when we divide up a plane by an **x** and **y** axis	In the 3rd quadrant the coordinates are both negative 
f. Line Segment	A line segment is the portion of a line that connects two points.	AB is a line segment 
g. Mid-point of a line	The middle point of a line segment. It is equidistant from both end points	 M is the midpoint of the line AB.
h. Equation of a straight line	Any equation that conveys information about a line's gradient (m) and intercept (c) in the form y= mx + c	In the equation of the straight line y= 3x + 8 identify the gradient and intercept. Gradient m= 3. Intercept c= (0,8)
SPARX NDEPENDENT LEARNING		M618 M622

2. Worked examples

1) a) Write down the coordinates of the points on the grid below.
b) Find the midpoint of the points A and B.
c) Which of the coordinates are in the 3rd quadrant?



Answers

1a) $A\ (3,2)$ $B\ (5,4)$ $C\ (-1,4)$ $D\ (-3,-2)$

$E\ (1,-4)$ $F\ (-5,-4)$

1b) $A\ (3,2)$ $B\ (5,4)$ The midpoint is halfway between points A and B so is therefore at point (4, 3)

1c) D and F

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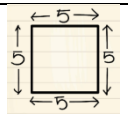
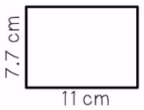
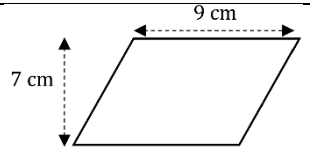
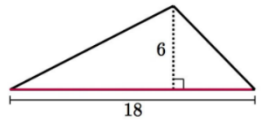
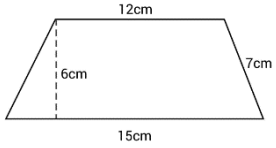
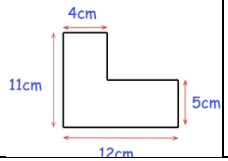
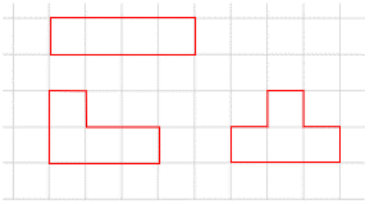
Knowledge Organiser: Year 7 Summer Term – Mathematics 3b Unit 11 – Area & Perimeter of 2D Shapes

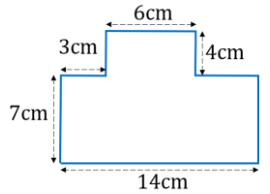
1. Keyword	Definition	Example
a. Perimeter	The distance around the outside of a shape.	Measured in units, like cm, m, etc.
b. Area	The amount of space within the perimeter of a 2D shape.	Measured in square units squared cm^2, m^2, etc.
c. Squares	Area = length x length a = l^2 Perimeter $4 \times l$	 The area is 5 x 5= 25 $units^2$ The perimeter is 4 x 5 = 20 units
d. Rectangles	Area = length x width $A = l \, x \, w$ Perimeter = $2(l + w)$	 The area is 7.7 x 11 = 84.7cm^2 The perimeter is 2(11 + 7.7) = 37.4cm
e. Area of parallelogram	Area = base x perpendicular height	 The area is 9 x 7 = 63cm^2
f. Area triangles	The area = $\frac{1}{2}$ x base x perpendicular height	 The area is $\frac{1}{2} \times 18 \times 6 = 54cm^2$
g. Area of a trapezium	The area = $\frac{1}{2}$ x (a + b) x h	 The area is $\frac{1}{2}$ x (12+15) x 6 = 81cm^2
h. Compound shapes	Any shape that is made up of two or more geometric shapes.	This is a rectilinear compound shape. 
Sparx Independent Learning	M900 M920 M390 M635 M269 M690 M610 M996 M291 M705 M303	

2. Worked examples

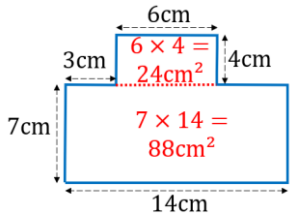
A. Draw 3 shapes on the grid with right angles at all the vertices with perimeter 10 units.



B. Calculate the area and perimeter of the shape below



Answer



The area is $88 + 24 = 112\text{cm}^2$

The perimeter is $2 \times (7 + 4) + 2 \times 14$

$= 22 + 28$

$= 50\text{cm}$

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Knowledge Organiser: Year 7 Summer Term – Music

1 Keywords and definitions

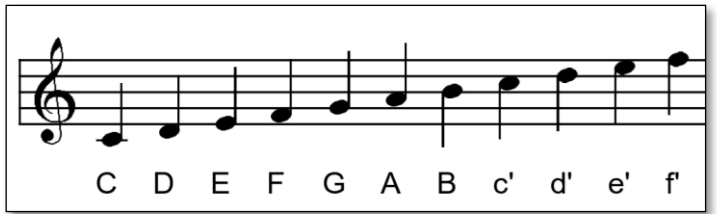
Note	A symbol/shape that indicates a musical sound. (Example: The notes of the scale are C, D, E, F, G, A, B).
Pitch	How high or low a note is. (Example: The piano played a high-pitched note).
Duration	How long a pitched note is played for. (Example: The duration of that note is 2 beats long).
Beats	A measure of time in music. (Example: Count 4 beats then start playing the song).
Stave	5 horizontal lines on which music is written. Each line and space has its own pitch. You place a note on the pitch you wish it to be played on. This note tells you the pitch and the duration it is played for.
Tempo	The speed of the music (Example: The tempo of the music was fast).
Dynamics	How loud or soft the notes are played. (Example: Make sure the dynamics for this melody are played softly).
Clef	A symbol at the start of music that tells you if the music is high or low pitched.

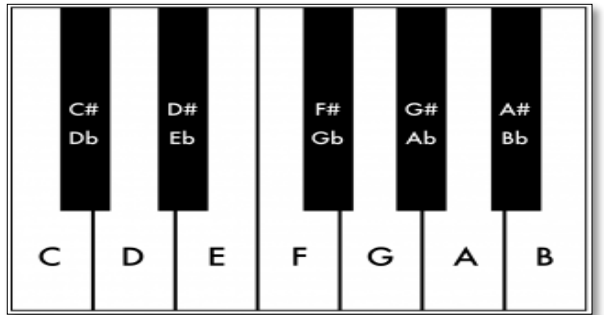
2 Note Durations

Note Name	Symbol	Note Duration
Semibreve		**4 beats**
Minim		**2 beats**
Crotchet		**1 beat**
Quaver		**½ a beat**
Pair of Quavers		**2x½ beat = 1 beat**

3 Note Pitches on the Stave and Keyboard

'Every note has its place, on a line or in a space'. Starting on Middle C, all the white notes going up is a scale.





The Bourne Academy

Knowledge Organiser: Year 7 Summer Term – Music – Waltz and Indian

4 Waltz Keywords and definitions

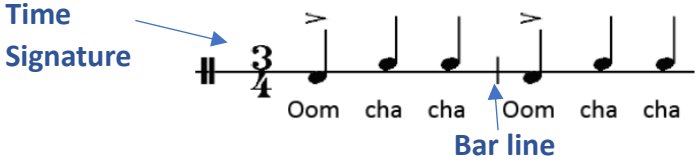
Waltz	Music in ¾ time. It has 3 beats in a bar and has a lilting feel.
Time Signature	Tells you how many beats are in a single bar.
Expression	How each note is played. i.e. Detached or joined up.
Staccato	Short, detached notes.
Composition	Writing your own music.
Composer	Someone who writes music for a living.

6 Indian Music Keywords and definitions

Talas	Cyclic repeating rhythms or patterns.
Tintal	A 16 beat tala.
Raga	Type of scale. Some are used for day or night time or for special occasions.
Ensemble	Indian musician work together as a group. This is called an ensemble in music.
Improvisation	A part of the music where the musician make it up on the spot.

5 Time signatures in a Waltz

Waltz has a strong OOM-CHA-CHA, OOM-CHA-CHA feel to it.



The **TOP** number of the time signature tells you how many beats there are in each bar.
The **BOTTOM** number tells you what note values these beats are.

1 = Semibreve

2 = Minim

4 = Crotchet

8 = Quaver

16 = Semiquaver

7 Indian Instruments

Sitar - has a long neck and has between four and seven metal strings. Most of the strings are plucked with a metal plectrum.

Sarod - is a plucked string instrument, shorter than the Sitar and has no frets.

Tabla - are a pair of small drums placed side by side on the floor in front of the player. Their main role is to keep the time, but they sometimes interact with the soloist and have short solos.

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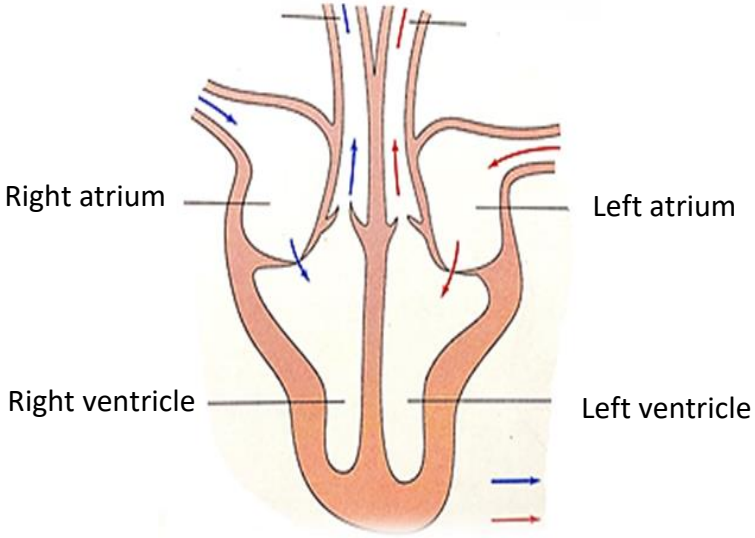
Knowledge Organiser: Year 7 Summer Term – Physical Education

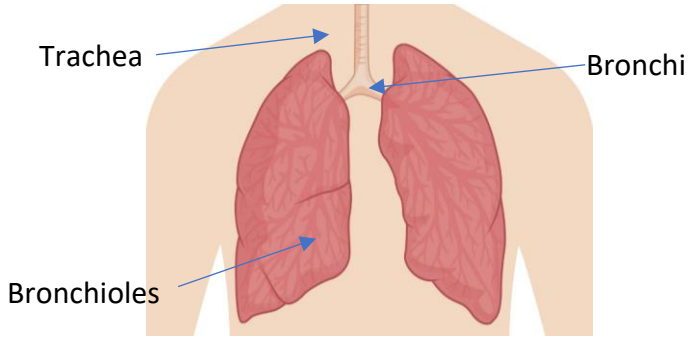
1. Striking and Fielding	Definition
(a) Batting	Your body should be turned sideward on and feet shoulder width apart with a slight bend in the knee. Swing through the ball. Techniques can be different in other sports.
(b) Bowling	There are many techniques in bowling. Aim is to get the batsman out but striking them out or hitting the wicket.
(c) Fielding	This is one of the most important roles in the team, you need to be able to catch a high and moving ball. You always must be on your toes and ready to get the ball back to the bowler if you have failed to catch.
(d) Catching	Hand-eye-coordination is key. You need to watch the ball carefully and follow the direction of the ball. Close your hand tightly around the ball so that it does not fall out and hit the ground.
(e) Spin	Using fingers or wrist to literally turn the ball off the pitch.
(f) Communication	We need to communicate to give and receive information from our team mates. Verbally and through body language.

2. Athletics	Definition
(a) Long Jump	The athletes would take a short run up and jump into an area of dug up earth, with the winner being the one who jumped farthest.
(b) Shot put	Place the shot under the chin and touching the neck. Keep the throwing arm elbow high and the arm parallel to the floor. You push a shot you do not throw it.
(c) Javelin	Hold the javelin in the fold of the hand along the length of the palm.
(d) 100m Sprint	Runners start the race from a standing position along a straight starting line and after hearing the starting pistol the race begins.
(e) Middle Distance	Runners start the race from a standing position along a curved starting line and after hearing the starting pistol the race begins. Track events: 800 metres, 1500 metres.
(f) Long Distance	Runners start the race from a standing position along a curved starting line and after hearing the starting pistol the race begins. Track events: 3000 metres, 5000 metres and 10,000 metres.

3. The Heart



4. The Lungs



5.	Description
(a) Synovial Joint	The bones are joined together with a fibrous joint capsule that surrounds the ends of the bones forming the joint.
(b) Involuntary Muscles	Muscles that are not under our conscious control. For example, the intestines and liver.
(c) Voluntary muscles	Under our conscious control. For example, skeletal bicep muscle.
(d) Ligament	Elastic tissue that joins bone to bone.
(e) Tendon	Elastic tissue that joins muscle to bone.

6.	Description
(a) Isotonic	Muscle action where the muscle changes length.
(b) Concentric	Isotonic contraction where muscles shortens.
(c) Eccentric	Isotonic Contraction where the muscles lengths.

7.	Description
(a) Diffusion	Movement of gases (Carbon dioxide and Oxygen) from a high concentration to a lower concentration.
(b) Vasoconstriction	When arteries diameter constricts (gets smaller).
(c) Vasodilation	When arteries diameter dilates (gets bigger).

8.	Description
(a) Aerobic energy	Dependant on oxygen: used for long duration, low intensity activities.
(b) Anaerobic energy	Not dependant on oxygen used for short/ high intensity activities.

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Knowledge Organiser: Year 7 Summer Term – Religious Studies – Islam

1. Key Words in Islam

a) Faith: Islam
b) Followers: Muslims
c) Holy Book: Qur'an
d) Arabic letters for Ism: peace
e) Name of God: Allah
f) Place of worship: Mosque
g) Important Prophet: Prophet Muhammad
h) Muslim preacher: Imam
i) Symbol: Crescent moon and five-pointed star
j) Religious Practices: 5 Pillars
k) Shahadah: Declaration of the belief in one God
l) Salah: praying five times a day
m) Zakah: Charity 2.5% of wealth
n) Sawm: Fasting in the month of Ramadan
o) Hajj: Pilgrimage to Makkah

2. Shahadah: Declaration of faith

'There is no god but God'

It is said in a new-born babies' ear, announced in the call to prayer, recited during daily prayers, on a Muslim soldiers' lips as they go into battle and if possible, the last words a dying Muslim hears.

3. Salah: prayer

Wudu: washing occurs first to prepare Muslims

5 prayers are said daily:

1. Fajr (just after dawn)
2. Zuhr (just after midday)
3. As'r (late afternoon)
4. Maghrib (just after sunset
5. Isha (after dark)

4. Zakah: Charity 2.5%

Wealth is not ours; it is given by God for the benefit of all humans.

It is a duty to share good fortune.

Giving is a sign of cleansing and purity.

5. Sawm: Fasting

Muslims refrain from eating & drinking from dawn to dusk for 29 / 30 days.

Muslims fast to help identify with the poor, brings people closer together and promotes self-control.

It also is commanded in the Qur'an and follows the example of the Prophet Muhammad.

6. Hajj: Pilgrimage

Muslims are encouraged to take part in a pilgrimage in Makkah lasting five days. Muslims complete a number of set experiences which include:

a) Circling the Ka'ba
b) Walking between the hills of Mawah and Safa
c) Standing before God on the plain of Arafat
d) Collecting pebbles and hurling pebbles at Mina

A annual festival happens afterwards which is celebrated by all Muslims.

7. The Prophet Muhammad (p.b.u.h)

He was orphaned at six years old but grew up as a shepherd and was known for his truthfulness and intelligence.

He later married a rich widow and had six children.

He struggled with the corruption and worship of idols in Makkah.

In the year 610 CE whilst praying, he was visited by the Angel Jibril and was ordered to recite the words of the Qur'an. These revelations continued for 23 years.

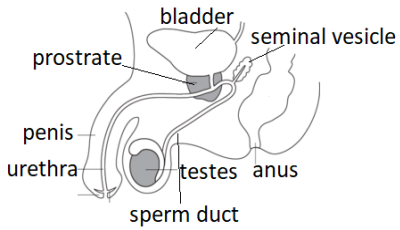
He tried to share his beliefs in Makkah but was met with opposition so left and journeyed to the city of Yathrib (Madinah)

He achieved success as a prophet, military commander, and political leader. But decided to return to Makkah with an army, he took control of the city without a drop of blood being shed.

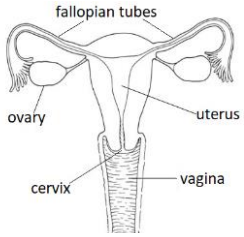
He is known as 'the Seal of Prophets' as he was the last one sent by Allah.

Key Terms (1)	Definitions
a) Amniotic fluid	A fluid which surrounds the foetus and helps to cushion it.
b) Egg cell	The female sex cell (gamete).
c) Fertilisation	The fusing (joining) of the male sperm cell and female ovum.
d) Foetus	The unborn baby after around 8 weeks of pregnancy.
e) Gestation	The period between fertilisation and birth, also known as 'pregnancy'
f) Menstruation	The lining of the uterus breaks down every month if the egg is not fertilised. Also known as the period.
g) Ovary	The female reproductive organ that releases egg cells.
h) Oviduct	The tube the egg travels down, between the ovary and the uterus.
i) Placenta	The organ that allows substances (such as oxygen) to pass between the mother's blood and baby's blood.
j) Sperm Cell	The male sex cell (gamete)
k) Testes	The male reproductive organs which produce sperm cells.

(2) The Male Reproductive System

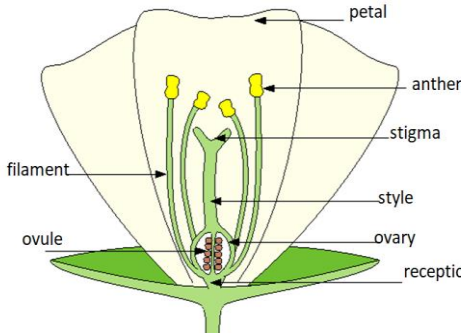


(3) The Female Reproductive System



(4) Menstrual Cycle

Day 1 – 5 The lining of the womb is shed.
Day 6 – 13 The uterus lining thickens in preparation. An egg matures in the ovary.
Day 14 An egg is released from the ovary and travels down the oviduct.
Day 15 – 28 The lining of the uterus is ready for fertilisation.



(5) Pollination

Pollination involves the transfer of pollen (male gamete) from the anther to the stigma (ovary of the flower).
Between different flowers, this is cross fertilisation. In the same flower, this is self-fertilisation.

(1) Key Word	Definition
a) Acid	A substance with a pH less than 7
b) Alkali	A base which is soluble in water.
c) Alkaline	A substance with a pH greater than 7
d) Base	A substance that reacts with an acid to neutralise it and produce a salt.
e) Neutralise	Adding acid and an alkali together until the pH is 7 (neutral) and a salt is formed.
f) Neutral	A substance with a pH of 7. Water is a neutral substance.
g) Litmus Paper	An indicator that can be red or blue. Red litmus paper turns blue in alkalis, while blue litmus turns red in acids.
h) pH	A scale of acidic, or alkaline a substance is. A pH value below 7 is acidic, a pH value above 7 is alkaline.
I) Universal Indicator Paper	A paper which will change colour, depending on whether a substance is acidic or alkaline.

(2) Hazard Symbols

Toxic (Poisonous)

Corrosive (may cause burns)

Substance is an irritant or is harmful

Highly flammable catches fire easily

Explosive substances that can self-react or detonate easily

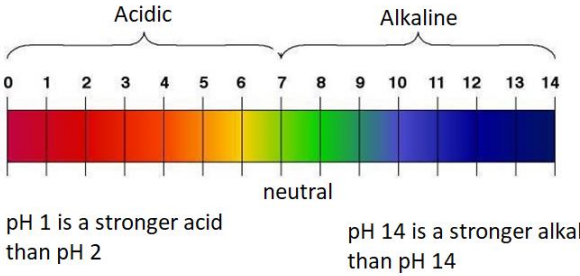
Environmentally damaging substances that can damage the environment

Biohazard substances that pose a threat to human health.

Radiation damaging to living tissue

(4) Facts to Learn

- Weak acids include vinegar (acetic acid) and lemon juice.
- Strong acids include hydrochloric acid (HCl)
- Weak alkalis include soap and washing up liquid.
- Strong alkalis include sodium hydroxide (NaOH)



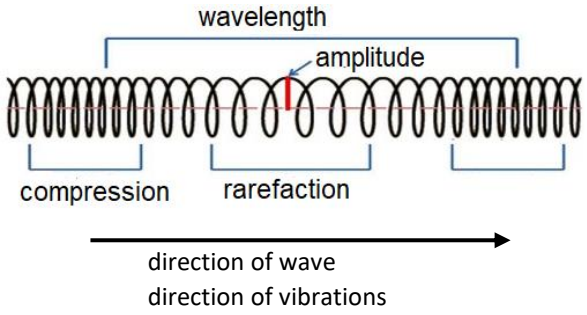
(3) The pH Scale

A scale of **acidity**, or **alkalinity** from 0 – 14.

Stronger acids have a lower pH. Stronger alkalis have a higher pH.

(1) Key Word	Definition
a) Amplitude	The maximum height of a wave from the middle of the wave to its peak or trough.
b) Angle of Incidence	Angle between the normal and incident ray.
c) Angle of reflection	The angle between the reflected ray and the normal.
d) Compression	'Squash' The squashed part of the longitudinal wave.
e) Frequency	The number of waves produced each second. The unit of frequency is hertz (Hz).
f) Incident Ray	Light ray moving towards a surface or boundary (where the glass ends and the air begins)
g) Medium	A medium is anything made of particles of a solid, liquid or gas. Also known as 'substance', or 'stuff'
h) Normal Line	An imaginary line at right angles to the boundary.
i) Oscillation	The regular up and down, or back and forward movement of the wave, also known as vibration.
j) Pitch	The frequency of a sound. Sounds with a high pitch have a high frequency.
k) Rarefaction	'Stretch' The stretched part of the longitudinal wave.
l) Reflected Ray	Light ray leaving a surface or boundary.
m) Wavelength	The length of a single wave, measured from one wave peak to the next.

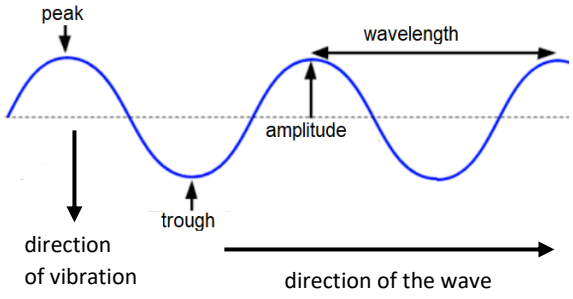
(2) Longitudinal Wave



In **longitudinal** waves, the vibrations are **parallel** to the direction of the wave.

Sound waves are longitudinal.

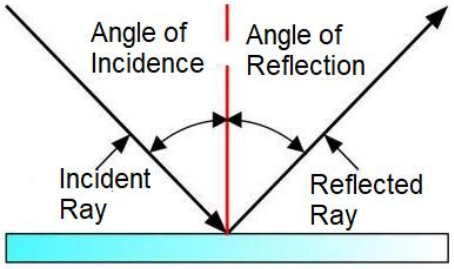
(3) Transverse Wave



In **transverse** waves, the vibrations are at **right angles** to the direction of the wave.

Light waves, vibrations on a guitar string, and ripples on water are

(4) Reflection



A ray diagram shows how light travels, including what happens when it reaches a surface.

The angle of incidence is **equal** to the angle of reflection.

Remember – Always draw straight lines with a ruler and a pencil.

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Knowledge Organiser: Year 7 Summer Term – Spanish – Mi familia y mis amigos (My family and my friends)

(A) ¿Cuántas personas hay en tu familia?	**How many people are there in your family?**	**(B) Los números 20 – 100**	**Numbers 20 – 100**
En mi familia hay…	In my family, there are…	veinte	*20*
personas	*people*	treinta	*30*
mis padres	*my parents*	cuarenta	*40*
mi madre	*my mother*	cincuenta	*50*
mi padre	*my father*	sesenta	*60*
mi abuelo	*my grandfather*	setenta	*70*
mi abuela	*my grandmother*	ochenta	*80*
mi tío	*my uncle*	noventa	*90*
mi tía	*my aunt*	cien	*100*
mis primos	*my cousins*		
¿Cómo se llama tu madre?	What is your mother called?		
Mi madre se llama…	My mother is called…		
Mis primos se llaman… y…	My cousins are called…and…		
su hermano	his/her brother		
sus hermanos	his/her brothers and sisters		
(C) ¿Cómo tienes el pelo?	**What's your hair like?**	**(D) ¿De qué color tienes los ojos?**	**What colour are your eyes?**
Tengo el pelo…	*I have… hair*	Tengo los ojos…	*I have… eyes.*
castaño	*brown*	azules	*blue*
negro	*black*	grises	*grey*
rubio	*blond*	marrones	*brown*
azul	*blue*	verdes	*green*
liso	*straight*	Llevo gafas	*I wear glasses*
rizado	*curly*		
largo	long		
corto	short		
Soy pelirrojo/a	I am a redhead		
Soy calvo.	I am bald		

(E) ¿Cómo es?	**What is he/she like?**	**(F) ¿Cómo es tu casa o tu piso?**	**What is your house or flat look like?**
Es… No es muy… alto/a bajo/a delgado/a gordo/a guapo/a inteligente joven viejo/a Tiene pecas Tiene barba mis amigos mi mejor amigo/a su mejor amigo/a	He/She is… He/She isn't very… tall short slim fat good-looking intelligent young old He/She has freckles He has a beard my friends my best friend his/her best friend	Vivo en… una casa un piso antiguo/a bonito/a cómodo/a grande moderno/a pequeño/a	*I live in…* a house *a flat* *old* *nice* *comfortable* *big* *modern* *small*
(G) ¿Dónde está?	**Where is it?**	**(H) Palabras muy frecuentes**	**High-frequency words**
Está en… el campo la costa una ciudad la montaña un pueblo el norte el sur el este el oeste el centro	*It is in…* *the countryside* *the coast* *a town* *the mountains* *a village* *the north* *the south* *the east* *the west* *the centre*	además bastante porque *muy* ¿Quien…? un poco mi/mis tu/tus su/sus	*also, in addition* *quite* *because* *very* Who? a bit *my* *your* *his/her*

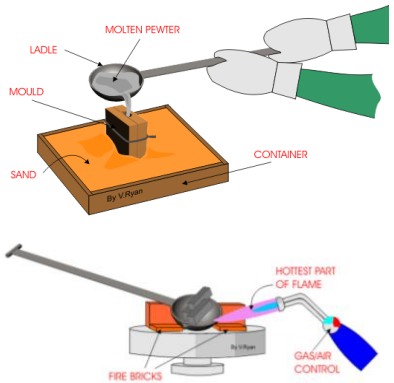
1. Pewter Casting

Casting is a **manufacturing process** used for making 3D shapes out of metal.

Metal is placed into a ladle and heated to its **melting point** using a gas torch.

When the metal reaches its melting point it becomes a liquid. Then it is poured into a **mould**: it goes through the **sprue** and into the **cavity**.

When the metal has cooled the mould is opened and the shape is released.



2. 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.

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,** which is used in casting

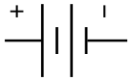
3. Electronics

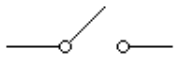
Different components have different functions:

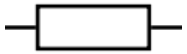
Input Components -The input is what sets an electrical circuit in action. It allows the first signal to be sent.

Process Components -Process components work together to ensure current and signals are sent between input components and output components.

Output components -The output is what the circuit results in and ultimately does.

Batteries 

Switches 

Resistors 

LED 

4. Product Analysis

A product analysis looks at current products and assesses whether they are successful or require improving. A good product analysis informs designers how products can be developed.

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

Medium

Hot

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?
6. How would you improve the product?

The Bourne Academy

Knowledge Organiser: Year 7 Summer Term – TED

5. Timbers

Hardwoods are durable and sturdy and often used in expensive furniture and finishes. Hardwoods tend to have a close grain. Example= Oak, Mahogany, Teak and Beech.

Softwoods are cheaper than hardwoods and are used mostly for their look and appearance. IKEA use softwood from sustainable forests, meaning that for every tree cut down they plant one in its place, a softwood tree takes 2—30 years to grow. This is better for the environment and cheaper for the customer. Examples= Pine and Spruce.

Manufactured boards are timber sheets which are produced by gluing wood layers or wood fibres together. Examples are plywood and MDF.

6. Sustainability

Reduce Using less materials and energy.

Reuse Using components and materials that have been used before.

Recycle Recycling products into new materials to be used again.

Sustainability is about designers and manufacturers working together to minimise the impact products have on the environment.

7. New and Digital Technologies

CAD stands for **Computer Aided Design**. CAD software allows designers and engineers to design and model their products on computers.

CAM stands for **Computer Aided Manufacture**. CAM processes include Laser Cutting, 3D Printing and Robotics.

8. Quality Control

Quality Control is when engineers and designs make regular checks to ensure what they are doing is correct.

Ways you can quality control your work include checking measurements and using task criteria to ensure your work does everything the task asks.

9. Working safely

PPE stands for **Personal Protective Equipment.**

PPE you will wear:

- Apron
- Safety goggles
- Leather Gloves

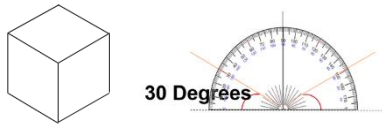
10. Design Communication

It is important all ideas are communicated clearly. Ideas can be communicated through drawings and annotation.

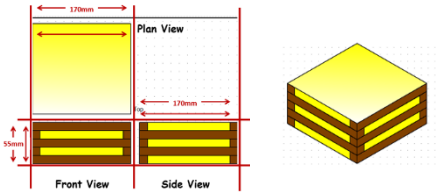
Annotation is the labelling of your work to fully explain it.

The different ways to communicate ideas through drawings shown below:

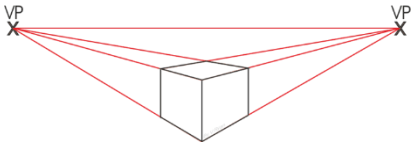
Isometric 3D drawing:



Orthographic 2D drawing:



Perspective 3D drawing:



Free hand sketching:

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Knowledge Organiser: Year 7 Summer Term – TED

11. Project Tools and Equipment

Wire Cutters

Metal Vice

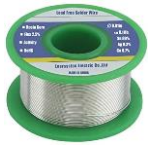
Soldering iron

Soldering iron Holder

Wet sponge

Solder sucker

Solder

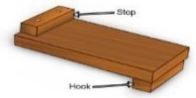


Soldering iron

File

Engineer's Square

Bench Hook



Tenon Saw

12. 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 and lightweight.

Ductile- Can be stretched.

Conductor- Conducts heat or electricity.

Insulator- Does not conduct heat or electricity.

Corrosion resistance- Resistance to rust and UV light

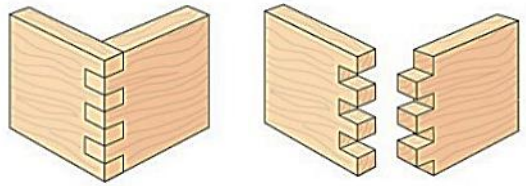
Malleable- Can be shaped, pressed and moulded.

13. Engineering Sectors

Sectors are different job areas within engineering. This includes Electrical, Mechanical, Automotive, Aeronautical and Design Engineering.

14. Joining Materials

Comb joints are used in furniture construction, especially when making drawers. They provide extra strength to the corner of wooden products. Comb Joints interlock to fit components together.



PVA adhesive is used to join timbers. The glue takes 24 hours to fully dry before joints are secured.

Soldered or welded joints are used for metal components. They heat two metal components and join them with a filler metal that hardens and hols them together.

15. Materials

Timbers- MDF, Pine, Ply, Oak

Polymers- Acrylic, Rubber

Metals- Aluminium, Mild Steel, Pewter.

Notes

Notes

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