



















Stafford Manor High School

Year 11 Spring Term 1

Core Knowledge

-  Art
-  Biology
-  Business
-  Chemistry
-  Design Technology
-  English
-  French
-  Geography
-  History
-  Information Technology
-  Maths
-  Performing Arts
-  PE
-  Physics
-  SEL
-  Textiles



1. Describe why presentation is important.

- ❖ How we present work can demonstrate professionalism.
- ❖ We present our analysis in a way that is appropriate for the different medias used.

2. What must be included in a successful record board?

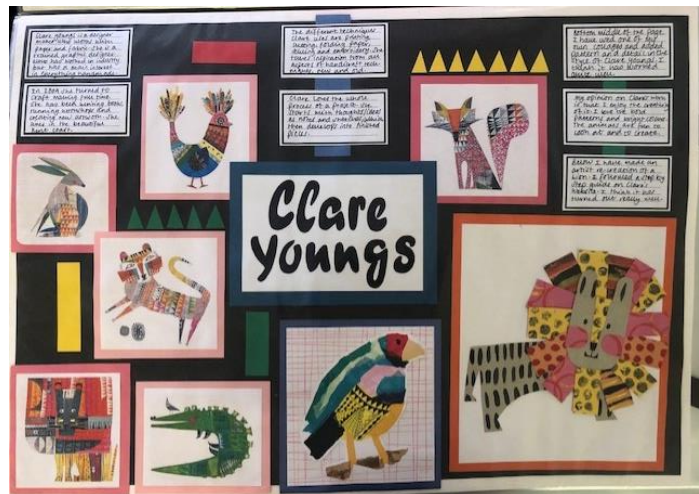
- ❖ A title of the relevant board.
- ❖ A selection of at least x5 high quality drawings in different medias.
- ❖ Annotations based on the drawings. Always using the guidance booklet to assist you.

3. Why is it important to analyse artists?

- ❖ We write and learn about artists so we can better understand the world of art and learn from what others have done.

4. What must be included in an artist research page:

- ❖ A title which is the artist's name.
- ❖ Images of the artist's work.
- ❖ A copy of the artist's work which is called an artist recreation.
- ❖ Information about the artist.
- ❖ A background that links with the artist.



5. Key word definitions:

- ❖ **Composition:** How different elements are combined.
- ❖ **Contemporary:** Art made today by living artists.
- ❖ **Contour:** the artist outlines the shape / mass of an object.
- ❖ **Curling:** Strips of paper that are rolled/looped to create shapes
- ❖ **Geometric:** Using shapes to create a piece of art
- ❖ **Overlapping:** Placing objects over one another to create depth.
- ❖ **Perspective:** Gives art a 3D look.
- ❖ **Realistic:** Subjects painted from everyday life.
- ❖ **Shading:** Darkening of a drawing to show depth.
- ❖ **Soft edged:** Indicates a gradual or smooth transition.
- ❖ **Symmetry:** Involves mirroring of portions of an image.

BIOLOGY

1. What is diffusion?

- Movement of particles from an area of high concentration to an area of low concentration, until equilibrium is reached. It does not require energy.
- Diffusion factors: temperatures, concentration gradient, surface area to volume ratio.

2. How does gas get in and out of our blood?

- Oxygen diffuses from through the walls of the alveoli in the lungs to nearby capillaries.
- Carbon dioxide diffuses from the capillaries to the alveoli.
- Alveoli is adapted for this to happen efficiently because it increase the surface area of the lungs, has a good blood supply and has thin walls.

3. What is blood made of?

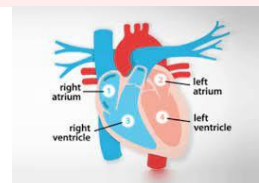
- Red Blood cells – Carry oxygen and have no nucleus.
- White blood cells – Part of our bodies immune system.
- Plasma – Straw coloured liquid carries hormones and waste.
- Platelets – responsible for clotting blood to form scabs.

4. What are the 3 blood vessels?

- Arteries – carry Oxygenated blood away from the heart.
- Veins – carry deoxygenated blood into the heart.
- Capillaries - connect arteries and veins, and allow diffusion.

5. The heart.

- There are 4 chambers, left and right atria and ventricles.
- Deoxygenated blood travels on the right side
- Oxygenated blood travels on the left side.
- The wall of the left ventricle is thicker due to sending blood at high pressure all around the body.



6. How do you calculate cardiac output?

- Cardiac output = heart rate x stroke volume.
- Cardiac output is volume of blood pumped per minute.

7. What is respiration?

- Aerobic respiration: Oxygen + Glucose → Carbon dioxide + Water (releases energy.)
- Anaerobic respiration: Glucose → Lactic acid (releases energy)

8. Core practical

- Soda lime, cotton wool and organisms → Water bath → capillary tube → measure movement of coloured liquid → repeat at different temperatures.
- Rate of respiration = Distance moved (mm) ÷ time taken (s)

BUSINESS

1. How do you calculate gross profit?

Revenue – Cost of sales

2. How do you calculate net profit?

Gross profit – expenses

3. How do you calculate gross profit margin?

$(\text{Gross profit} \div \text{sales revenue}) \times 100$

4. How do you calculate net profit margin?

$(\text{Net profit} \div \text{sales revenue}) \times 100$

5. How do you calculate ARR?

$(\text{lifetime profit} \div \text{years the investment lasts}) / \text{initial investment} \times 100$

6. What are the advantages and disadvantages of using a line graph?

- + good for data shown over many time periods
- + good for comparisons with how one factor affects another
- too many lines can be confusing
- assumptions can be made about trends continuing

7. What are the advantages and disadvantages of using a bar chart?

- + good for data over 2-3 time periods
- + good for comparing size of several different items
- cannot be easily used to compare data over many time periods

8. What are the advantages and disadvantages of using a pie chart?

- + good for showing proportions
- shows big differences clearly, but not small differences
- cannot show trends over a number of years

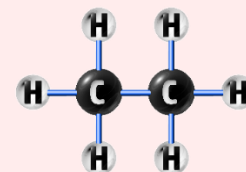
9. What sort of data can a business use?

Financial data, marketing data, market data.

CHEMISTRY

1. What is a hydrocarbon?

- ⦿ A compound made up of **hydrogen** and **carbon...**
- ⦿ ...**ONLY!**



2. What is cracking?

- ⦿ The breaking down of **long chained hydrocarbons** into **short chained hydrocarbons**.

3. What are the fractions of crude oil used for?

- ⦿ **Gases: Heating** and **cooking**
- ⦿ **Petrol: Fuel** for cars
- ⦿ **Kerosene: Fuel** for aircraft
- ⦿ **Diesel: Fuel** for cars and trains
- ⦿ **Fuel Oil: Fuel** for ships and power stations
- ⦿ **Bitumen: Surfacing** roads and roofs

4. What are the products of complete combustion?

- ⦿ Complete combustion occurs when there is *lots of* **oxygen**.
- ⦿ Every time you see complete combustion, think **carbon dioxide** & **water**.

5. What are the products of incomplete combustion?

- ⦿ Incomplete combustion occurs when there is *not enough* **oxygen**.
- ⦿ Incomplete combustion **also** produces **carbon monoxide** and **soot**.

6. What produced the gases in the early atmosphere?

- ⦿ **Volcanoes!**

7. What is the test for oxygen?

- ⦿ A **glowing splint** will **relight** if oxygen is present.

8. How did the oceans form?

- ⦿ Earth **cooled**.
- ⦿ Water vapour **condensed**.



9. How did carbon dioxide levels decrease?

- ⦿ **Dissolved** into the oceans
- ⦿ **Photosynthesis: Plants** absorbed the carbon dioxide to produce oxygen.
- ⦿ **Trapped** in shells / sedimentary rock

DESIGN TECHNOLOGY



1. What is a design process?

- ✦ **Design Brief:** A document outlining design project requirements and constraints.
- ✦ **Research:** Gathering information and inspiration for a problem.
- ✦ **Specification:** A detailed list of product requirements.

2. What are materials and properties?

- ✦ **Properties:** Material characteristics like strength, flexibility, and conductivity.
- ✦ **Sustainability:** Considering the environmental impact of materials and processes.
- ✦ **Composite Materials:** Materials made from two or more different types of material.

3. What is a manufacturing process?

- ✦ **Casting:** Forming materials by pouring them into moulds.
- ✦ **Machining:** Shaping materials through cutting, milling, or drilling.
- ✦ **Joining:** Connecting materials using welding, soldering, or gluing.

4. What do CAD and CAM mean?

- ✦ **CAD:** Using computer software for designing products.
- ✦ **CAM:** Using computer-controlled machinery for manufacturing.

5. What do ergonomics and anthropometrics mean?

- ✦ **Ergonomics:** Designs to suit the human body and its movements.
- ✦ **Anthropometrics:** Study of the measurements and proportions of the human body.

6. What is quality control and assurance?

- ✦ **Quality Control:** Ensuring products meet specified standards.
- ✦ **Quality Assurance:** Systems to prevent defects in manufacturing.

7. How can we stay safe in a DT lab?

- ✦ **Risk Assessment:** Evaluating potential hazards and taking measures to minimize risks.
- ✦ **PPE:** Gear worn to protect against workplace hazards.

8. What does sustainability mean?

- ✦ **Renewable Resources:** Resources that can be replaced naturally.
- ✦ **Life Cycle Analysis:** Assessing the environmental impact of a product from raw material extraction to disposal.

9. What does 'prototype and testing' mean?

- ✦ **Prototyping:** Creating a preliminary model or sample of a product.
- ✦ **Testing:** Evaluating the functionality, durability, and performance of a product.

ENGLISH LANGUAGE

1. What is non-fiction?

- ✿ Writing that is informative and / or factual

2. Give three examples of non-fiction writing

- ✿ Letter, speech, article, leaflet, review

3. What does DAFORREST stand for?

- ✿ Direct address, alliteration, facts, opinion, rhetorical question, repetition, emotive language, statistics, tone, triplet

4. Why do writer's write non-fiction?

- ✿ To argue, to inform, to persuade, to explain, to entertain

5. How many texts are used in Paper 2

- ✿ 2 texts – one pre 19th Century and one modern text.

ENGLISH LITERATURE

1. Who are the main characters in the play you are studying?

- ✿ Macbeth, Lady Macbeth, Banquo, Macduff, Duncan, The 3 Witches, King Duncan

2. What are the main themes in the play?

- ✿ Supernatural, ambition, loyalty and betrayal, kingship, good and evil, reality and appearances, fate and free will

3. Finish the quotation

- ✿ 'Is this a ...'

4. In what era was the play written?

- ✿ Jacobean era (King James 1 ruled England and Scotland)

5. Why did Shakespeare write this play?

- ✿ Written for King James 1. There had been several plots to assassinate the King, including the Gun Powder Plot next. King James 1 was interested in the supernatural and published a book on how to identify and punish witches.

FRENCH

1. What are these in English? Le bulletin; le cours; la cour ; les devoirs ; le directeur / la directrice ; l'élève

- School report; lesson; playground; homework; headteacher; pupil

2. What are these in English? La matière; le / la prof (le professeur / la professeure) ; la récré ; la pause-déjeuner

- Subject ; high school teacher ; break ; lunch time

3. What are these in English? L'emploi du temps; en sixième ; en seconde ; le trajet

- Timetable ; in year 7 ; in year 11 ; journey (short)

4. What are these subjects in English? L'informatique; la chimie; le dessin; l'EPS ; les langues

- Computing ; chemistry ; art ; PE ; languages

5. What are these nouns in English? Le car de ramassage; le bruit ; l'ambiance ; l'inconvénient ; l'intimidation ; la mode

- School bus ; noise ; atmosphere ; disadvantage; bullying; fashion

6. What are these verbs (in the infinitive) in English? Avoir raison; avoir tort; faire attention ; passer l'examen

- To be right ; to be wrong ; to pay attention ; to sit an exam

7. What are these adjectives in English? Bien équipé; faux; vrai; pire; tôt ; en retard ; propre ; sale

- Well-equipped ; false ; true ; worse ; early ; late; clean; dirty

8. What are the future endings for je, tu, il/elle/ on, nous, vous, Ils/elles which you add to the infinitive ?

- Je = ai; tu = as; il / elle/ on = a ; nous = ons ; vous = ez ; ils /elles – ont (eg je travaillerai)

9. What are the future conditional endings for je, tu, il/elle/ on, nous, vous, Ils/elles which you add to the infinitive ?

- Je = ais; tu = ais; il / elle/ on = ait ; nous = ions ; vous = iez ; ils /elles – aient (eg je travaillerais)

10. What are the irregular stems for these verbs in the future and future conditional tenses? Aller; faire; être; avoir; vouloir; devenir

- Ir ; fer ; ser ; aur ; voudr ; deviendr (eg je voudrais)

GEOGRAPHY

1. What is a resource?

- 🌱 A resource is a stock or supply of something that has a value or a purpose.

2. What is the definition of undernutrition (malnutrition)?

- 🌱 A poorly-balanced diet lacking in minerals and vitamins

3. What are the three key resources?

- | | | |
|--------|---------|----------|
| 🌱 Food | 🌱 Water | 🌱 Energy |
|--------|---------|----------|

4. Why does the UK import so much food?

- 🌱 UK food can be expensive, poor harvests, price of animal feed
- 🌱 Availability of cheaper food from abroad
- 🌱 Demand for greater choice
- 🌱 UK climate is unsuitable for production of some foods
- 🌱 Demand for seasonal food all year round.

5. Describe the differences between agribusiness and organic farming.

- 🌱 Agribusiness – intensive farming aimed at maximising the amount of food produced.
- 🌱 Organic farming – grown without the use of chemicals.

6. Explain the difference between water surplus and deficit.

- 🌱 Water surplus – where supply exceeds demand
- 🌱 Water deficit – where demand exceeds supply

7. What is water transfer?

- 🌱 The transfer of water from areas of surplus to areas of demand.

8. What is the UK's energy mix?

- | | | | |
|-------------|-------|--------|-----------|
| 🌱 Renewable | 🌱 Gas | 🌱 Coal | 🌱 Nuclear |
|-------------|-------|--------|-----------|

9. What is fracking?

- 🌱 To extraction of gas deep under shale rock using high pressure liquids such as water, sand and chemicals.

10. What factors affect food supply?

- 🌱 Climate change
- 🌱 Drought
- 🌱 Conflicts/ war
- 🌱 Poverty
- 🌱 Unskilled use of technology

11. What are the impacts of food insecurity?

- 🌱 Famine
- 🌱 Undernutrition (malnutrition)
- 🌱 Soil erosion
- 🌱 Rising prices

HEALTH & SOCIAL CARE

1. Define health and wellbeing:

- ✿ A combination of physical health and social and emotional wellbeing, and not just the absence of disease and illness.

2. Physical factors that can have positive or negative effects on health and wellbeing:

- ✿ Inherited conditions (sickle cell disease, cystic fibrosis)
- ✿ Physical ill health (cardiovascular disease, obesity, type 2 diabetes)
- ✿ Mental ill health (anxiety, stress)
- ✿ Physical abilities
- ✿ Sensory impairments

3. Lifestyle factors that can have positive or negative effects on health and wellbeing:

- | | |
|---------------------|--------------------|
| ✿ Nutrition | ✿ Alcohol |
| ✿ Physical activity | ✿ Substance misuse |
| ✿ Smoking | |

4. Social factors that can have positive or negative effects on health and wellbeing:

- ✿ Supportive and unsupportive relationships with others
- ✿ Social inclusion and exclusion
- ✿ Bullying
- ✿ Discrimination

5. Cultural factors that can have positive or negative effects on health and wellbeing:

- | | |
|---------------------------------|---------------------------|
| ✿ Religion | ✿ Sexual orientation |
| ✿ Gender roles and expectations | ✿ Community participation |
| ✿ Gender identity | |

6. Economic factors that can have positive or negative effects on health and wellbeing:

- ✿ Employment situation
- ✿ Financial resources

7. Environmental factors that can have positive or negative effects on health and wellbeing:

- ✿ Housing needs, conditions, location
- ✿ Home environment
- ✿ Exposure to pollution (air, noise and light)

HISTORY:

ESTABLISHING THE DICTATORSHIP

1. When was Hitler elected Chancellor?

🔗 30 January 1933

2. Who did the Nazis see as racially inferior?

🔗 Jews

3. What does Lebensraum mean?

🔗 Living space

4. Which political ideology were the Nazis opposed to?

🔗 Communism

5. What was the SA?

🔗 A violent paramilitary organization

6. Who was leader of the SA?

🔗 Ernst Rohm

7. What was the SS?

🔗 The elite guard of the Nazi regime

8. Who was leader of the SS?

🔗 Heinrich Himmler

9. What was the Gestapo?

🔗 A secret Nazi police organisation

10. Who was head of propaganda for the Nazi Party?

🔗 Josef Goebbels

11. When was the Reichstag Fire?

🔗 27 February 1933

12. When was the Reichstag Fire Decree passed?

🔗 28 February 1933

13. What was the Enabling Act passed on 23 March 1933?

🔗 It allowed Hitler to govern without the approval of the Reichstag

14. When were trade unions banned?

🔗 May 1933

15. When were all political parties, apart from the Nazi Party, banned?

🔗 July 1933

16. What was the Night of the Long Knives, June 1934?

🔗 Hitler removed his enemies within the Nazi Party – Ernst Rohm was shot

17. What did Hitler become in August 1934?

🔗 Fuhrer

INFORMATION TECHNOLOGY



Revision from Year 10

1. What is an input device?

- ❖ A piece of equipment that allows data to be entered into a computer
- ❖ Examples: mouse, keyboard, digital camera, scanner, tablet, microphone, sensor

2. What is an output device?

- ❖ A piece of equipment that allows users to retrieve data from a computer (audio, visual or physical)
- ❖ Examples: monitor, speakers, headphones, printer, projector

3. What is the difference between data and information?

Data contains raw facts and figures. Information is data that has been processed (by a computer).

4. What are the benefits to encoding data?

- ❖ Data is more secure
- ❖ Less storage space required
- ❖ Faster searching for data

5. What is the Internet?

A network of computers connected across the world.

6. What is an intranet?

A local network of computers, usually within the same building.

7. What are the potential threats to data transfer

e.g. packet sniffing, data breaches, malware, unauthorised access

MATHS

1. Key word definitions:

- ✿ **Radius:** The distance from the centre of the shape to the circumference:
- ✿ **Diameter:** The distance from one side of the circle to the other, through the centre.
- ✿ **Tangent:** A straight line that touches the circumference exactly once.
- ✿ **Chord:** A straight line that joins the circumference in two places.
- ✿ **Segment:** The area made on one side of a chord.
- ✿ **Sector:** The area made between two radii.

2. How do you calculate the area of a circle?

$\pi \times \text{radius}^2$

3. How do you calculate the circumference of a circle?

$\pi \times \text{diameter}$

4. How do you calculate the area of a sector?

$\frac{\text{angle}}{360} \times \pi \times \text{radius}^2$

5. How do you calculate the length of an arc?

$\frac{\text{angle}}{360} \times \pi \times \text{diameter}$

6. How do you calculate the volume of a cylinder?

$\pi \times \text{radius}^2 \times \text{length}$

7. How do you calculate the surface area of a cylinder?

$\{2 \times \pi \times \text{radius}^2\} + \{\pi \times \text{diameter} \times \text{length}\}$

8. What are the first four digits of pi?

3.141 (592654...)



1. What does CSP mean?

- ❖ Close Study Product

2. List 4 CSPs that are studied?

- ❖ His Dark Materials, Tatler Magazine, Heat Magazine, Galaxy Advert, Arctic Monkeys music video, Daily Mirror article,

3. What are the elements of Todorov's narrative pattern?

- ❖ equilibrium, disruption, recognition, resolution, and new equilibrium

4. Who are the main elements in Propp's character arc?

- ❖ the villain.
- ❖ the donor (provider)
- ❖ the helper.
- ❖ the princess (or sought-for person) and her father.
- ❖ the dispatcher.
- ❖ the hero or victim.
- ❖ the false hero.

5. Give 3 examples of camera shots?

- ❖ Extreme close up, close up, mid shot, long shot, establishing shot.

PERFORMING ARTS

1. Task 1- Ideas log- You have to write 800 words about your ideas for your devised piece of theatre. (15 Marks)

🌀 What is target audience? Who will be your target audience?

A target audience refers to the specific group of people that a product, service, message, or content is intended to reach and resonate with. Identifying a target audience is a crucial aspect of marketing and communication strategies. Key factors in defining a target audience include age, gender, location, income level, education, interests, values,

🌀 Name 4 different performance spaces. Think about where your piece could be performed

Proscenium Stage:

- This is a traditional stage setup with a large, framed opening (proscenium arch) that separates the stage from the audience. The performers are on one side of the arch, and the audience is on the other. This is the most common type of stage in many theaters.

Arena (or Theatre in the Round):

- In an arena stage, the audience surrounds the stage on all sides. This setup can create a more immersive experience and often requires performers to be conscious of their movements in the round.

Black Box Theatre:

- Black box theaters are flexible, unadorned spaces that can be adapted for different types of performances. The name comes from the typical black color of the walls and floor. The seating and stage arrangements can be easily modified to suit the needs of a particular production.

Site-Specific Performances:

- Some performances take place in non-traditional spaces, like parks, warehouses, or historical buildings. These site-specific performances are designed to interact with the unique characteristics of the chosen location.

Outdoor Spaces:

- Performances can take place in outdoor venues, ranging from open fields to amphitheaters. Outdoor spaces can add a natural and expansive element to the theatrical experience.

🌀 **Style of work**

Naturalistic theatre is a style of drama and theatre that seeks to replicate a believable, everyday reality on stage.

Breaking the fourth wall is a theatrical technique where a character addresses the audience directly, thereby acknowledging their existence and breaking the imaginary "fourth wall" that separates the performers from the audience.

Theatre in Education (TIE) is an educational approach that uses theatre as a tool for learning. It is a form of applied theatre where the primary goal is not to produce a traditional theatrical performance for entertainment purposes but rather to engage students in the learning process. TIE programs are designed to use theatrical techniques to address educational objectives and social issues.

2. Task 2- Skills log- You have to write 800 words about the skills you will use for your devised piece of theatre. (15 Marks)

Drama skills encompass a range of abilities and techniques used by actors, directors, and anyone involved in the theatrical or dramatic arts. These skills are crucial for effective storytelling, engaging performances, and a deeper understanding of dramatic elements. Here are some key drama skills:

Acting:

- **Characterization:** The ability to fully embody a character by understanding their motivations, background, and emotions.
- **Physicality:** Effective use of body language, movement, and gestures to convey a character's traits and emotions.
- **Voice:** Developing vocal techniques, including projection, pitch, pace, and modulation, to enhance communication.

Improvisation:

- **Quick Thinking:** The capacity to respond spontaneously and creatively to unexpected situations or prompts.
- **Adaptability:** Being able to adjust to changes in the performance or storyline without losing character consistency.

Stage Presence:

- **Confidence:** A sense of self-assurance and comfort on stage, allowing the performer to captivate the audience.
- **Energy and Focus:** Maintaining a high level of engagement and intensity throughout a performance.

Directing:

- **Vision:** Developing a clear concept and vision for a production, including blocking, staging, and overall design.
- **Leadership:** Guiding and motivating actors and crew members to bring the director's vision to life.

Collaboration:

- **Teamwork:** Working effectively with other performers, directors, designers, and crew members.
- **Communication:** Clearly expressing ideas, providing feedback, and actively listening to others in the creative process.

Technical Skills:

- **Stagecraft:** Understanding the technical aspects of theatre, including lighting, sound, set design, and costume design.
- **Props Handling:** The ability to use and interact with props convincingly and seamlessly within a performance.

Emotional Intelligence:

- **Empathy:** The capacity to understand and connect with the emotions and experiences of characters.
- **Emotional Control:** Managing and expressing emotions effectively for dramatic impact.

Diction and Pronunciation:

- **Clarity:** Ensuring clear and understandable speech, particularly important for delivering lines to the audience.

PHYSICAL EDUCATION

1. Planes and Axes








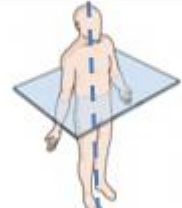

Planes and axes of movement

We move in planes around axes. You need to be able to identify and describe the three different body planes and axes

- A plane is an imaginary line that movement direction occurs in

An axis is a line about which the body or body part can turn.

2. What are the social groups?

Plane of movement	Axes of movement	Sporting example
		
Frontal plane Separates the front and the back of the body	Sagittal axis Goes from the front to the back of the body	Cartwheel The only movements are abduction and adduction
		
Sagittal plane Separates the left and the right side of the body	Frontal axis Does from one side to the other side of the body	Somersault The only movements are flexion and extension
		
Transverse plane Separates the top and the bottom of the body	Vertical axis Goes from the top of the body to the bottom of the body	Full twist (diving) The only movements are rotating and twisting

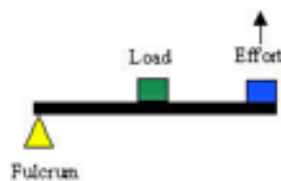
3. Levers

Levers:



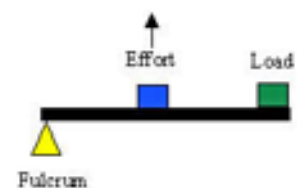
1st Class Lever

The fulcrum is surrounded by the effort and the load



2nd Class Lever

The load is surrounded by the fulcrum and the effort



3rd Class Lever

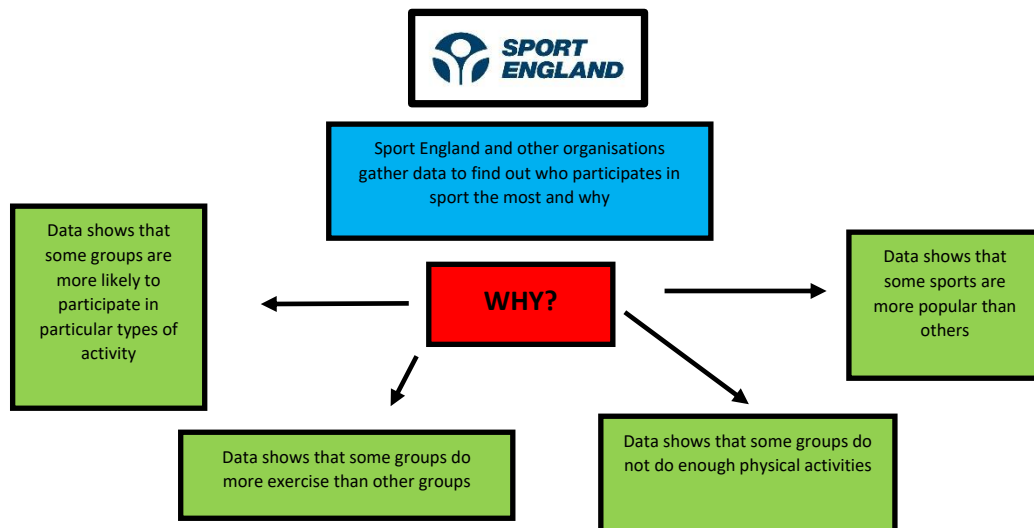
The load is surrounded by the fulcrum and the effort

PHYSICAL EDUCATION

3. Social Groups within Sport

Participation rates

You need to know the reasons for the different levels of participation and the barriers preventing everyone playing sports



4. What are the social groups?

There are 5 social groups that face barriers to participation.

1. Age
2. Gender
3. Disability
4. Socail Class
5. Ethnicity

3. Barriers

Barriers	Socio economic group can affect participation rates and the activities participated in. Barriers include: <ul style="list-style-type: none"> • Cost • Availability • Time
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Barriers	Gender groups can affect participation rates and the activities participated in. Barriers include: <ul style="list-style-type: none"> • Image • Cost • Time
-----------------	--

Barriers	Disability groups can affect participation rates and the activities participated in. Barriers include: <ul style="list-style-type: none"> • Availability • Cost • Access • Stereotyping
-----------------	---

Barriers	Ethnicity groups can affect participation rates and the activities participated in, barriers include: <ul style="list-style-type: none"> • Cultural influences • Cost • Stereotyping
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Barriers	Age groups can affect participation rates and the activities participated in. Barriers include: <ul style="list-style-type: none"> • Access • Cost • Time • Nature of activity
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PHYSICS

1. Why do electrical wires get hot?

- When current passes through a circuit, **energy is transferred** because electrical **work is done** against the resistance.
- Energy is **transferred by heating**, so the circuit heats up.
- Higher resistance = more energy transferred = hotter circuit.

2. Is the electrical heating effect useful?

- The heating effect is **useful** in appliances such as **kettles, toasters and electric heaters**.
- When **plugs, wires** and appliances (e.g. computers) **get hot** this **wastes energy**. Can **cause burns** or **fires**.



3. What is electrical power?

- Power** tells us how much **energy is transferred** every **second**.
- Power is measured in **watts (W)** and **1 W = 1 J/s**.

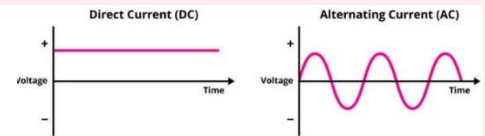
4. How can we calculate electrical power?

- Power = voltage x current
- Power = energy ÷ time
- Power = current² x resistance



5. What are direct and alternating current?

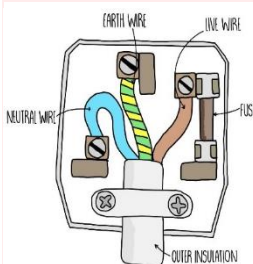
- Direct current (d.c.)** consists of charges flowing in **one direction**, provided by **cells** and **batteries**.
- Alternating current (a.c.)** consists of charges flowing in **changing directions**, produced by rotating generators, such as in **power stations**.



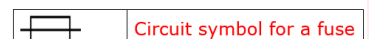
6. How is electricity delivered to our homes?

- Mains electricity is an **alternating current** and arrives at our homes at a voltage of **230 V** and a frequency of **50 Hz**.

7. What are the main parts of a plug?



- Live wire**- is **brown** and carries the voltage from the power station. It should have a voltage of **230 V**.
- Neutral wire**- is **blue** and completes the circuit, providing the return path to the power station. It should have a voltage of **0 V**.
- Earth wire**- is **green & yellow** and it is a **safety wire** to protect the wiring. Provides a low resistance route for current if there are any faults. Should have a voltage of **0 V**.
- Fuses** contain a thin wire that is designed to **melt** if **too much current** flows, this **breaks the circuit** and stops current flow.
- Plugs** have switches that are connected to the **live wire** so that they can **stop current flowing** when switched off.





1. Peer on peer bullying is:

- ❖ Peer on peer abuse occurs when a young person is exploited, bullied and / or harmed by their peers who are the same or similar age; everyone directly involved in peer on peer abuse is under the age of 18

2. Examples of peer on peer bullying include:

- ❖ Cyber bullying and bullying
- ❖ Harmful sexual behaviour
- ❖ Gangs and serious youth crimes
- ❖ Domestic abuse
- ❖ Child Sexual Exploitation (CSE)

3. Fertility in men and women can be affected by the following:

- ❖ Age
- ❖ Taking prescription and recreational (illegal) drugs
- ❖ Smoking cigarettes (including second hand smoke)
- ❖ Weight
- ❖ Diet

4. Factors that lead to someone being more likely to abuse substances like alcohol include:

- ❖ Life traumas not dealt with
- ❖ Belonging to few or no groups (social isolation)
- ❖ Being in trouble at school
- ❖ Being a member of a gang
- ❖ Smoking from a young age
- ❖ Lack of support and positive role models



TEXTILES

1. What should be included in your Artist information pages?

You need to show the moderator you understand:

- 🌀 The work of Artists
- 🌀 That you can interpret / recreate your own Art based on them.

2. What is a source

A source can be absolutely ANYTHING you are inspired by! Below is an example of different sources you might include in your sketchbook:

- 🌀 **A Theme Mind Map** – Mind map all the things you can think of relating to your topic! Include images if you want to.
- 🌀 **Mood Board** – Collect images linked to your theme into a moodboard – annotate keywords about the images / theme.
- 🌀 **Artist / Designer Analysis** – Look at an existing artist or designer and complete an analysis of their work
- 🌀 **Take your own photographs** – You can use your own photos as a source of inspiration! Annotate them explaining how they link to your theme.

3. How to analyse a Textile Artist

- 🌀 Introduce the work of your designer or artist (**key facts only**), **how** does their work fit into trends at the time it was produced or current trends?
- 🌀 Are there any social, environmental, moral, issues surrounding your designers work?
- 🌀 Consider **what** key features appear regularly in your designers work, **why** might that be?
- 🌀 **What** colours do they use a lot of? **What** effect does this give?
- 🌀 **Who** do you think their designs are aimed at? **Why**?
- 🌀 Explain what you like / dislike about the designs and **why** that is.
- 🌀 **What** techniques has the designer used? **Why**? Could different techniques be used to create different effects?
- 🌀 **How** will this designer inspire your work? **How** does the designer fit into the theme? **What** techniques will you sample? **Why**?

4. How do you annotate a design?

- 🌀 What textile techniques have you used in your designs? Why?
- 🌀 How does it link to the samples you have done?
- 🌀 Is your design inspired by any of your sources? How? Why?
- 🌀 What materials would you use? Why?
- 🌀 How does this design link to your theme?
- 🌀 What developments would you make to your designs? Why?

5. Key words:

- ❖ **Contour:** The outline or boundary that defines the shape of a textile.
- ❖ **Observational:** Relating to the act of closely observing and depicting details in a textile or design.
- ❖ **Tone:** The lightness or darkness of colours in a textile, contributing to its overall visual impact.
- ❖ **Shape:** The form or outline of a textile, determined by its external boundary.

