



Stafford Manor High School

Year 11 Spring Term 2

Core Knowledge

-  Art
-  Biology
-  Business
-  Chemistry
-  Design Technology
-  English
-  French
-  Geography
-  Health and Social Care
-  History
-  Information Technology
-  Maths
-  Performing Arts
-  PE
-  Physics
-  SEL
-  Separate Science
-  Textiles



SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

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 final piece planning board?

- A selection of ideas that will go towards your final piece. These ideas will be taken from your record board and will be influenced by your artists too.

3. Why is it important to use artists as influence?

Artist influence refers to the impact that one artist's work, style, or ideas have on another artist's creative development. This influence can manifest in various ways and plays a crucial role in shaping the evolution of artistic movements, techniques, and individual artistic voices.

- **Technique:** Artists may adopt and adapt specific techniques or methods used by another artist. For example, the Impressionist painters influenced each other with their use of light, color, and brushwork.
- **Visual Style:** Artists may be drawn to a particular visual style characterized by a distinctive use of form, composition, or perspective.
- **Themes and Subjects:** Artists may explore similar themes or subjects in their work, inspired by the conceptual explorations of others. For instance, artists exploring social justice themes may be influenced by politically engaged artists.
- **Ideas and Beliefs:** Artists may be influenced by the philosophical ideas and beliefs expressed through artworks. This can include interpretations of human nature, existentialism, spirituality, or cultural identity.

5. Key word definitions:

- Keywords related to artist influence encompass various aspects of how artists impact and inspire each other.
- **Stylistic Influence:** Impact on artistic style, techniques, and visual language.
- **Cultural Influence:** Impact on cultural perspectives and traditions.
- **Adaptation:** Incorporating elements of another artist's style or approach into one's own work.
- **Legacy:** Enduring influence of an artist's work on subsequent generations.
- **Inspiration:** Stimulating creativity and new ideas in other artists.

BIOLOGY

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

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?

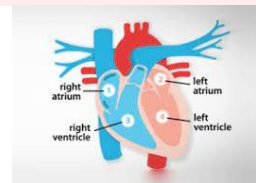
- ❖ Red Blood cells – Carry oxygen and have no nucleus.
- ❖ White blood cells – Part of our bodies immune system.
- ❖ Plasma – Straw coloured liquid carries hormones and waste.
- ❖ Platelets – responsible for clotting blood to form scabs.

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)

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?

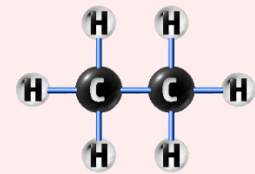
- + good for showing proportions
- shows big differences clearly, but not small differences
- cannot show trends over a number of years

9. What sort of data can a business use?

Financial data, marketing data, market data.

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 changed 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

1. Name some of the different types of movement:

- ✿ Linear, rotary, reciprocating and oscillating movements.

2. State some of the ways that we can change magnitude and force of direction:

- ✿ **Levers:** first order, second order, third order.
- ✿ **Linkages:** bell cranks, push/pull.
- ✿ **Rotary systems:** CAMs and followers, simple gear trains, pulleys and belts.

3. Name some of the key materials you work with:

- ✿ **Papers:** bleed proof, cartridge, grid, layout, tracing.
- ✿ **Boards:** corrugated card, duplex board, foil lined board, foam core board, ink jet card, solid white board.
- ✿ **Hardwoods:** ash, beech, mahogany, oak, balsa.
- ✿ **Softwoods:** larch, pine, spruce.
- ✿ **Manufactured boards:** MDF, plywood, chipboard.
- ✿ **Ferrous metals:** low carbon steel, cast Iron, high carbon/tool steel.
- ✿ **Non-ferrous metals:** aluminium, copper, tin, zinc
- ✿ **Alloys:** brass, stainless-steel, high-speed steel.
- ✿ **Thermoforming Polymers:** acrylic, high impact polystyrene, high density polythene, polypropylene, polyvinyl chloride, PET
- ✿ **Thermosetting polymers:** epoxy resin (ER), melamine-formaldehyde (MF), phenol formaldehyde (PF), polyester resin (PR), urea-formaldehyde (UF).
- ✿ **Natural fibres:** cotton, wool, silk.
- ✿ **Synthetic fibres:** polyester, polyamide (nylon), elastane (lycra)
- ✿ **Blended and mixed fibres:** cotton/polyester.

4. Key word definitions:

- ✿ **Absorbency:** The ability of a material to soak up moisture or liquid.
- ✿ **Conductivity:** The ability of a material to allow heat or electricity to pass through it.
- ✿ **Density:** The mass of a material per unit volume (how heavy or compact it is).
- ✿ **Ductility:** The ability of a material to be stretched or drawn out into thin wire without breaking.
- ✿ **Elasticity:** The ability of a material to return to its original shape after being stretched or compressed.
- ✿ **Fusibility:** The ability of a material to be converted into a liquid or molten state when heated.
- ✿ **Malleability:** The ability of a material to be shaped or deformed by compressive forces, such as hammering or rolling, without breaking.

Theme 1: Poverty

- ❖ The 1834 Poor Law forced the poor into harsh, humiliating workhouses.
- ❖ Malthusian Theory argued overpopulation would lead to starvation.

Theme 2: Christmas celebrations

- ❖ At the start of the 19th century, Christmas was low-key, but Prince Albert introduced traditions like the decorated tree in the 1840s.
- ❖ During Victoria's reign, workers got two days off, trains allowed family travel, and goose was a cheaper alternative to turkey.

Key Quotations: Stave 1

- ❖ 'a squeezing, wrenching, grasping, scraping, clutching, covetous old sinner!'
- ❖ "'Bah!" said Scrooge, 'Humbug!'"
- ❖ "I can't afford to make idle people merry."
- ❖ "Are there no prisons?"
- ❖ "'If they would rather die,'" said Scrooge, 'they had better do it, and decrease the surplus population'"
- ❖ "I wear the chain I forged in life,"

Key Quotations: Stave 3 & 4

- ❖ "I'll give you Mr Scrooge, the founder of the feast."
- ❖ 'The whole quarter reeked with crime, with filth, with misery.'
- ❖ "This boy is Ignorance. This girl is Want. Beware them both."
- ❖ "He frightened everyone away from us when he was alive, to profit us when he was dead."
- ❖ "I will honour Christmas in my heart, and try to keep it all the year. I will live in the Past, the Present, and the Future."

5. Key Terms: An Inspector Calls

- ❖ Didactic - When something is intended to teach
- ❖ Imperious - When you are arrogant and domineering
- ❖ Morality = The knowledge of what is right and wrong

6. How does the final speech emphasize responsibility?

- ❖ It urges the upper classes to recognize how their actions affect others and everyone's moral duty to care for people like Eva Smith.

7. Who accepts guilt and who rejects responsibility?

- ❖ Sheila and Eric acknowledge their guilt and change
- ❖ The Birlings and Gerald reject responsibility and remain unchanged.

8. What does Eva Smith represent?

- ❖ Eva Smith symbolizes the oppressed working class, exploited by figures like Mr. Birling and Gerald.

FRENCH

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

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)

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

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. Aspects of health that can be measured include:

- Temperature
- Height/weight
- Blood pressure
- Cholesterol levels
- Blood glucose
- Liver function
- Resting pulse and recovery pulse rates
- Waist-to-hip ratio

2. The average resting pulse rate is?

- 60 – 100 bpm (beats per minute)

3. High blood pressure is caused by:

- Being overweight
- Smoking
- Eating too much salt
- Drinking too much caffeine
- Being aged 65 or over
- Not getting enough exercise or sleep
- Being African or Caribbean descent
- Having a relative with high blood pressure
- Not eating enough fruit and vegetables

4. How is BMI calculated

- BMI is worked out using a formula, which divides an adult's weight in kilograms by their height in metres squared.

$$\text{BMI} = \frac{\text{Weight in kilogram}}{(\text{Height in meter})^2}$$

5. How is BMI categorised?

BMI	Meaning
Less than 18.5	Underweight
Between 18.5 and 24.9	Healthy weight
Between 25 and 29.9	Overweight
Between 30 and 39.9	Obese
40 and above	Severely obese

6. Published guidelines to support practitioners to interpret lifestyle data are?

- The Eatwell Guide (Nutrition)
- UK Chief Medical Officers' Physical Activity Guidelines
- UK Chief Medical Officers' Smoking Guidelines
- UK Chief Medical Officers' Alcohol Guidelines

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

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What are the 2 different media sectors and give examples?

- Traditional media e.g. Film, TV, radio, print publishing
- New media e.g., Computer games, internet, Interactive media, digital publishing

2. What are the 3 different phases of film production?

- Pre-production
- Production
- Post-production

3. What are the 3 different job role categories?

- Senior
- Technical
- Creative

4. What is a client brief?

A written document or verbal discussion that outlines the key requirements of a project.

5. What are the different client brief formats?

- Commissioned
- Negotiated
- Formal
- Informal

6. What are the different categories an audience can be segmented by?

Age, Gender, Occupation, Income, Education, Location, Interests and Lifestyle

7. What is the difference between primary and secondary research?

- Primary research involves the collection of original, first-hand data directly from individuals or sources.
- Secondary research involves the use of existing data that has already been collected, published, and analysed by other

8. Give examples of primary and secondary research methods

- Primary – interviews, focus groups, questionnaire, survey
- Secondary – books or journal, newspapers and magazines, internet sites, television

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...)

MEDIA

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

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

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. Task 1- You have to write about your ideas for your creation of your performance(10 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.

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.

Other things to consider

Social, Culture, Political, History

Mood/style

Purpose of your ideas

The work of other practitioner's and how they influence your work

🌀 **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.

2. Task 2- Produce a series of plans based on your ideas for your performance (10 Marks)

Produce your plans and ideas for your proposed event.

You should include:

- a brief introduction to the idea
- a fully developed proposal for the idea to be implemented which includes:
 - synopsis of the performance
 - appropriate use of performance disciplines (devised drama, choreography, composition, composition using technology)
 - appropriate use of production disciplines (costume design, lighting design, sound design, make-up and hair design, set design).

- This should be appropriately presented e.g. in writing, using diagrams, audio-visually, digitally.

3. Task 3 and 4- Create a timeline and marketing material to include the following (5 Marks each)

Outline the timeline, personnel and resources required for the implementation of your creative proposal.

You should produce:

- a list of resources/materials required
- a list of personnel required
- a draft production schedule
- a draft budget.

- Outline of resources, personnel, production schedule, and budget.

Outline how you could use marketing and public relations to promote your event.

- Marketing and public relations report.

PHYSICAL EDUCATION

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. Planes and Axes








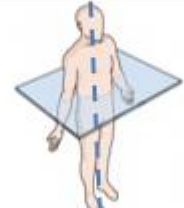

Planes and axes of movement

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

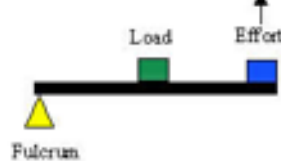
3. Levers

Levers:



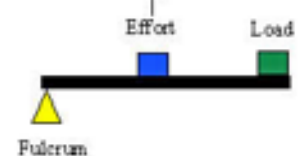
1st Class Lever

The fulcrum is surrounded by the effort and the load



2nd Class Lever

The load is surrounded by the fulcrum and the effort



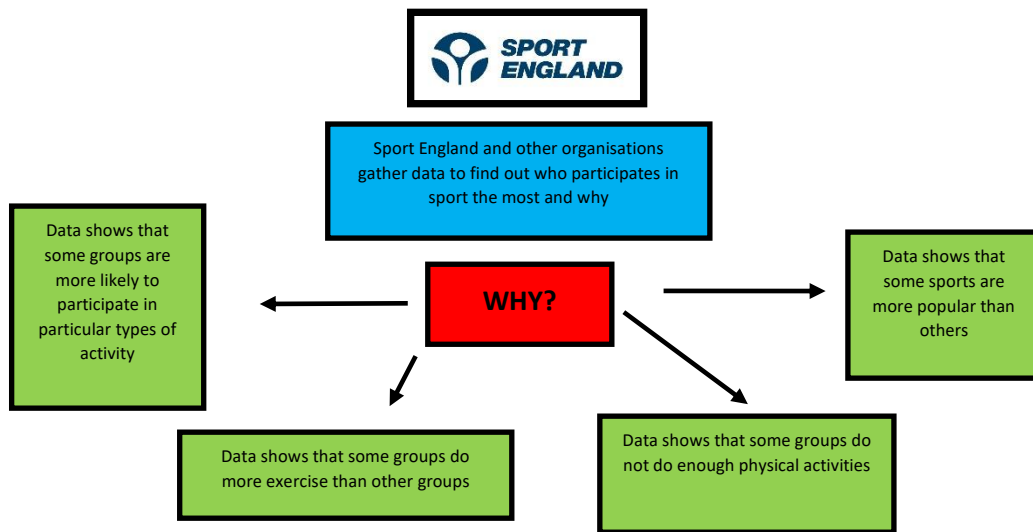
3rd Class Lever

The load is surrounded by the fulcrum and the effort

4. 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



5. What are the social groups?

There are 5 social groups that face barriers to participation.

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

6. 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 	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	Gender groups can affect participation rates and the activities participated in. Barriers include: <ul style="list-style-type: none"> • Image • Cost • Time 	Barriers	Ethnicity groups can affect participation rates and the activities participated in, barriers include: <ul style="list-style-type: none"> • Cultural influences • Cost • Stereotyping
		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

PHYSICS

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

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**.

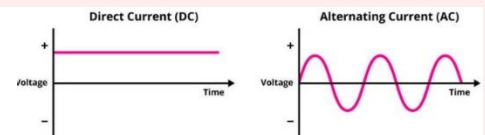
4. How can we calculate electrical power?

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



5. What are direct and alternating current?

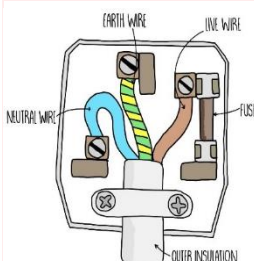
- Direct current (d.c.)** consists of charges flowing in **one direction**, provided by **cells** and **batteries**.
- Alternating current (a.c.)** consists of charges flowing in **changing directions**, produced by rotating generators, such as in **power stations**.



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.



Circuit symbol for a fuse



1. Donation is:

- 🚫 **Donation:** Offering blood, stem cells and/or organs to meet medical needs.

2. Opting into Donation means:

- 🚫 **Opt in:** An active choice and action to do or take part in something.

3. Opting out of Donation means:

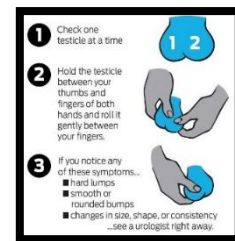
- 🚫 **Opt out:** A choice and action to not take part in something.

4. The organ donation laws in this country are:

- 🚫 All adults are considered to have agreed to donate their organs when they die unless they have recorded a decision not to donate or are in an excluded group.

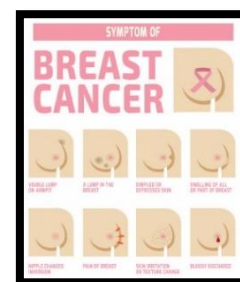
5. The signs/symptoms of testicular cancer could include:

- 🚫 A sudden collection of fluid in the scrotum
- 🚫 A small pea sized lump or enlargement in either testicle
- 🚫 Back pain
- 🚫 Unusual or abnormal testicle development
- 🚫 A dull ache in the abdomen or groin
- 🚫 A feeling of heaviness in the scrotum



6. The signs/symptoms of breast cancer could include:

- 🚫 Change in the size and shape of a breast
- 🚫 Dimpling of the skin of the breast
- 🚫 Blood leaking from the nipple
- 🚫 A painless lump
- 🚫 A rash on or around the nipple
- 🚫 A nipple turning inwards (inverted)
- 🚫 Bumps in and around the arm pit
- 🚫 Swelling in the armpit.



7. Examples of sexually transmitted infections (STI) include:

- | | |
|-----------------|------------------|
| 🚫 Chlamydia | 🚫 HPV |
| 🚫 Gonorrhoea | 🚫 HIV |
| 🚫 Genital warts | 🚫 Genital herpes |
| 🚫 Syphilis | |

1. What is Fick's law?

- The rate of diffusion is **proportional** to *both* the **surface area** and **concentration difference**
- The rate of diffusion is **inversely proportional** to the **thickness** of the membrane.

2. How do you double the rate of diffusion?

- Double** either the **surface area** or **concentration**.
- Halve** the thickness of the exchange membrane.

3. What are the two stages of protein synthesis?

- Transcription:** DNA is transcribed and an mRNA molecule is produced.
- Translation:** mRNA is translated and an amino acid sequence (protein) is produced.

4. What is the difference between a matrix and a reinforcement?

- Reinforcement:** The substance bound together by the matrix.
- Matrix:** The substance that binds the reinforcement material together.

5. How do you calculate the surface area : volume ratio?

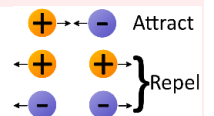
- Step 1:** Surface area = **height x width x 6**
- Step 2:** Volume = **height x width x depth**
- Step 3:** Ratio = **volume ÷ surface area** (e.g., 1:10)

6. Why are nanoparticles used in sunscreen?

- They **block ultraviolet rays** which cause cancer.
- They are **very** small so don't leave white marks.

7. What is static electricity?

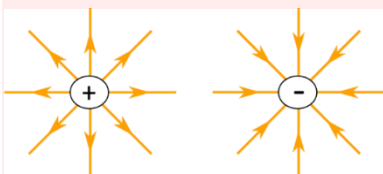
- Opposite** charges **attract** and **like** charge **repel**
- When two **insulators** are rubbed together, static charge builds up
- Friction transfers electrons**- the material that **gained electrons** is **negative** and the material that **lost electrons** is **positive**



8. What are the uses and dangers of static electricity?

- It can be dangerous, e.g. **lightning** or **refuelling** aircraft (a **spark** could ignite **flammable fuel** causing an **explosion**)
- It is useful when **spraying** paint or insecticide- liquid is given the **same charge** causing it to **repel** and create a **fine mist**.

9. What do electric fields look like?



- Straight lines
- Evenly spread
- Away from positive
- Towards negative

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 mood board – 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?