



Stafford Manor High School

Year 10 Spring Term 1

Core Knowledge

1. Art
2. Biology
3. Business
4. Chemistry
5. Design Technology
6. English
7. French
8. Geography
9. Health and Social Care
10. History
11. Information Technology
12. Maths
13. Performing Arts
14. Physical Education (PE)
15. Physics
16. SEL
17. Textiles



SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

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 Record Board?

- A good range of medias such as:
 - Coloured pencil
 - Oil Pastel
 - Watercolour
 - Black fine liner.
- A title which links with the board.
- Annotations that explain what you have done and why.

3. Describe what a record board is.

- A board that shows how you can draw, what medias you are capable of using and how you challenge yourself with them.

4. 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.



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.

1. What is evolution?

- 🌀 The gradual and continual change of organisms over time.

2. What are the stages of Darwin's theory of evolution?

- 🌀 Genetic variation → Over – reproduction → Competition → Survival → Reproduction → Gradual change.

3. What evidence do we have for evolution?

- 🌀 Fossils: Identify similarities and differences in bone structure between fossils and later species.
- 🌀 Stone tools: Newer tools are more advanced.
- 🌀 Bacterial resistance: Emergence of bacteria resistant to antibiotics.

4. What are the five kingdoms of classification?

- 🌀 Plant, Animal, Fungi, Prokaryote, Protist

5. What are the 3 domains?

- 🌀 Archaea, Bacteria, Eukaryote.

6. What is the taxonomic hierarchy?

- 🌀 Kingdom, Phylum, Class, Order, Family, Genus, Species.
- 🌀 Binomial names are a 2 part Latin naming system, made up of the **Genus** and the **Species**; eg **Homo sapiens**.

7. What are the stages of selective breeding?

- 🌀 Select organisms with desired characteristics → Breed them together → Select offspring with desired characteristics → repeat over many generations.

8. What is Genetic Engineering?

- 🌀 Modifying the genome of an organism by introducing a gene from another organism to give a desired characteristic.

9. What are advantages and disadvantages of selective breeding?

- 🌀 Advantages: Increase crop yield, breed animals for disease resistance.
- 🌀 Disadvantages: Health problems from inbreeding, lack of genetic variation, ethical issues.

10. What are advantages and disadvantages of genetic engineering?

- 🌀 Advantages: Improved yields, mass produce synthetic medicines, e.g. insulin, produce foods beneficial to health, e.g. golden rice.
- 🌀 Disadvantages: Unknown effects on human health, and biodiversity, ethical issues, introduce selection pressures.

1. How can markets be segmented?

- 📍 Location
- 📍 Demographics
- 📍 Lifestyle
- 📍 Income
- 📍 Age

2. What is a market map?

- 📍 A diagram that positions all products within a market using two features (e.g. price and quality)

3. What are the ways that a business can compete?

- 📍 Price
- 📍 Quality
- 📍 Location
- 📍 Product Range
- 📍 Customer Service

4. What are the types of market?

- 📍 Monopoly – a market where there is only business
- 📍 Oligopoly – a market where a few firms dominate the market
- 📍 Competitive – a market where lots of small firms offer very similar products

5. What is the difference between an aim and an objective?

Aims are long term goals. Objectives are more specific, measurable, time constrained steps

6. What does SMART stand for?

Specific, **M**easurable, **A**chievable, **R**ealistic, **T**ime-framed

7. Name three examples of fixed costs

- 📍 Rent
- 📍 Rates
- 📍 Bills (electricity, heating, phone)

8. Name three examples of variable costs

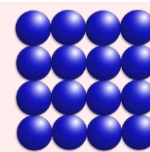
- 📍 Raw materials
- 📍 Packaging
- 📍 Delivery Costs

CHEMISTRY

AUTUMN TERM 2 (CONTENT FROM AUTUMN TERM 1)

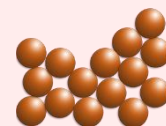
1. Movement and arrangement of particles in a solid:

- 🌀 **Movement:** Vibrating about a **fixed position**
- 🌀 **Arrangement:** **Regular** pattern and **touching**



2. Movement and arrangement of particles in a liquid:

- 🌀 **Movement:** Can move / **flow**
- 🌀 **Arrangement:** **Random** pattern and **touching**



3. Movement and arrangement of particles in a gas:

- 🌀 **Movement:** Moving fast in **all directions**
- 🌀 **Arrangement:** **Random** pattern and **not touching**



4. What are the main state changes?

- 🌀 **Melting:** Solid turning into a liquid (e.g. ice melting)
- 🌀 **Freezing:** Liquid turning into a solid (e.g. water turning into ice)
- 🌀 **Evaporating:** Liquid turning into gas (e.g. water turning into steam)
- 🌀 **Condensing:** Gas turning into liquid (e.g. condensation on windows)

5. What do the words 'soluble' and 'insoluble' mean?

- 🌀 **Soluble:** Something that will dissolve (e.g. salt)
- 🌀 **Insoluble:** Something that will not dissolve (e.g. sand)

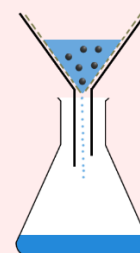
6. How do you carry out filtration?

Key trigger: **insoluble** or **undissolved**

Key Steps: **Tip** → **Filter funnel** → **Filter paper** → **Remain**

Example: During a chemical reaction, copper carbonate is added to nitric acid. At the end of the reaction, a solution of copper chloride contains bits of undissolved copper carbonate. Describe how to remove the copper carbonate.

- 🌀 **Tip** the solution into a **filter funnel** with **filter paper** in it. The copper carbonate will **remain** in the filter paper.



7. How do you carry out crystallisation?

Key trigger: **soluble**, **crystals** or **dissolved**

Key Steps: **Heat** → **Evaporate** → **Crystals** → **Dry**

Example: During a chemical reaction, copper carbonate is added to nitric acid. At the end of the reaction, a solution of copper chloride forms. Describe how to produce pure, dry crystals of copper chloride.

- 🌀 **Heat** the solution and **evaporate** ½ of the water. Leave to cool so that **crystals** of copper chloride form. **Dry** the crystals using filter paper.



1. AO1 A Identifying and Investigating Design possibilities.

- ✿ By analysing the contextual challenge students will identify design possibilities, investigate client needs and wants and factors including economic and social challenges. Students should also use the work of others (past and/or present) to help them form ideas. Research should be concise and relate to their contextual challenge. Students are also advised to use a range of research techniques (primary/secondary) in order to draw accurate conclusions. Students should be encouraged to investigate throughout their project to help inform decisions.

2. AO1 B Producing a Design Brief and Specification

- ✿ Based on conclusions from their investigations students will outline design possibilities by producing a design brief and design specification. Students should review both throughout the project.

4. AO2 C Generating Design Ideas

- ✿ Students should explore a range of possible ideas linking to the contextual challenge selected. These design ideas should demonstrate flair and originality and students are encouraged to take risks with their designs. Students may wish to use a variety of techniques to communicate. Students will not be awarded for the quantity of design ideas but how well their ideas address the contextual challenge selected. Students are encouraged to be imaginative in their approach by experimenting with different ideas and possibilities that avoid design fixation. In the highest band students are expected to show some innovation by generating ideas that are different to the work of the majority of their peers or demonstrate new ways of improving existing solutions.

4. AO2 D Developing Design Ideas

- ✿ Students will develop and refine design ideas. This may include, formal and informal 2D/3D drawing including CAD, systems and schematic diagrams, models and schedules. Students will develop at least one model, however marks will be awarded for the suitability of the model(s) and not the quantity produced. Students will also select suitable materials and components communicating their decisions throughout the development process. Students are encouraged to reflect on their developed ideas by looking at their requirements; including how their designs meet the design specification. Part of this work will then feed into the development of a manufacturing specification providing sufficient accurate information for third party manufacture, using a range of appropriate methods, such as measured drawings, control programs, circuit diagrams, patterns, cutting or parts lists.

1. What is caesura and enjambment?

- 🔥 Caesura: a pause in a line of poetry.
- 🔥 Enjambment: when a sentence or phrase runs over from one line or stanza to the next.

2. What is the poem Kamikaze about?

- 🔥 In this narrative poem, Beatrice Garland explores the testimony of the daughter of a kamikaze pilot. Unlike many of his comrades, this pilot turns back from his target and returns home. The poem vividly explores the moment that the pilot's decision is made and sketches out the consequences for him over the rest of his life. Not only is he shunned by his neighbours but his wife refuses to speak to him or look him in the eye. His children, too, gradually learn that he is not to be spoken to and begin to isolate and reject him.

3. What is the poem Exposure about?

- 🔥 Wilfred Owen's poem focuses on the misery felt by World War One soldiers waiting overnight in the trenches. Although nothing is happening and there is no fighting, there is still danger because they are exposed to the extreme cold and their wait through the night is terrifying. The eight stanzas are gripping because the speaker describes the trauma of living and struggling in such poor conditions.

4. What are the themes in War Photographer?

- 🔥 The poem focuses on two main themes:
 1. The horror of war
 2. Our increasing indifference to the victims of conflict.

5. What happens in the poem Remains?

- 🔥 The poem is told anecdotally and begins with 'On another occasion'. The speaker tells how he and 'somebody else and somebody else' opened fire on a looter who may or may not have been armed. They shot him dead and one of them put the man's 'guts back into his body' before he's carted away.
- 🔥 Later the soldier thinks about the shooting every time he walks down the street. Then later again, when he returns home he is still haunted by the thought of what he has done. He tries drink and drugs to drown out the memory, but they do not work. The line 'he's here in my head when I close my eyes' indicates this.

6. How do you use a semi-colon?

- 🔗 A semi-colon is used to join two sentences with a logical link or to separate items in a detailed list
- 🔗 E.g. Logical link: Lennie's hands remained at his sides; he was too frightened to defend himself.
- 🔗 E.g. Detailed list: Summer was our best season; it was sleeping on the back screened porch in cots, or trying to sleep in the treehouse; it was a thousand colours in a parched landscape.
- 🔗

7. How do you use a colon?

- 🔗 A colon is used to introduce lists, quotations or summaries. It can also be used to indicate that the sentence that follows a colon will clarify what has been stated before it.
- 🔗 E.g. List: There are three 'core' skills: reading, writing and arithmetic.
- 🔗 E.g. Clarify: Everything was screaming: the sea, the wind, my heart.

8. How can I improve my sentence structures?

- 🔗 If your subordinate clause comes before your main clause, you need a comma.
- 🔗 Start your sentence with an adverb. 'Lovingly and attentively, he stared into her beautiful green eyes'.
- 🔗 Start your sentence with a simile. Begin with the word 'as' or 'like'. As brave as a lion, he slayed the evil monster.
- 🔗 Start your sentence with an 'ing' word. Unlocking the door, she left the room.
- 🔗 Start your sentence with an 'ed' word. Scared by the sound, he hid under his covers for shelter.

1. What is the present tense ending pattern for these verbs for je, tu, il, elle (singular forms)?

🌀 je = e; tu = es; il = e; elle = e (eg je danse, tu dances, il danse)

2. What do these question words mean? Qui, Quand, Quoi?

🌀 Who? When? What?

3. What do these question words mean? Combien? Comment?

🌀 How much / how many? How?

4. What do these question words mean? Où? Pourquoi?

🌀 Where? Why?

5. What do these key topic (1.1) verbs mean? Se marier, divorcer, s'entendre, se disputer, aimer, se rencontrer, vivre

🌀 To get married, to divorce, to get on with, to argue with, to love, to meet, to live

6. What does this key topic (1.1) vocabulary mean? Une famille mono-parentale, drôle, égoïste, avoir de l'humour, les qualités personnelles, la carrière,

🌀 Single-parent family, funny, selfish, have a sense of humour, personal qualities, career

7. What do these key topic verbs mean? Tchatter, partager, communiquer, discuter, penser, travailler

🌀 To chat (on line), to share, to communicate, to discuss, to think, to work

8. Why is travailler a false friend (un faux ami)? What is the verb to travel?

🌀 Travailler means to work, NOT travel. Voyager is the verb to travel

9. What do these negatives mean? Ne pas; ne jamais; ne rien ; ne personne

🌀 Not; never; nothing; nobody

10. What is the usual position of the negative?

🌀 Around the first verb like a sandwich (Je ne joue jamais au tennis ; je ne suis pas allé en ville)

1. What impact did the Somerset Floods have on people, economy and environment?

- County, saturation, dredging, home destroyed, roads blocked, relief, climate, prolonged heavy rainfall, cost, loss of habitat, water sources contaminated, loss of income.

2. How do you know climate change is real? What is the evidence?

- Ice cores, tree ring analysis, pollen analysis, paintings, satellite imagery, permafrost melt, hazard frequency, sea level rise.

3. Describe the natural causes of climate change.

- Milutin Milankovitch cycles: Eccentricity, Axial tilt, Precession. Sunspots and volcanic activity.

4. To what extent are humans to blame for climate change?

- Enhanced greenhouse effect, fossil fuels, cars, factories.

5. Describe the strategies used to mitigate climate change.

- Afforestation, international agreements – such as Paris Accord, Kyoto Protocol and COP, renewable energy and carbon capture.

6. Explain how humans have started adapting to climate change.

- Agricultural changes, managing water supply, reducing the risk of rising sea levels.

7. What is a food chain?

- The direct links between producers and consumers in the form of a simple line.

8. What is a biome?

- A large-scale ecosystem such as hot desert or tropical rainforest.

9. What are the key characteristics of the hot desert biome?

- Less 200ml rainfall per annum, high temperatures in the day, cooler temperatures at night, located all round the world the biggest is the Sahara.

10. How have animals and plants adapted to life in the hot desert biome?

- Camel – 2 sets of eyelashes, thick fur to help release heat, humps store fat, large flat feet.
- Needle like leaves to reduce transpiration and for protection.
- 25m long roots to access water deep underground.
- Shallow roots to soak up early morning dew. Waxy, fleshy stems to retain water.

HEALTH & SOCIAL CARE

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. What is meant by a factor affecting development?

- Factors are circumstances that affect an individual's growth and development.
- The circumstances may be linked to their health, the way they live, their lives and their home environment.

2. Physical factors affecting development include:

- Inherited conditions (sickle cell disease, cystic fibrosis, muscular dystrophy, Marfan syndrome and Huntington's disease)
- Experience of illness and disease
- Mental ill health (anxiety, stress, depression)
- Physical ill health (cardiovascular disease, obesity, type 2 diabetes)
- Disabilities
- Sensory impairments

3. Lifestyle factors affecting development include:

- | | |
|---|--|
| <ul style="list-style-type: none">NutritionPhysical activitySmoking | <ul style="list-style-type: none">AlcoholSubstance misuse |
|---|--|

4. Emotional factors affecting development include:

- | | |
|--|---|
| <ul style="list-style-type: none">FearAnxiety/worryUpset/sadnessGrief/bereavement | <ul style="list-style-type: none">Happiness/contentmentSecurityAttachment |
|--|---|

5. Social factors affecting development include:

- Supportive and unsupportive relationships with others – friends, family, peers and colleagues.
- Social inclusion and exclusion
- Bullying
- Discrimination

6. Cultural factors affecting development include:

- | | |
|---|--|
| <ul style="list-style-type: none">ReligionGender roles and expectationsGender identitySexual orientation | <ul style="list-style-type: none">Community participationRace |
|---|--|

7. Environmental factors affecting development include:

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

8. Economic factors affecting development include:

- Employment situation
- Financial resources (income, inheritance, savings)

1. What was the Industrial Revolution?

- The process of change from a farming and handicraft economy to one dominated by industry and machine manufacturing

2. What did Britain begin to establish all over the world?

- Colonies

3. How did the growth of the British Empire help fuel immigration?

- The slave trade brought people from Africa and the Caribbean to Britain
- African and Asian people worked on British Empire ships as sailors

4. Why was there a huge influx of Irish migration in the 1840s?

- The Potato harvest in Ireland failed causing mass starvation

5. What challenges did Irish migrants face?

- Poor living conditions

6. What were Asian sailors also known as?

- Lascars

7. Why was life difficult for migrant sailors?

- Sailors lived in slums
- Sailors faced widespread racism
- Many resorted to begging

8. What impact did Italian migrants have on Britain?

- Introduction of ice cream
- Revitalised the Catholic Church in Britain



9. Why did Jews migrate to Britain in 1880s?

- They were fleeing pogroms in Eastern Europe

10. What were the impacts of Jewish migration?

- Worked in the clothing industry
- Due to these Jews being more traditional, there was a rise in anti-Semitism


11. When did the two world wars take place?

-  First World War: 1914 – 1918
-  Second World War: 1939 - 1945


12. What happened to Britain's Empire after 1945?

-  Countries became independent


13. What is the Commonwealth?

-  An international organisation that includes many countries that were in the British Empire and they shared values.


14. When did Britain join the EU?

-  1973

15. When did Britain vote to leave the EU?

-  2016



16. Where were German immigrants sent during the World Wars?

-  Internment camps


17. How many Belgian refugees came to Britain in the First World War?

-  250,000


18. Where did people come from during the Second World War?

-  Britain's Empire – to help fight
-  Poland - refugees


19. What was the Kindertransport?

-  It rescued Jewish children from Nazi Germany, Austria & Czechoslovakia


20. What was the British Nationality Act, 1948?

-  It gave British citizenship to all people living in the Commonwealth

21. What were many of the Commonwealth migrants victims of?

-  Racism and race riots

24. What was the National Front?

-  A racist political party

25. What is an asylum seeker?

-  Refugees who have to apply for permission to stay.

INFORMATION TECHNOLOGY

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. What is the difference between data and information?

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

2. What are the benefits to encoding data?

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

3. Why is good quality data important?

Poor quality data can lead to incorrect conclusions, poor decision-making, and significant risks.

On the other hand, high-quality data enables businesses to make accurate insights, improve decision-making, reduce risks, save costs, improve the customer experience, and comply with regulatory requirements

4. What are the advantages of using ICT to store data?

- Security
- Automatic Backups
- Better accessibility
- Disaster Recovery
- Easy Sharing

5. What are the disadvantages of using ICT to store data?

- Network connection required if working in different locations
- Additional costs

6. Name three types of data capture

- Bar code reader
- Optical Character Recognition (OCR)
- Speech Recognition

7. What are the differences between LAN and WAN?

LAN means local area network. WAN means wide area network. LANs connect users and applications in close geographical proximity (same building). WANs connect users and applications a much wider area.





8. Name three types of network topography

- Bus
- Star
- Ring

MATHEMATICS

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

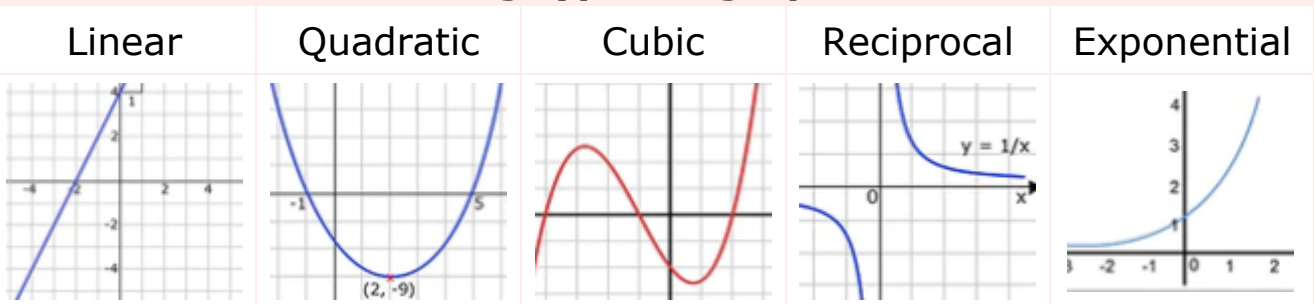
1. Key word definitions:

-  **Gradient:** A measure of how steep a line is
-  **Y-Intercept:** The point at which a line crosses the Y axis
-  **Parallel:** Lines that run in exactly the same direction
-  **Perpendicular:** Lines that meet at ninety degrees

2. What is the usual form of an equation for a straight line?

$$y = mx + c$$

3. What do the following types of graph look like?



4. How do you calculate the gradient of a straight line?

difference in y \div difference in x

5. What is a reflection?

A transformation that changes a shape by *flipping* it over a mirror line

6. What is a translation?

A transformation that changes a shape by *moving* it.

7. What is a rotation?

A transformation that changes a shape by *turning* it.

8. What is an enlargement?

A transformation that changes a shape by making it *bigger or smaller*.

9. When describing a transformation what extra information do you need to give?

Reflection: 1. Mirror Line	Translation: 1. Vector	Rotation: 1. Centre 2. Angle 3. Direction	Enlargement: 1. Centre 2. Scale Factor
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1. What does denotation mean?

- 🔗 Elements that are arguable, the factual elements that we all agree.

2. What does connotation mean?

- 🔗 Elements that are arguable, elements that are personal to the viewer.

3. What is consumption?

- 🔗 Audiences reading, listening or watching a media product

4. What does reading an image mean?

- 🔗 The effect that a media image has on audiences; what they understand from the media product

5. What does analysis mean?

- 🔗 Breakdown of an image or idea; an explanation of why we believe something to be so

6. What is context?

- 🔗 The elements, ideas and beliefs surrounding a media product that provides additional understanding

7. What is an icon?

- 🔗 Images that have strong associations with a person, place, idea or time

8. What does polysemics mean?

- 🔗 The idea that images and colours may be open to different interpretations

9. What does anchorage mean?

- 🔗 Anchorage is when one element of a media product uses a different element of media to reinforce a specific idea

10. What does culture mean?

- 🔗 The ideas, customs and social behaviour of a particular people or society

11. What is mise-en-scene?

- 🔗 Everything in the frame of a shot in a tv show or film

12. What does point of view mean?

- 🔗 Where the camera places the audience in relation to the action in a shot

PERFORMING ARTS

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Task 1a- These are the questions you need to think about for Task 1a which is worth 6 marks

- 🎭 the original author/composer/choreographer and their intentions for the piece(s)
- 🎭 intended mood and style/genre
- 🎭 themes and ideas
- 🎭 performance space
- 🎭 purpose
- 🎭 the relationship between audience and the performer
- 🎭 original target audience
- 🎭 new target audience.

2. Task 1b- These are the questions you need to think about for Task 1b which is worth 5 marks

- 🎭 What do you do already? In terms of Dance or Drama or Music
- 🎭 This could be a dance school or dance lessons you attend
- 🎭 It could be a talent show you take part in
- 🎭 It could be acting classes/singing classes
- 🎭 Learning to play the guitar at school
- 🎭 Singing in the choir
- 🎭 Include as much as you can about your own experiences

3. Task 2- These are the questions you need to think about for Task 2 which is worth 4 marks

- 🎭 1. What is a rehearsal schedule?
- 🎭 2. Why are they important to have in place?
- 🎭 3. Research what they look like
- 🎭 4. What things do you need to rehearse?

Rehearsal type/What	Time allocated	Focus for that rehearsal	Evidence/note
Rehearsal 1 First read through with my group	45 minutes	Group read through of the extract	First read through All characters have been decided on Read through each of the parts Stage directions will be read out too so we know what is happening Think about articulation of words, meaning of any words said, how they should be said etc Make sure we can pronounce all of our lines Get to know the other actors and their strengths/areas for development Ask questions to our teacher or other cast members

PHYSICAL EDUCATION

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Principles of Training

Principles of training: F I R S T O P

Principle	Explanation	Application
F.I.T.T	F = Frequency (how often) I = Intensity (how hard) T = Time (how long) T = Type of training	I train 3 times per week 3 sets of 8 reps of 15kg I train for 60 minutes I use circuit training
Individual Needs	Everybody is different and has different needs. It is important to match training to the requirements of the individual	Ronaldo is a professional footballer he trains 5 days per week. John plays Sunday league football and trains once per week
Reversibility	Just as football improves with training, it can decline if you stop training	Reversibility can be caused by lack of training or injury
Specificity	Training must match the requirements of the activity so that the right muscles and body systems are adapted	A sprinter should train for speed A rower should train using a rowing machine not a treadmill
Thresholds of Training	To improve fitness, you should train within your target zone. Your target zone will depend on the intensity of the activity Aerobic = 60 - 80% max HR Anaerobic = 80 - 90% max HR	Running a 10k is an aerobic activity. You should therefore train in the aerobic training zone of 60 - 80% of the max heart rate
Overtraining	Too much training can lead to injury and prevent improvement. Rest, duration of a session and the intensity are all important when training	Training everyday does not allow enough time for rest for recovery and adaptations
Progressive Overload	Progressive overload is gradually increasing the amount of training so that fitness gains occur, but without the risk of injury	Week 1 = run for 10 mins Week 2 run for 15 mins

2. Methods of Training

Types of Training

Continuous Training	Fartlek Training	Circuit Training	Interval Training	Plyometric Training	Weight Training
Is aerobic Has no breaks or rest (20 min or more) Sub-maximal exercise Improves cardiovascular & muscular endurance	Form of continuous training Varies in pace and terrain Aerobic & Anaerobic Improves cardiovascular & muscular endurance	Contains stations organised in a circuit they can be skill or fitness based, aerobic or anaerobic Intensity is measure by circuits, time or repetitions	High intense exercise followed by periods of rest to recover Usually anaerobic can be used in a variety of locations Improves speed but can improve strength and cardiovascular	High Intensity Short duration Breaks between sets (exercises) Involves jumping/bounding Improves power (speed & strength)	Form of interval training Involves reps and sets Weight provides the resistance Improves strength, power and muscular endurance
Advantages	Advantages	Advantages	Advantages	Advantages	Advantages
No equipment or facilities Has many health benefits (CHD)	No equipment or facilities Change of pace can be more interesting	Variety of stations generates interest Can be skill or fitness Can easily be adapted	Can be used to improve health and fitness (aerobic & anaerobic) No equipment needed	Develops power quickly No equipment	Can target specific areas of the body Easily adapted for different fitness'
Disadvantages	Disadvantages	Disadvantages	Disadvantages	Disadvantages	Disadvantages
Boring No change of pace Can cause impact injuries	High intensity can be avoided A safe route may be hard to find	Equipment can be costly Can be time consuming to set up	Can be repetitive and boring Need to plan and keep track of sets	Can cause injury due to high intensity	Can cause injury with poor technique A spotter needed with free weights
Sports	Sports	Sports	Sports	Sports	Sports
Marathon running cycling swimming	Football Rugby Netball	Can be adapted to suit all sports	Usually for speed It can be adapted to other sports	Basketball Long jump Hurdles	Weight lifting, rugby shot-put

PHYSICAL EDUCATION

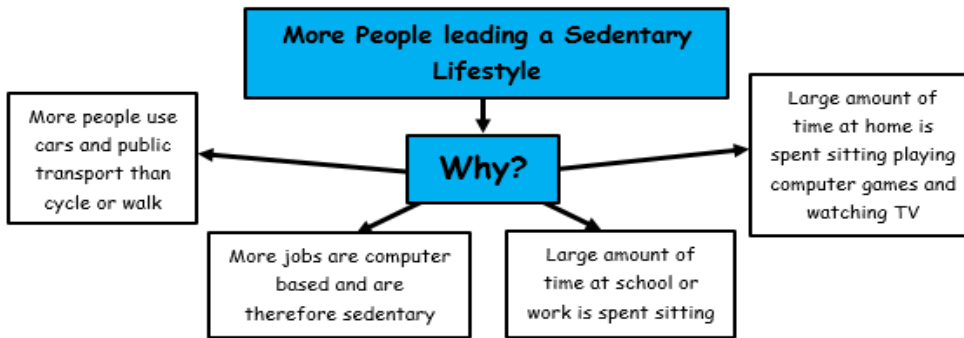
SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Sedentary Lifestyle

The consequences of a sedentary lifestyle

Sedentary lifestyle = A lifestyle where there is little or no exercise

A sedentary lifestyle is doing less than 30 minutes physical activity per week. Sedentary behaviour refers to activities that use little energy such as watching TV, playing computer games or sitting down. It is reported that British people on average sit for nearly 9 hours per day.









2. Health Risks

Health risks associated with a sedentary lifestyle

Health risk	Explanation
Obesity	Due to inactivity and a reduction in metabolic rate
Depression	Being overweight or obese can lead to poor self-esteem and lack of confidence
Osteoporosis	Due to lack of weight bearing exercise
Poor muscle tone & posture	Due to inactivity muscles are weak
Type 2 diabetes	Being overweight can increase the risk of developing type 2 diabetes
Heart disease and stroke	High blood pressure and cholesterol increase the risk of a heart attack and a stroke

3. Diet and Nutrition

Macronutrients		
<p>Carbohydrates</p> <p>Function:</p> <ul style="list-style-type: none"> Provide us with energy in both aerobic and anaerobic activities Eaten in large quantities compared to other macronutrients <p>Found in:</p> <ul style="list-style-type: none"> Bread, rice, pasta, potatoes 	<p>Fats</p> <p>Function:</p> <ul style="list-style-type: none"> Provide us with energy, is stored in the body and can lead to weight gain Should be the smallest percentage of macronutrients in the diet <p>Found in:</p> <ul style="list-style-type: none"> Butter, oil, fatty meats, fried food 	<p>Proteins</p> <p>Function:</p> <ul style="list-style-type: none"> Used for growth and repair, it can provide us with energy May be used by athlete for growth and repair of muscles <p>Found in:</p> <ul style="list-style-type: none"> Cheese, milk, eggs, lean meat, fish 

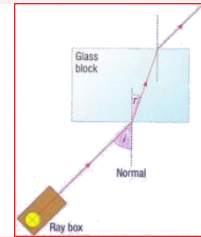
Micronutrients	
<p>Vitamins & Minerals</p> <ul style="list-style-type: none"> Vitamins and minerals keep our body healthy and can improve your immune system. Vitamins are found in fresh fruit and vegetables Minerals are found in vegetables and meat <p>Vitamin D: Found in dairy products and helps the body absorb calcium</p> <p>Calcium: Found in milk and other dairy products and helps keep our bones strong</p> 	<p>Water</p> <ul style="list-style-type: none"> Water prevents dehydration and is found in most liquids and many foods  <p>Fibre</p> <ul style="list-style-type: none"> Fibre aids the digestive system and is found in foods such as cereals, vegetables and nuts 

PHYSICS

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

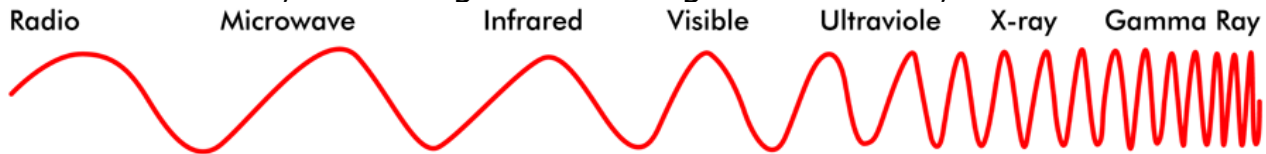
1. How do we investigate refraction?

- ❖ You need a thin beam of light from a **ray box**, a **ruler**, a pencil, a glass block and a **protractor**.
- ❖ Use a protractor measure the **angle of incidence** & the **angle of refraction**, repeat this for several angles over a range of angles. Measure angles against the normal line.



2. What are electromagnetic waves?

- ❖ The EM waves, from longest wavelength to shortest, are:



3. What do all electromagnetic waves have in common?

- ❖ All EM waves are **transverse** and **transfer energy**, they all travel at the **same speed** (in a vacuum)- **300,000,000 m/s** (3×10^8 m/s) and are produced by **changes within the atom**.

4. How are electromagnetic waves be used?

- ❖ **Radio waves** are used for broadcasting **TV** and **radio** signals, and **satellite transmissions**.
- ❖ **Microwaves** are used for **mobile phone** and **satellite** signals, as well as for heating food.
- ❖ **IR** light is used for **cooking food**, **remote controls**, by **electrical heaters**, optical fibres, **security systems** and **thermal imaging**.
- ❖ **Visible light** is the light we can **see**, so is used in **photography** and **illumination**. **red, orange, yellow, green, blue, indigo, violet**.
- ❖ **UV** is used in fluorescent lamps, to **detect forged notes** and for **disinfecting water**.
- ❖ **X-ray photos** are used to help **identify broken bones** and in **airport security** scanners.
- ❖ **Gamma rays** are used for **sterilising food** and **medical instruments**, and in the **treatment and detection of cancer**.

5. How can electromagnetic waves be harmful?

- ❖ Radio waves **cause no damage**.
- ❖ Microwaves can be absorbed by our cells and **cause internal heating of our blood**.
- ❖ Infrared is mostly absorbed or reflected by the skin and can **cause burns to the skin**.
- ❖ Visible light can **cause burns to the skin** (think lasers)
- ❖ Ultraviolet can **cause skin cancer**, it can also cause **damage to the eyes**, even blindness.
- ❖ X-rays and gamma rays pass into the body & are absorbed by deeper tissues & can **damage cells, cause mutations and lead to cancer**.



SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. The word gambling means:

- ❖ **Gambling:** Betting money, or equivalents to money, on games of chance.

2. The word impulsivity means:

- ❖ **Impulsivity:** Acting without thinking about the consequences.

3. Delayed gratification is:

- ❖ **Delayed gratification:** Favouring long-term rewards over short-term rewards (instant gratification)

4. Signs and symptoms that someone may have a problem with gambling include:

- | | |
|--|---|
| <ul style="list-style-type: none"> ❖ Being preoccupied with gambling ❖ Gamble with increasing amounts of money ❖ Appearing restless and irritable if they are unable to gamble ❖ Chasing losses ❖ Lying to family members | <ul style="list-style-type: none"> ❖ Theft or fraud to get gambling money ❖ Asking others to bail you out of financial trouble ❖ Losing important relationships ❖ Losing your job |
|--|---|

5. Three money choices that may impact your mental health

- ❖ Gambling
- ❖ 'Money mule' schemes
- ❖ Unmanageable debt

6. Where can a young person needing support with money and gambling issues turn to for advice or support?

- ❖ At home
- ❖ At school/university
- ❖ Online
- ❖ Health services
- ❖ Other social situations
- ❖ Support organisations or charities



TEXTILES

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. 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?

2. Key composition words:

- ❖ **Background:** Base layer or backdrop of a textile design.
- ❖ **Perspective:** Depth and dimension in textile patterns.
- ❖ **Proportion:** Size relationships of design elements.
- ❖ **Symmetry:** Balanced arrangement of design elements.
- ❖ **Space:** Area around and between design elements.
- ❖ **Scale:** Size of elements in relation to each other.
- ❖ **Foreground:** Prominent, visible part of a textile design.
- ❖ **Design:** Overall pattern or layout of the textile.
- ❖ **Decorative:** Ornamental or embellishing elements.
- ❖ **Eye-Line:** Imaginary horizontal line guiding the design.
- ❖ **Focus:** Main area of attention in the textile.
- ❖ **Blurred:** Softened or out-of-focus design elements.
- ❖ **Form:** Shape and structure of design elements.

