Stafford Manor High School

Every Child Reaching their Full Potential

Year 9 Spring Term 1

Core Knowledge

- Art
- Biology
- Chemistry
- Design Technology
- Digital Communications
- English
- French
- Geography
- History
- Maths
- Performing Arts
- Physical Education
- Physics
- SEL
- Textiles

ART

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. What are portraits?

- A **portrait** is a picture or painting that focuses on a person's face or the way they look.
- It's a way to capture and show what someone looks like, often emphasizing their facial features, expressions, and personality in a visual form.
- Portraits can be created using various art techniques, such as drawing, painting, or photography.

2. Facial Elements Drawings

- There are countless ways to draw, each offering unique techniques, styles, and approaches to artistic expression. Here are some different ways to draw: Observational drawing, sketching, contour drawing, cross-hatching, mixed media drawings, graphite drawing, digital drawing, expressive drawing, the list is endless!

3. Who is Brianna McCarthy?

- Brianna McCarthy is a contemporary Trinidadian visual artist known for her multidisciplinary approach to art. She works across various mediums, including painting, drawing, sculpture, and mixed media, to explore themes related to identity, beauty, culture, and the representation of Black women.
- **Mixed Media**: McCarthy is known for her use of mixed media, combining materials like fabric, paper, beads, and paint to create textured and layered artworks.
- **Portraiture**: Much of her work focuses on portraiture, capturing the essence and diversity of Black womanhood.

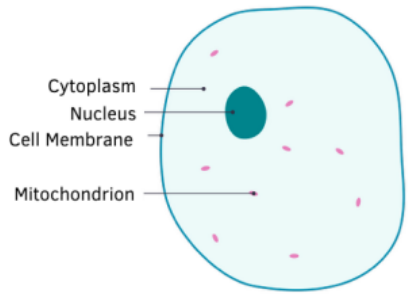
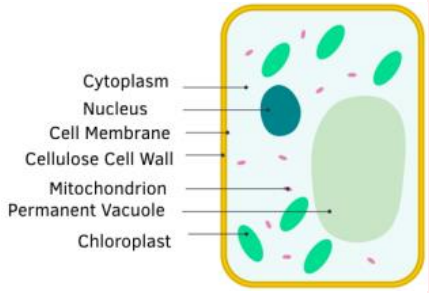
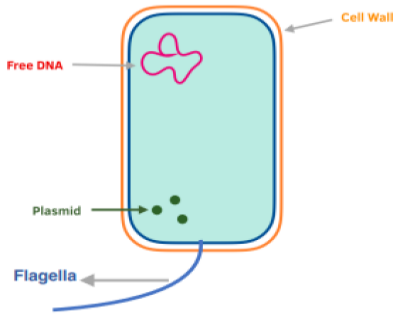
4. Who is Diane Komater?

- Diane Komater is an American artist known for her distinctive wire sculptures. Her work is characterized by its intricate and delicate use of wire to create three-dimensional drawings that capture movement, emotion, and the human form.
- **Wire Sculpture**: Diane Komater specializes in wire sculpture, creating pieces that resemble line drawings lifted into three dimensions. Her work is often described as "drawing in space" due to the fluid and expressive quality of the wire.
- **Human Form and Portraiture**: Many of her sculptures depict the human form, faces, and everyday scenes. Her ability to capture the essence and subtle details of her subjects with minimalistic lines is a hallmark of her work.

BIOLOGY

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Label animal, plant and bacteria cells

Animal	Plant	Bacteria
		

2. Define cellular diffusion

- Diffusion is the movement of particles from **higher** to **lower concentrations**.

3. Describe how enzymes are used in the body

- Enzymes break **large molecules** into **small molecules** so that they can be **absorbed** into the blood.

4. Describe the long-term effects of drinking alcohol

- Causes **cirrhosis** of the liver.
- Can cause **addiction**.

5. What happens during photosynthesis?

- **Carbon dioxide** + **water** → **glucose** + **oxygen**

6. What is the difference between respiration and breathing?

- **Breathing** is the **mechanical** process of taking fresh air into the lungs.
- **Respiration** is the **chemical** process which takes place in every cell to release **energy** from glucose.

7. How are genes, chromosomes and DNA linked?

- The nucleus contains **chromosomes**, made up of **DNA**.
- Each section of a chromosome is called a **gene**.
- A gene is the code to produce a particular **protein**.

8. What is natural selection?

- Where the **best-adapted** individuals survive and reproduce.
- They then pass on the **gene** for that advantageous adaptation.

9. What is Darwin's theory of evolution?

- Evolution is a change in the **inherited** characteristics of a population over **a long time** through **natural selection**.

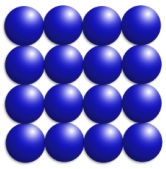
CHEMISTRY

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Draw the Particle Model for the three states of matter

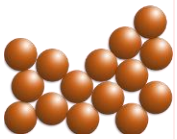
Solid:

- Regular pattern
- Particles Touching



Liquid:

- Random pattern
- Particles Touching



Gas:

- Random pattern
- Far apart

2. Identify the state changes

- **Melting**: Solid → Liquid
- **Evaporating**: Liquid → Gas
- **Freezing**: Liquid → Solid
- **Condensing**: Gas → Liquid

3. Calculate the number of protons, neutrons and electrons

- **Protons:** The smallest number (the atomic number)
- **Neutrons:** Take the two numbers away (mass number – atomic number)
- **Electrons:** The smallest number (the atomic number)

4. How many electrons can fit on each shell?

- **1st shell:** Can contain 2 electrons.
- **2nd shell+:** Can contain 8 electrons.

5. Describe what physical & chemical reactions are

- **Physical Reaction**: *Doesn't* involve bond breaking.
- **Chemical Reaction**: **New products** are formed.

6. Describe the test for carbon dioxide

- **Limewater** turns **cloudy**.

7. Describe what malleable, ductile and brittle mean

- **Malleable**: Can be hammered into shape
- **Ductile**: Can be stretched into wires
- **Brittle**: Shatters (breaks) easily

8. Describe the test for hydrogen

- Add a **lit splint** into the gas…
- …and you will hear a **squeaky pop** (if hydrogen is present).

9. Describe the importance of recycling

- **Conserves Earth's Natural resources**.
- We don't have to **mine** for more, meaning:
  - Less **noise** / **visual** / **dust** pollution
  - Less **animals'** habitats damaged

COMPUTING

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Key Word Definitions

- **Animation**: a technique used to make drawings or objects appear as if they are moving
- **Stop Motion**: Individual images are animated by showing them in quick succession.
- **KeyFrame**: Key locations for objects are selected and the computer fills in the rest.

2. What is Blender?

Blender is open source software that is used to create 3D models and animations

3. In what ways can an object be manipulated in Blender?

Move: the object can be moved
Rotate: the object can be turned
Scale: the size of the object can be changed (bigger or smaller)
Colour: the colour of the object can be changed

4. What are the benefits to key frame animation?

- Faster
- Easier to edit
- Smoother animation
- Repeatable

5. What are 3D models made from?

Vertex: a point at the corner of a shape
Edge: a line connecting two vertices
Face: a surface bounded by three or more edges

6. What are the four types of light in Blender?

Point
Sun
Spot
Area

DESIGN TECHNOLOGY

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. What food allergies do we need to consider?

2. Other reasons for food choices.

- There are many other reasons why people don't eat certain foods: Faith/Religious beliefs i.e. halal, kosher, etc. Physical illness that can be aggravated by them i.e. heart disease, diabetes, etc. The effects certain foods have on a person i.e. additives (such as food colours) that can affect ADHD or others.

3. Batch Cooking

- A good way for families to cut down on costs and to make food that is both nutritious yet convenient is to batch cook. This is where meal prep is done at a weekend in batches and then refrigerated/frozen for reheating later in the week. This can also be done with lunch prep for schools. It is a good way to get children involved and understanding their food.

4. Economical food shop?

- The increase in the number of fast-food services and convenience food items in stores has meant that more money is being spent on food than ever before. Unfortunately, the trade-off is that the food is highly processed and not of a suitable nutritional content contributing to childhood obesity and other long-term illness.

5. What are some Tier 3 terms I need to know?

- **Lactose** intolerant – where people are not able to consume milk based products
- **Coeliac** – where the individual has an intolerance to wheat
- **Kosher** – food prepared to meet the religious beliefs of Jewish people
- **Halal** – food prepared to meet the religious beliefs of Muslim
- **Additives** – things added to food products to extend life, add flavour, etc
- **Processed** – where food has been significantly changed from it natural form i.e. chicken nuggets.

ENGLISH

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. What does ethos, pathos and logos mean?

- Ethos - appealing to right and wrong
- Pathos - appealing to emotions
- Logos - appealing to logical reasoning

2. What is the purpose of a topic sentence?

- Every paragraph should start with a clear sentence that outlines what you will write about in that paragraph.

3. What does 'DAFOREST' stand for?

- Direct address - Directly speak to the audience/reader
- Alliteration - Repetition of the same letter/sound at the start of multiple words.
- Fact - something that can be proven to be true.
- Opinion (expert) - Use the opinion of a professional to sway the reader/audience.
- Rhetorical question - A question that does not require an answer.
- Emotive language - words which create a powerful emotional response.
- Statistics - numerical facts and data.
- Triple - list of three things which are closely connected

4. What does cyclical structure mean?

- Cyclical structure refers to a narrative that follows a circular pattern, where the story ends in a way that connects back to the beginning.

5. What is the most common way to use a semi-colon?

To join two independent clauses without using a coordinating conjunction like 'and'.

6. In a House of Parliament style debate, what is a 'rebuttal'?

The act of saying that a statement or criticism is false.

7. What is an anecdote?

- A short amusing or interesting story about a real incident or person.

8. What is antithesis?

- a person or thing that is the direct opposite of someone or something else.

FRENCH

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Usually how do you make a nouns plural in French?

- Add an 's'

2. If a noun ends in al, how can you make it plural? (animal)

- Change the ending to aux (animaux)

3. If a noun ends in ail, how can you make it plural? (corail)

- Change the ending to aux (coraux)

4. If a noun ends in eau, how can you make it plural? (château)

- Add an x (châteaux)

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

- Who? When? What?

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

- How much / how many? How?

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

- Where? Why?

8. How would you make these nouns plural? Jeu (game); feu (fire)

- Jeux ; feux

9. What does plusieurs mean ?

- several

10. What does même mean?

- Same (even)

GEOGRAPHY

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. What is globalisation?

- Globalisation is the increase in links between countries and people across the world.

2. What is a transnational company?

- A company with head office in one country and branches across the globe.

3. What pull and push factor for urbanisation?

- **Push** Factors are factors that push people **out** of an area.
- Pull factors are factors that pull people into an area.

4. What is the definition of a slum?

- An illegal dwelling unfit for human habitation.

5. What the key facts about China?

- People's Republic of China
- 1.4 billion people
- 4th largest country in the world
- Hong Kong and Macau are part of China

6. What is it like to live there?

- Han ethnic group makes of 92% of population
- One child policy since 1979 to 2016
- 6 of 10 Chinese people live in urban areas
- Main language spoken is Mandarin

7. What is the one child policy?

- Families limited to one child per family
- First implemented in 1979
- Resulted in the 4-2-1 problem in China

8. What environmental issues does China experience?

- Severe air pollution
- Water pollution leading to cancer
- Burning of coal for energy

9. How is China becoming more sustainable?

- Renewable energy (wind)
- Reducing car traffic in urban areas
- Reducing toxic waste into water ways

HISTORY

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. When did the Peterloo Massacre take place?

- 16 August 1819

2. Who could vote in elections in 1819?

- Men who owned property

3. Why were people in Manchester unhappy about the political system?

- They had no MP

4. What did radicals want?

- They wanted all men to be able to vote

5. How big was St. Peter's Field?

- About the size of two football pitches

6. How many people were at the meeting?

- 50,000

7. How many hussars were there?

- 600

8. What did the Manchester Yeomanry do when they arrived?

- They rode into the crowd

9. How many people were killed?

- 17

10. What happened to Henry Hunt and other leaders after the massacre?

- They were sent to prison

11. How else did the authorities try to stamp out the radicals?

- Radical newspapers were shut down and meetings of more than 50 people were banned.

12. Who was the given the right to vote in the 1832 Reform Act?

- All men with property

13. What right was given to cities such as Manchester in the 1832 Reform Act?

- They were allowed an MP

14. When were men and women given equal voting rights?

- 1928

MATHEMATICS

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Key word definitions:

- **Factor**: A number that fits exactly into another
- **Prime**: A type of number that has exactly two factors
- **Index Notation**: When repeated multiplication is written with powers e.g. 2 x 2 x 2 x 2 = 2^4
- **Expression**: A statement made of numbers and terms

2. What do the following fraction buttons do?

				
Fraction	Square Root	Negative	Power of	Brackets

3. What are the first ten prime numbers?

2, 3, 5, 7, 11, 13, 17, 19, 23, 29

4. What is the lowest common multiple?

The LCM of two numbers is the first number that is a multiple of both.

5. What is the highest common factor?

The HCF of two numbers is the biggest number that is a factor of both numbers.

6. How do I expand brackets?

By multiplying the term on the outside by all of the terms on the inside.

7. What is factorising?

Factorising is the opposite of expanding brackets.
Take the HCF of all terms outside the brackets.

8. What does this symbol mean: ≠

Not equal to.

9. What effect does a fractional power have?

It gives the root of a number.

10. What effect does a negative power have?

It gives the reciprocal of a number.

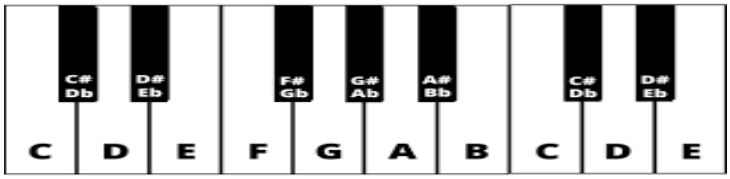
PERFORMING ARTS

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. These key words are really important this term and within KS3-4 Music lessons

Pitch- How high or low a note/song is	Tempo- How fast or slow the music is	Slogan- A memorable phase
Underscoring- background music for film	Leitmotif- The musical idea	Atonal- Music without a sense of key. Sounds chaotic

2. It is important that you know where the notes are on the keyboard. Also sharps and flats are very important.



Sharps (#) go the right of the note and make it slightly higher.

Flats (*b*) go to the left of the note and make it slightly lower

3. Film genres

Comedy	Action	Sci-fi
Animation	Romantic	Crime
Horror	Romantic Comedy	Drama
Thriller	Western	Fantasy
Musical	Mystery	History

4. Adverts

Why are they important?

Advertising is important because it can help you reach more people within your target audience with messaging that appeals directly to them.

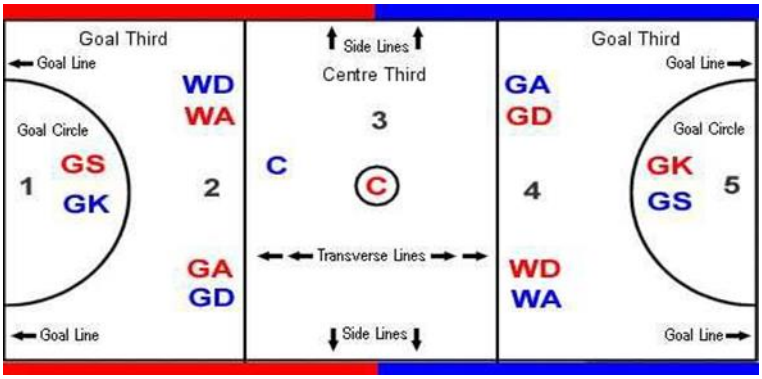
How can people advertise?

Online
TV
Radio
Bill boards
Word of mouth
Leaflets
Posters
Video
Email
Marketing

PHYSICAL EDUCATION

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Netball Court



POSITIONS AND RESPONSIBILITIES

Goal Shooter (GS) – To score goals and work in and around the circle with the GA. Marks the GK.

Goal Attack (GA) – To feed the ball to the GS and to score goals. Marks the GD.

Wing Attack (WA) – To feed the ball into the circle and to help move the ball down to the teams attacking third. Marks the WD.

Centre (C) – To take the centre pass and to act as a link between defence and attack. Moves the ball down the court. Marks the opposite C.

Wing Defence (WD) – To look for interceptions and move the ball down into attack. Marks the WA.

Goal Defence (GD) – To get the ball from the attack and help pass it back down the court. To prevent the GA from scoring. Marks the GA.

Goal Keeper (GK)- To work with the GD and to prevent the GA/GS from scoring. Marks the GS.

2. Key Terms

Passing and receiving	Shooting – Accuracy
Attacking	Dodging
Defending	Penalty
Footwork	Obstruction
Contact	Tactical

3. Rules

Rules: The game starts with a centre pass and the ball must be caught in the centre third.

You must comply with the footwork rule e.g. a 1-2 landing.

You only have 3 seconds to release the ball.

When defending you must be 1 metre away from the player. If too close you get a penalty against you and you must stand with the player.

There must be no contact with an opposing player. If you do contact them it is a penalty against you and you must stand with the player.

Only GS and GA may score a goal.

You must stay in the correct area of the court for your position. If you go offside it's a free pass to the opposite team.

Teams take it in turns to take a centre pass.

The ball must be touched in each third of the court.

PHYSICS

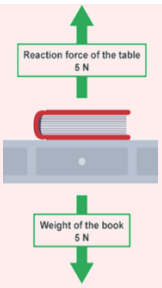
SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. What is the equation to calculate speed?

- **Speed (m/s) = distance (m) ÷ time (s)**

2. What do force diagrams show us?

- A force can be a **push** or a **pull**.
- Force diagrams show us that the **longer** the arrow the **bigger** the force.
- They also show the **direction** of the force.



3. What are the energy stores?

- **Thermal**
- **Kinetic**
- **Chemical**
- **Elastic Potential**
- **Magnetic**
- **Gravitational Potential**
- **Electrostatic**
- **Nuclear**

4. How do we calculate work done?

- **Work done (J) = force (N) x distance (m)**

5. What is the conservation of energy?

- Energy can be **stored** or **transferred**, but it *cannot* be **created or destroyed**.

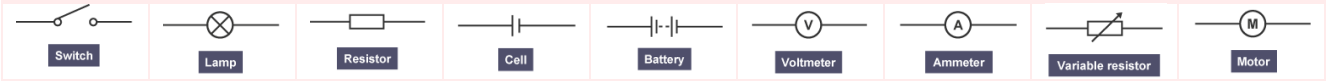
6. What are waves?

- Waves **transfer energy** from one place to another, caused by **vibrations**. Waves **do not** transfer matter.
- Waves travel *through* a material, such as **air**, or a vacuum, such as **space**.

7. How do you calculate pressure?

- **Pressure (N/m^2) = force (N) ÷ surface area (m^2)**

8. How do you draw circuit symbols?



9. How do you measure current?

- Current is measured in **amperes** (A).
- You use an **ammeter**, placed in **series**.

10. How do you measure voltage?

- Voltage is measured in **volts** (A).
- You use a **voltmeter**, placed in **parallel**.

SEL

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Important skills to have when at work include:

- Organisation
- Pro-active
- Hardworking
- Punctual
- Efficient
- Trustworthy
- Helpful
- Good subject knowledge
- Friendly
- Conscientious

2. The difference between full-time and part-time employment is?

- **Full-time employment**: Usually, a working week of 35 hours or more
- **Part-time employment:** A working week with fewer hours than full-time work

3. Different contracts of employment include:

- **Temporary employment:** When a contract is given for short-term work, for example over a busy period in the year when more workers are needed.
- **Fixed-term contract:** When a contract is given for a set amount of time, for example to fill a maternity cover.
- **Permanent contract:** When a contract is signed between an employee and employer, with no specified end date.

4. Self-employment is:

- When someone runs a business for themselves.

5. Internal and external influences are:

- **Internal influence:** Someone's thoughts and feelings that might impact their decision-making.
- **External influence:** A factor that might affect someone's decision making from outside of their own thinking.

6. Labour Market information (LMI) is:

Labour Market Information: Data about the current and future state of the job market and economy. It can include information on:

- Employment trends
- Job availability
- Skills demand
- Salary ranges
- Educational requirements
- Which occupations are in demand
- Which sectors are growing and declining
- What areas are cutting back and closing businesses

TEXTILES

SPRING TERM 1 (CONTENT FROM AUTUMN TERM 2)

1. Keywords:	
Circular Weave	Comes from Prince Albert from Germany.
Natural fabrics	Can be harvested from plants animals. For example cotton comes from plants and wool from sheep
Tammy Kanat	Textile Weave Artist. **Tammy Kanat** is a Melbourne-based artist whose recent work has focused on tapestries woven around an oval-shaped copper frame.
Embellishment	a decorative detail or feature added to something to make it more attractive.

2. What should be included in your circular weave?

- Variety of colours
- Lots of layers and detail.
- Creative design and composition.
- Related back to artist
- Use of embellishment