Stafford Manor High School

Every Child Reaching their Full Potential

Year 10 Spring Term 2

Core Knowledge

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

ART

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 successful record board?

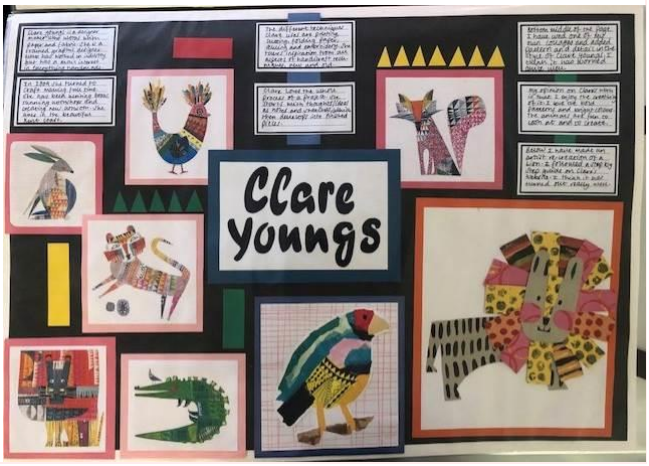
- A title of the relevant board.
- A selection of at least x5 high quality drawings in different medias.
- Annotations based on the drawings. Always using the guidance booklet to assist you.

3. Why is it important to analyse artists?

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

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

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



5. Key word definitions:

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

BIOLOGY

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What is the difference between communicable and non-communicable diseases?

- **Communicable** – Caused by pathogens, can be spread.
- **Non-communicable** – not caused by pathogens, linked to lifestyle factors (malnutrition, drug use, alcohol use, smoking), genetics.

2. What is cardiovascular disease?

- **Non-communicable**. Too much fat can lead to blocked coronary arteries preventing blood flow to the heart muscle. Treated with stent, bypass surgery, and warfarin and lifestyle changes.

3. How do you calculate Body Mass Index (BMI)?

BMI = Mass (kg) ÷ Height^2 (m).

- A high BMI (over 30) is a risk factor for developing cardiovascular disease and type 2 diabetes.
- Muscle is more dense than fat, so muscular people often have a high BMI, but this doesn't accurately represent their risk.

4. What are pathogens?

- Microorganisms that cause communicable disease, such as:
- **Bacteria:** Cholera, TB, Chlamydia, dysentery
- **Virus:** HIV, flu, ebola, cold.
- **Fungi:** Athletes foot, chalara ash dieback (plant disease).
- **Protist:** Malaria.

5. How are pathogens spread?

- **Air**, e.g. TB, colds.
- **Water**, .e.g cholera, dysentery.
- **Food**, e.g. salmonella.
- **Vectors**, e.g. malaria
- **Bodily fluids**, e.g. blood, sexual fluids, chlamydia, HIV.

6. How does our body defend us against disease?

- **Skin** acts as a barrier preventing pathogens from entering.
- **Mucus** – sticky substance that traps pathogens.
- **Hydrochloric acid** – found in the stomach, kills pathogens.
- **Ciliated cells** – remove mucus from airways.
- **Lysozyme** – found in tears and saliva, breaks down cell walls of bacteria.

7. How does our immune system support us?

- **White blood cells** produce chemicals (antibodies) to kill pathogens.
- Leave **memory cells** behind, so that if you encounter the disease a second time your immune will have a faster and more intense response.

BUSINESS

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What is 'breakeven'?

Calculating breakeven allows a business to use all its costs to calculate how many products it must sell to cover all costs.

2. What is the contribution method to calculate breakeven?

Breakeven = Fixed costs ÷ (Selling Price – Variable Cost)

3. Why does a business predict the amount of money that enter and leave each month?

To plan how to deal with any shortfall

4. How can cash be managed?

Arranging an overdraft
Keeping costs down
Keeping inflows up

5. When will a business need finance?

At start up to help fund start up costs
During periods of expansion to fund new buildings, legal costs etc
During periods when cash flow is poor

6. Give an example of how a business can be owned.

Sole trader
Partnerships
Private limited companies
Franchise

7. What is business location?

The place where the business operates from. This can be a fixed location, or online.

8. What should a business consider with regards to location?

The nature of the business
The market/customers needs
Type and amount of labour required
Competitors

9. What are the four Ps?

Product, Price, Promotion, Place

CHEMISTRY

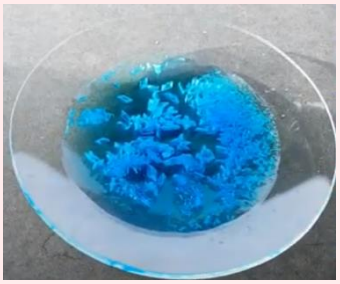
SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What are the key steps to prepare copper sulfate crystals?

- **Trigger:** Preparing a **pure, dry salt** from an ***insoluble*** reactant.
- **Steps**: **Mix** → **Filter** → **Heat** → **Cool** → **Dry**

Example:

- **Mix** the copper oxide and sulfuric acid until neutral (pH meter shows a pH of 7).
- **Filter** the solution to remove unreacted copper oxide.
- **Heat** the solution to evaporate off half of the water.
- Leave the solution to **cool** until crystals form. **Dry** the crystals using filter paper.



2. What is the method to investigate pH?

- **Trigger: method** to investigate the ***pH.***
- **Steps**: **pH** → **0.3g** → **stir** → **Re-measure** → **neutral**

Example:

- Measure the **pH** of the acid using universal indicator paper.
- Add **0.3g** of Calcium Hydroxide and **stir** the solution to make sure it is fully mixed.
- **Re-measure** the pH and continue to add 0.3g until the solution becomes **neutral**.

3. What is the method to carry out a titration?

- **Trigger:** How to carry out a **titration** / how to prepare pure dry crystals from {**soluble** reactants/**solutions**}.
- **Steps**: **Pipette** → **Burette** → **Indicator** → **Neutralise**

Example:

- Use a **pipette** to add the alkali to a conical flask and add an indicator.
- Fill a **burette** with sulfuric acid and add the acid to the alkali until it turns **neutral** (phenolphthalein goes from pink to colourless).

4. How can we make a pure, dry precipitate?

- **Trigger**: ***pure, dry precipitate***
- **Steps**: **Mix** → **Filter** → **Wash** → **Dry**

Example:

- **Mix** the chemicals to make your precipitate.
- **Filter** the solution, leaving the solid behind.
- **Wash** the solid to remove any impurities and then **dry** the precipitate between pieces of filter paper.

DESIGN TECHNOLOGY

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

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.

ENGLISH

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What is the difference between socialism and capitalism?

- **Socialism -** Society should work together to support each other. We should take responsibility for those less fortunate than us. Wealth should be shared so that everyone has opportunities.
- **Capitalism** - Society should only reward those who have done well. We should take responsibility for ourselves (and our families). Wealth should be kept by the people who've earned it.

2. What are the themes in the play?

- Responsibility, capitalism, socialism, gender, class, age.

3. Key Characters in *An Inspector Calls:*

- Mr Birling: pompous, overconfident, stubborn, a social climber,
- Mrs Birling: cold, supercilious, prejudiced.
- Sheila: naïve, perceptive, curious, compassionate.
- Eric: Irresponsible, reckless, frustrated, repentant.
- Gerald: aristocratic, self-assured, thoughtless.
- Eva Smith: warm-hearted, moralistic, representative.
- Inspector Goole: classless, resolute, moralistic, other-worldly.
- Edna: representative of the working class.

4. When was the play set?

- 1912

5. Key quotation:

- "It frightens me the way you talk" (Sheila Birling)

6. Key quotation:

'We are responsible for each other' (Inspector Goole)

7. Key Terms

- **Conscience**: A moral sense of right and wrong
- **Didactic:** A moral message, meaning to give instructions
- **Microcosm**: A small place, society, or situation that has the same characteristics as something much larger
- **Omniscient**: The quality of having unlimited knowledge
- **Patriarchy**: A society controlled or dominated by men

FRENCH

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. Perfect tense revision: write out the avoir paradigm

- J'ai, tu as, il a, elle a, nous avons, vous avez, ils ont, elles ont

2. Perfect tense revision: what are the regular endings for past participles of er, ir and re verbs?

- Er = é (joué); ir = i (fini) ; re = u (vendu)

3. The perfect tense is a compound tense. How does this help us to form the perfect tense?

- You need 2 verbs: the auxiliary verb, and a past participle
- (j'ai mangé)

4. Imperfect tense revision: is it a simple or compound tense?

- Simple – just one verb

5. How do you form the imperfect tense?

- Make the stem (knock off the infinitive endings) and add the imperfect endings to the stem

6. What are the imperfect endings? Write out the paradigm.

- Je jou**ais**; tu jou**ais**; il / elle / on jou**ait** ; nous jou**ions** ; vous jou**iez** ; ils / elles jou**aient**

7. What is the imperfect tense used for?

- What you used to do; what you were doing

8. Near future revision: write out the paradigm of aller (present tense)

- Je vais ; tu vas ; il /elle/on va ; nous allons ; vous allez ; ils /elles vont

9. What do you add to the present tense of aller to form the near future tense?

- An infinitive (verb ending er, ir, re, eg je vais jouer)

10. What is the near future tense used for?

- To say what you are going to do

GEOGRAPHY

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What is relief?

- A term used by geographers to describe the physical features of the landscape.
- Height above sea level
- Steepness of slopes
- Shapes of landscape features

2. What are the different types of waves?

- Constructive waves
- Destructive waves

3. What is fetch?

- The distance the wind blows across the water

4. What are the different types of weathering?

- Mechanical
- Chemical
- Freeze thaw

5. What are the three processes of coasts called?

- Erosion
- Transportation
- Deposition

6. Describe mass movement.

- The downward movement or sliding of material under the influence of gravity.

7. Name the erosional landforms.

- Headlands and bays
- Fault, cave, arch, stack

8. What are the depositional landforms?

- Beaches
- Sand dunes
- Spits
- Bars
- Tombolas

9. What examples of hard engineering?

- Sea wall
- Rock armour
- Gabions
- Groynes

10. What are the examples of soft engineering?

- Beach nourishment
- Dune regeneration
- Dune fencing

HEALTH & SOCIAL CARE

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What is meant by a life event?

- Life events can be grouped under different types relating to **health and wellbeing, relationship changes** or **life circumstances**. Some events happen to most people, others can come as a shock.

2. Life events that impact an individual's health and wellbeing include:

- Accident and/or injuries
- Physical Illness
- Poor mental and emotional health and wellbeing

3. Life events that link to relationship changes include:

- Entering into relationships
- Marriage, civil partnership, long term relationships
- Divorce, separation for non-married couples
- Parenthood
- Bereavement

4. Life events that link to life circumstances include:

- Moving house, school or job
- Exclusion from education
- Redundancy
- Imprisonment
- Changes to standards of living
- Retirement

5. What is a character trait?

- A character trait describes a person's personality, and whether they are positive or negative about events and circumstances.

6. Character traits that influence how individuals cope with life events include:

- Resilience
- Self-esteem
- Emotional intelligence
- Disposition (character traits, positive or negative)

7. The sources of support that can help individuals adapt to life events include:

- Informal Support (family, friends, neighbours, partners)
- Professional carers and services
- Community groups
- Multi-agency working
- Multidisciplinary working

HISTORY
SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

Anglo Saxon Golden Age

1. What were the five parts of Anglo-Saxon society?

- King (most powerful person, needed support of the nobility)
- Earls (most powerful members of the nobility)
- Thegns (members of the nobility)
- Ceorls (most of the population, peasant farmers)
- Thralls (slaves)

2. How could the society of Anglo-Saxon England be described?

- Sophisticated
- Well-organised
- Unequal
- Hierarchical

3. What laws protected women's rights in Anglo-Saxon society?

- Women could own, inherit and sell property
- Women protected from being forced to get married
- Women who divorced would receive half of the property

4. Were the lives of Anglo-Saxon women perfect?

- Wealthy women had more rights
- Lives were still controlled by male relatives or husbands

5. How could the Anglo-Saxon Church be described?

- Wealthy
- Influential
- Corrupt
- Unique

6. Who was the corrupt Archbishop of Canterbury in 1066?

- Stigand

7. Who was King of England, 1042 – 1066?

- Edward the Confessor

8. Why was the Godwin family so powerful?

- Bullied the king
- Very rich

9. Who was Earl of Wessex?

- Harold Godwinson

10. What was Anglo-Saxon England famous for producing?

- Beautiful works of art

11. Why is there little evidence of Anglo-Saxon buildings?

- They were simple structures made of wood

12. How did Anglo-Saxons worship?

- Some permanent stone or wooden churches
- Many still worshipped around tall stone crosses

Invasion and Victory:

13. Who was Duke of Normandy in 1066?

- William

14. What was the name of Norman warriors who dominated society?

- Knights

15. How was the Norman army different to the Anglo-Saxon army?

- They fought on horseback
- They used archers

16. What was Normandy?

- A powerful duchy in northern France

17. Who succeeded Edward the Confessor as King of England?

- Harold Godwinson, Earl of Wessex

18. Who invaded England first?

- Harald Hardrada, King of Norway

19. Who won the Battle of Stamford Bridge?

- King Harold

20. When and where did William invade England?

- 27 September 1066, Pevensey Bay

21. Why was Harold's army tired before the Battle of Hastings?

- They marched from the north
- They had won in the north, but the army was depleted
- Harold did not wait in London for more men

22. What tactic did the Anglo-Saxons use during the battle?

- Shield wall

23. What tactic did the Normans use to break the Anglo-Saxons?

- Feigned retreat

24. How did Harold die at the Battle of Hastings?

- Arrow to the eye

25. What famous embroidery details the events of 1066?

- The Bayeux Tapestry

26. Who won the Battle of Hastings?

- The Normans

INFORMATION TECHNOLOGY

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What is a client brief?

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

2. What is a mind map?

A visual tool that helps organise and represent information in a more creative and structured way.

3. What is a moodboard?

A moodboard is used to visually convey a specific theme, concept, or idea by compiling a collection of images, colours, textures, typography, and other visual elements.

4. When is a moodboard appropriate to use?

- Start off a new project
- Generate ideas
- Explore concepts
- Present to potential clients

5. What is the purpose of a visualisation diagram?

To provide a rough sketch/idea on what the final product may look like.

6. What does a visualisation diagram normally contain?

- Title
- Font
- Colours
- Images
- Logo
- Annotation (labels)

MATHEMATICS

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

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

difference in y ÷ difference in x

4. What is a reflection?

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

5. What is a translation?

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

6. What is a rotation?

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

7. What is an enlargement?

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

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

Reflection:	Translation:	Rotation:	Enlargement:
1. Mirror Line	1. Vector	1. Centre 2. Angle 3. Direction	1. Centre 2. Scale Factor

MEDIA

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What is diegetic sound?

- Diegetic sound is any sound that originates from the world of a film

2. What is non-diegetic sound?

- non-diegetic sound is any type of sound that does not specifically exist within the world of the film itself

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)

4. Task 3 Questions to think about (10 marks)

- Produce a reflective journal that records the practical rehearsal process required to ensure you are fully prepared for the performance required in the brief.

Candidates should show evidence of:

- action planning
- rehearsal preparation away from the rehearsal space (e.g., line learning/familiarisation with
- score/practice of dance moves, preparing virtual instruments/sounds)
- responding to direction/choreography
- receiving and recording blocking; annotating scripts/choreographic notation/scores
- refining
- observing appropriate health and safety requirements.

- Listen to instructions.
- No running in the drama space.
- No eating.
- Ensure equipment is put away.
- Be careful when using props especially breakables.
- Ensure the space is clear of obstructions.
- Ensure the stage is clicked together properly.
- Be aware of the space on the stage. Do not step back without checking how close you are to the edge.
- Ensure backstage is clear of obstructions.
- Tape any wires down- trip hazard.

5. Task 4- These are the questions you need to think about for Task 4 which is worth 20 marks

- Perform/present your chosen piece(s) to an audience. Candidates should show evidence of:
- accuracy
- coordination
- communication
- control
- dealing with mistakes; coping under pressure
- interpretation
- interpretation and development of character
- clarity of chosen acting style/genre.
- use of movement and gesture.
- use of voice
- response to text.

PHYSICAL EDUCATION

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. Personal Training Programme (PEP)

A PEP is designed to meet the specific needs of an individual athlete. Typically it includes:

- **Introduction**
- **Aim** – the general skills or fitness you plan to improve for which sport and why.
- **A profile** of who the PEP is for – age, sex, performance level, experience.
- A brief overview of **training programme** – duration, frequency and type
- How you will show **progress** – the tests and measures you will use

2. Fitness Tests

Remember you will need to remember components of fitness important to your sport, relevant fitness tests and what method of training is best to help improve your performance.

Component of Fitness	Fitness Test	Method of Training
Cardiovascular Fitness	12-minute cooper run	Continuous Training/ Fartlek Training
	Harvard Step test	
Muscular Endurance	1 minute Press up/ 1 Minutes Sit up	Weight Training - Low weight high reps/ Fitness Class Spinning/ Circuit Training
Muscular Strength	Had Grip Test	Weight Training - High weight Low reps
Flexibility	Sit and Reach	Fitness Class eg. YOGA
Power	Vertical Jump	Plyometrics Training
Speed	30m Sprint test	Interval Training
Agility	Illinois Agility Test	Circuit Training
Reaction Time	Ruler Drop Test	Circuit Training
Coordination	Hand Wall Toss	Circuit Training
Balance	Standing Stork Test	Fitness Class eg. YOGA

3. Target Setting

When setting targets we need to make them SMART:

- **S** - Specific,
- **M** – Measurable,
- **A** - Achievable,
- **R** - Realistic and
- **T** – Time bound.

PHYSICS

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. What is an atom made of?

- Scientists used to describe the atom using the **plum pudding** model- the atom was a positive sphere with negative electrons spread throughout.
- With new evidence they developed the **nuclear model** of the atom- A small, positive nucleus with negative electrons orbiting the edges of the atom.
- Today we know that an atom consists of a nucleus, containing nucleons (protons and neutrons), surrounding by electrons orbiting in energy levels.
  - **Protons** have a relative mass of 1 and a relative charge of +1.
  - **Neutrons** have a relative mass of 1 and no relative charge.
  - **Electrons** have a relative mass of 1/1825 and a relative charge of -1.
  - Atoms & small molecules have a **radius** of around **1×10^{-10} m**.

2. What are isotopes?

- Atoms of an element can come in different **isotopes**- they have the **same number of protons**, but a **different number of neutrons.**

Protons = atomic number
Neutrons = mass number – atomic number
Electrons = protons

3. How can an atom produce light?

- Atoms can **absorb energy**- e.g. through heating, by electricity or by radiation. This can cause **electrons** to **move** to a **higher energy** level.
- The electron do not want to be at a higher energy level, this called being **excited**, so they quickly **return** to **ground state** (their original positions) to do this they have to **release energy**- often this is as **visible light**.

4. What is background radiation?

- **Background radiation** is **low level radiation** that always **surrounds us**.
- There are several sources of background radiation including **radon gas, cosmic rays, medical sources, rocks & buildings and food & drink**.

5. How can we measure radioactivity?

- A **Geiger Muller (GM) tube** is used to **measure radioactivity**.
- To measure the radioactivity of a sample, **place the sample a set distance in front** of the **GM tube** and record how many **counts there are in one minute**- some of these counts will be from the background radiation so find the **actual count** you must **subtract** the **background count** from the **measured count**.

6. What is radioactive decay?

- When an unstable nucleus undergoes **radioactive decay,** the nucleus gets rearranged- this often means that the **atomic number changes**. When the **atomic number changes** a **different element** has been formed.
- Radioactive decay is a **random** process & it produces radioactive particles.

SEL

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. The word intimacy means:

- **Intimacy**: A close, familiar, and often affectionate or loving personal relationship with another person or group.

2. The word pornography means:

- **Pornography:** Pornography is videos or pictures that have been designed to make someone feel aroused.

3. The impacts of pornography on self-image and relationships include:

- Dislike their own body
- Feel pressure to do things during sex
- Enjoy sex in real life less
- Engage in risky sex
- Believe that male pleasure is the main goal of sex
- Develop prejudices attitudes
- Think using aggressive or violent behaviour during sex is ok
- Engage in casual sex
- Find romantic and intimate relationship more difficult to maintain
- Focus on 'performing well' at sex

4. The word coercion means:

- **Coercion:** Pressuring or persuading someone to do something by using force or threats.

5. Conflict resolution means:

- **Conflict Resolution**: The process of finding a peaceful solution to a disagreement by understanding different perspectives and working together to find a compromise.

6. Abuse is:

- **Abuse:** When harm or distress is caused, it can take many forms including physical, sexual, emotional and neglect.

7. Where can a young person needing support with relationships turn to for advice?

- At home
- At school/university
- Online
- Support organisations and charities

galop lgbt+ 020 7704 2040 0800 999 5428

women's aid until women & children are safe

National Domestic Abuse Helpline 0808 2000 247 YOU ARE NOT ALONE

childline ONLINE, ON THE PHONE, ANYTIME childline.org.uk | 0800 1111

ManKind Initiative

SEPARATE SCIENCE

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

1. How can tissue cultures be used to clone plants?

- Tissue sample is **scraped** from the parent plant.
- The sample is placed into agar with **nutrients** and auxins.
- **Tiny plantlets** grow and are planted into compost.

2. What are the stages of a virus's life-cycle?

- **Step 1**: They replicate the **DNA** and **protein coats**.
- **Step 2**: These are assembled into **new virus particles**.
- **Step 3**: **Lysis** occurs (The host cell bursts)
- **Step 4**: Nearby cells are then infected with the virus.

3. How are aseptic techniques used to avoid contaminating?

- **Flaming** equipment in a Bunsen burner and dipping in alcohol.
- Keeping **lids** on equipment when not in use.
- Wearing **gloves** / **goggles** / lab coats.

4. How do you carry out a titration?

- Fill a **burette** with acid and add the alkali to a conical flask using a **pipette**. Add the phenolphthalein **indicator** and then add the acid **drop** by drop until **neutral** (pink to colourless).

5. How do you calculate concentration in $moldm^{-3}$

- **Step 1**: Convert cm^3 to dm^3 by **dividing by 1000**.
- **Step 2**: Concentration = **moles / volume**

6. Why is the percentage yield never 100%?

- Some of the products is **lost when transferred**.
- **Side reactions** may have occurred.
- The reaction may **not have finished**.

7. How do we use radioactivity?

- The factors that affect how useful a radioisotope is are the type of **radiation it emits** and the length of the **half-life**
- In medicine they can be used to **detect** and to **treat cancer** as well as in **PET scans**

8. How do we use nuclear power?

- **Nuclear energy** stored in the nucleus is used to **heat water**, to produce **steam** to **turn a turbine** and a **generator.**
- A nuclear reactor uses **control rods** to **absorb excess neutrons** and **slow down** the **rate of the reaction**.

9. What are nuclear fission and nuclear fusion?

- During nuclear **fission** the nucleus **absorbs a neutron** and **splits** into two **smaller nuclei** and **several more neutrons**.
- During nuclear **fusion** two **smaller nuclei join** together to **form a larger nucleus.**

TEXTILES

SPRING TERM 2 (CONTENT FROM SPRING TERM 1)

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. Key drawing words:

- **Tone**: Lightness or darkness in textile colors.
- **Line**: Path created by stitching or design.
- **Texture**: Surface feel or appearance of the fabric.
- **Pattern**: Repeated design elements on textiles.
- **Shading**: Gradation of color to show depth.
- **Contour**: Outline or edge of design elements.
- **Positive**: Main design elements in a textile.
- **Negative**: Background or space around design elements.
- **Observational**: Based on direct visual study.
- **2D and 3D**: Flat versus dimensional textile designs.
- **Figurative**: Representing real-world objects or figures.
- **Shape**: Form or outline of design elements.
- **Pattern**: Repeated arrangement of shapes or motifs.
- **Composition**: Arrangement of design elements in the textile.
- **Perspective**: Depth and spatial relationships in textile design.