Stafford Manor High School

Every Child Reaching their Full Potential

Year 10 Summer Term 1

Core Knowledge

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

ART

SUMMER TERM 1 (CONTENT FROM SPRING 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 successful record board?

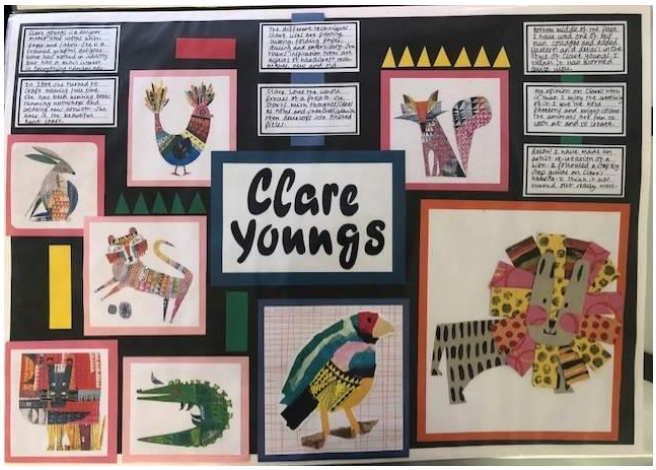
- A title of the relevant board.
- A selection of at least x5 high quality drawings in different medias.
- Annotations based on the drawings. Always using the guidance booklet to assist you.

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

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What is Photosynthesis?

- It is an endothermic chemical reaction, where plants **absorb** energy from the sun and produce Glucose.

2. What are the equations for Photosynthesis?

- Carbon Dioxide + Water → Glucose + Oxygen
- $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$

3. How are leaves adapted?

- **Chloroplasts** – contain chlorophyll to absorb light energy for Photosynthesis.
- **Large Surface area** – To absorb a lot of light energy.
- **Stomata** – To allow for gas exchange.
- **Thin** - allow for fast movement of gases into the leaf.
- **Waxy cuticle on surface** - prevent water loss.

4. What factors affect Photosynthesis?

- A **limiting factor** is something that slows down or stops Photosynthesis regardless of the abundance of other factors required.
- The limiting factors for Photosynthesis are;
  - Carbon Dioxide
  - Temperature
  - Light intensity.

5. Light intensity and photosynthesis

- **Algal balls** in glass bottle→ **indicator** → **equal distances** from light source → **colour change**.
- The colour in the bottle indicates the pH of the solution. During photosynthesis carbon dioxide is used up. When there is no carbon dioxide in a solution the indicator will turn purple, this indicates it is an alkaline solution.
- Therefore, the solution that is most strongly alkali is the solution where most carbon dioxide has been used up, therefore where most photosynthesis has happened.

6. Transportation tissues

- **Root Hair cell** – Large surface area, thin walls, many mitochondria. For absorption of minerals and water.
- **Xylem** – Transports water from the roots to the leaves.
- **Phloem** – Transports sucrose up and down the plant.

BUSINESS

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What are stakeholders?

Anyone interested in the activities of a business.

2. What is a shareholder?

Someone who owns part of a company.

3. What are the three main areas that technology has been developed in businesses?

Trading – being able to buy and sell online
Communicating – using websites, email, video conferencing
Payments – businesses can accept payments in more ways

4. What impact on sales does technology have?

Businesses are likely to sell more because they can reach a wider market, but it is easier for customers to compare prices – so small local businesses may suffer.

5. What impact on costs does technology have?

Keeping up to date and installing technology is expensive, but if a business can replace stores or staff with technology this can save money in the long run.

6. What impact on marketing does technology have?

Product – innovation needs to increase to keep up with changes
Price – greater efficiency can reduce prices
Place – a business does not need a physical store
Promotion – quicker and cheaper

7. What is e-commerce?

Buying and selling of goods or services online.

8. What is m-commerce?

Using a mobile phone to trade online.

CHEMISTRY

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What is the definition of electrolysis?

- Breaking down of an **electrolyte** using **electricity**.

2. What is the definition of an electrolyte?

- A **liquid** that contains **ions**.

3. What are the names and charges of the two electrodes?

- **PANIC**: **P**ositive **A**node, **N**egative **I**s **C**athode

4. What do you need to carry out electrolysis?

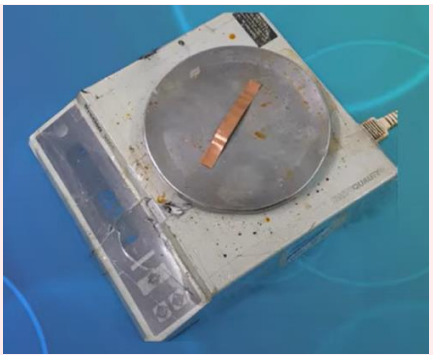
- An **electrolyte** in a beaker
- A **d.c.** power supply.
- Two **electrodes** (anode and cathode)

5. What happens to ions during electrolysis?

- **Cations** (positively charged ions) move to the negative **cathode**.
- **Anions** (negatively charged ions) move to the positive **anode**.

6. How do you carry out electrolysis of copper sulfate solution?

- **Trigger:** Electrolysis of **copper sulfate solution** with **copper electrodes**.
- Key Steps: **Mass** → **Power pack** → **0.2A** → **Wash** → **Mass**



7. What happens to the mass of cathode/anode during electrolysis using copper electrodes?

- **Anode** mass decreases (because copper atoms turn into ions)
- **Cathode** mass increases (because the copper ions move to the cathode)
- The *difference in mass* is not the same because **sludge** will also fall off of the anode.

8. What is the definition of oxidation and reduction in terms of electrons?

- **OIL RIG**: **O**xidation **I**s **L**oss of electrons, **R**eduction **I**s **G**ain of electrons.

DESIGN TECHNOLOGY

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. How do forces affect materials:

- Key forces include **tension** (pulling), **compression** (pushing), **bending**, **torsion** (twisting), and **shear** (sliding forces in opposite directions).
- Materials must be chosen to resist or work with these forces.

2. How do you select the right materials?

- **Functionality** (how well it works),
- **Aesthetics** (surface finish, texture, and colour),
- **Cost** (bulk buying reduces expenses), and
- **Ethical considerations** (e.g., FSC-certified wood).

3. What are the environmental considerations?

- Materials should be **recyclable or reusable** to reduce environmental impact.
- Companies also consider **availability and sustainability** when choosing materials

4. How do you strengthen and modify materials?

- Techniques such as **lamination (layering), bending, folding, webbing (woven reinforcements), and fabric interfacing** help improve the material's strength, flexibility, or rigidity.

5. What are the 'Six R's' to reduce waste?

- **Reduce** (use less material)
- **Refuse** (avoid unsustainable products)
- **Reuse** (extend product life)
- **Repair** (fix instead of replace)
- **Recycle** (reprocess materials)
- **Rethink** (consider the environmental impact of design choices)

6. How are materials processed before use?

- **Timber:** Cut, seasoned (dried), and converted into planks or manufactured boards.
- **Metals:** Extracted from ores, refined, and processed.
- **Polymers:** Made from crude oil through fractional distillation and cracking to create plastics.

7. What are the properties of materials?

- **Timber:** Strong, durable, and used for furniture and toys.
- **Metals:** Conduct heat well, making them ideal for cookware and tools.
- **Polymers:** Lightweight and durable, used in seating and electrical fittings.

ENGLISH

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What is a metaphor?

- A metaphor is a figure of speech that implicitly compares two unrelated things, typically by stating that one thing is another. E.g. 'That chef is a magician'.

2. Using the senses

- **What can be seen** – trees, rooms, walls, ceiling, picture, landscape, horizon
- **What can be heard** – birds, drips, screams, whispers, barking, howling, screeching e.g. verbs - boom, hiss, squeak, sigh, beep, rustle, creak, meow, clatter, screech, thump, hoot, roar, echo,
- **What can be touched** – textures – e.g. adjectives - lumpy, rough, smooth, gritty, lumpy, shiny, wrinkly, rubbery, fuzzy, coarse, matt, glossy, soft, seedy, bristly, grainy.
- **What can be tasted** – e.g. adjectives - tangy, zesty, sharp, acidic, acrid, putrid, luscious, savoury, tempting, spicy. Or verbs – nibble, bite, taste, peck, savour, chew.
- **What can be smelt** – e.g. adjectives – fragrant, sweet, lemon, fruity, mouldy, chemical, minty, putrid, pungent, decayed.
- **Colours** – peach, mauve, rust, bronze, olive, maroon, violet, charcoal, teal, indigo, amber, crimson, azure, turquoise, burgundy

3. Introducing a character

- Name, movements of hands, eyes, gait (how they walk) reactions.
- Show their feelings through actions – nail-biting, butterflies, goosebumps, adrenaline, perspiration, twinkling eyes, smirking
- Add colour to your character through flashback, nostalgic reflections and reminders, a little dialogue
- Internal monologue

4. How can I set the scene for my reader?

- **Location** e.g. outside v inside, bedroom, hospital, restaurant, park, woods, granny's house.
- **Time** e.g. just after 2pm; close to midnight; mid-morning; dusk.
- **Season** e.g. early autumn, height of summer, darkest winter.
- **Weather** e.g. dark ominous clouds, spitting rain, magical icicles, dancing branches in the breeze, scorching sunlight.

5. What are structural features in poetry?

- **Caesura** - A big break in the middle of a line
- **Enjambment** - A sentence runs over more than one line
- **Iambic pentameter** - 5 sets of weak/strong beats in a line
- **Juxtaposition** - Two opposites
- **Anaphora** - Repeated first few words at start of lines
- **Oxymoron** - Two opposite words next to each other
- **Rhyme scheme** - The organisation of the rhyme
- **Rhyming couplet** -Two lines that rhyme next to each other
- **Rhythm** -The beat
- **Volta** -The turning point of a poem
- **Repetition** -Something repeated

6. What is a volta?

- It is a turning point in the poem.

7. Poetic Form

- **Auto-biographical** - about the poet
- **Ballad** - story poems
- **Blank verse** – a verse with no rhyme
- **Dramatic monologue** – a character speaks to the reader
- **Epic** - tragic/heroic story poems
- **Free verse** - no regular rhyme/rhythm
- **Haiku** - 3 lines, syllables 5/7/5.
- **Lyrical** - emotional and beautiful
- **Ode** – a poem often addressed to one person
- **Sonnet** - 14 lines, ababcdcdefefgg, often a love poem

8. What is anaphora?

- Repeated words at the beginning of a line.

FRENCH

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. Tenses: Imperfect tense – what is it used for?

- Used to / was (Je jouais = I used to play / I was playing)

2. Imperfect tense endings – take the er / ir / re off and…?

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

3. Tenses: perfect tense – what is it used for?

- Have done / did (j'ai joué = I played / have played)

4. How do you form the perfect tense ?

- Avoir + past participle / être + past participle (plus feminine and plural endings where appropriate)

5. Regular past participle endings:

- er = é (allé) ir = i (sorti) re = u (répondu)

6. Write out avoir in the present tense

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

7. Write out être in the present tense

- Je suis, tu es, il / elle/ on est, nous sommes, vous êtes, ils /elles sont

8. Change into past participles: jouer, nager, finir, partir, vendre

- Joué, nagé, fini, parti, vendu

9. Dr & Mrs Vandertramp : what is this acronym, and why?

- Descendre, rentrer, monter, retourner, sortir, venir, aller, naître, devenir, entrer, revenir, tomber, rester, arriver, mourir, partir – verbs that use être in the perfect tense as auxilliary verb

10. What do the verbs mean?

- Descendre (to go down), rentrer (to return), monter (to go up), retourner (to return), sortir (to go out), venir (to come), aller (to go), naître (to be born), devenir (to become), entrer (to enter), revenir (to come back), tomber (to fall), rester (to stay), arrive (to arrive), mourir (to die), partir (to leave)

GEOGRAPHY

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What is urbanisation?

- The proportion of the population who live in urban areas

2. What is a megacity?

- A city with a population of 10 million or more.

3. Name two pull and push factors?

- War/ conflict
- Famine
- Education
- Healthcare

4. Where is Rio located?

- Southeast Brazil on the Atlantic Ocean coastline.

5. What are the main attractions in Rio?

- Christ the Redeemer
- Sugarloaf Mountain
- Copacabana
- Ipanema

6. What are the main secondary industries in Rio?

- Chemicals
- Pharmaceuticals
- Clothing
- Furniture
- Processed foods

7. What are informal settlements in Rio called?

- Favelas

8. What are the social challenges in Rio?

- Healthcare
- Education
- Water supply
- Energy

HEALTH & SOCIAL CARE

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. Common health conditions people suffer with are?

- Arthritis
- Cardiovascular conditions
- Type 2 Diabetes
- Obesity
- Respiratory conditions (asthma, chronic obstructive pulmonary disease (COPD)
- Sensory impairments (hearing, vision)

2. What is primary health care?

- Primary health care services are the first point of contact you are likely to have with the NHS.
- Examples of primary health care include: GP/doctor, pharmacist, dentist, optician and A&E.

3. What is secondary health care?

- This is specialist treatment or care that a primary health care practitioner cannot provide.
- Primary health care practitioners will often refer patients to secondary care.
- Examples of secondary heath care include: paediatrics, neurology, oncology, cardiology and psychiatry.

4. What is tertiary care?

- If a patient needs more than secondary care can provide, they will be referred to tertiary care.
- This is because specialist resources and equipment is needed delivered by highly skilled, experienced health professionals.
- Examples of tertiary care include: complex brain surgery, children's cancer treatment and specialist life support treatment.

5. What are allied health professionals?

- Allied health professionals work in a range of specialities. They support individuals who are experiencing both mental and physical health problems
- Examples of allied health care professionals include: art therapists, dietician, paramedic, occupational therapist and a speech and language therapist.

6. What is multi-disciplinary team working?

- A group of professional working together with the aim of providing person centred care to meet the needs of an individual.

7. What are the benefits of multi-disciplinary working?

- Avoids duplication
- Offers a holistic approach, where all needs can be addressed.

HISTORY

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. When was William crowned King of England?

- 25 December 1066

2. Why were some Anglo-Saxon nobles allowed to keep their land?

- If they swore to accept William's rules

3. Who did William give the rest of the land to?

- His Norman followers

4. Who led the rebellion at Exeter, 1068?

- Gytha, Harold's mother

5. What did William build to try and put down rebellions?

- Castles

6. What was the Harrying of the North?

- William and his troops burned down the north of England

7. Who led the last Anglo-Saxon rebellion?

- Hereward the Wake

8. What type of castle did the Normans mostly build?

- Motte and baileys

9. What is a motte?

- A man-made hill

10. What is a palisade?

- A high wall – often made from a fence of sharpened stakes

11. What is a bailey?

- A large enclosure

12. Why were the early Norman castles built?

- In response to rebellions

13. Who were usually forced to build the castles?

- Anglo-Saxons

14. What are the two different interpretations for the purpose of castles?

- Status symbol
- Military fortress

15. Who helped William build castles all over England?

- Barons

INFORMATION TECHNOLOGY

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What is an asset log?

It is a document that provides a detailed record of all assets used by an organisation.

2. What does an asset log include?

- Name of the image/video/sound
- Source (website address)
- Legal issues
- Potential use
- Properties (file type and pixel dimensions)

3. What is a test plan?

A test plan is a document used to test the functionality and technical properties of a media product.

4. What does a test plan include?

- Test description – What are you testing?
- Expected result – What do you expect to happen?
- Actual result – What happens?
- Remedial action – If the test did not achieve the expected result, then what is the problem and how could you fix this?
- Re-test – This is testing it a second time once the issue has been fixed.

5. When reviewing a media product what should you include?

- It's final use and its overall effectiveness.
- It's suitability to the client – does it help to meet the requirements stated?
- It's suitability to the target audience

MATHEMATICS

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. How do I know when to use Pythagoras theorem or trigonometry?

You use trigonometry when you have an angle in the question or answer. Pythagoras is used only with the length of sides.

2. What is Pythagoras theorem?

The square of the hypotenuse is equal to the sum of the squares of the other two sides.

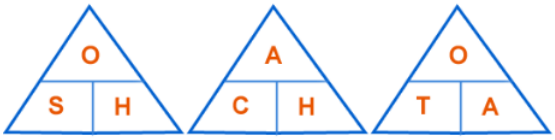
3. What is the longest side in a right angled triangle called?

The hypotenuse

4. How would you use Pythagoras theorem to find the shorter side?

Subtract the squares then square root.

5. What are the trigonometric ratios?



6. What is the opposite side?

The side opposite the angle you are given.

7. What are the exact trigonometric values?

	0°	30°	45°	60°	90°
sin	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
tan	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	undefined

8. What do the sum of all possibilities add up to?

1

9. What are the values of impossible, evens, and certain?

Impossible = 0, Evens = 0.5 (½) , Certain = 1

10. What methods can I use to find probability of events?

Frequency tables, two-way tables, Venn diagrams and tree diagrams

MEDIA

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What type of film is Black Widow?

- A blockbuster / Action Adventure

2. What is the difference between 'Star' power and 'Director' power?

- Star power: Where the **main actor** is the **main attraction** of the film – they will be a high paid actor that has been used in many successful films in recent years.
- Director power: Where the **director** is the **main attraction** of the film. Director power will use a director that has a number of successful films.
- Both Star power and Director power are used to attract audiences and create more revenue for films.

3. What does CSP stand for?

- Close Study Product

4. What are three marketing and advertising CSPs?

- OMO – Washing powder 70s print advert
- Galaxy Chocolate – Moving image advert featuring Audrey Hepburn
- NHS Blood Donation – Moving image advert featuring Lady Leshur

5. What is an Icon in media?

- Images that have strong associawith a person, place, idea or time.

  E.g. Elvis Presley, David Beckham, @, #, peace ☮ symbol, Apple  symbol.

PERFORMING ARTS

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. Why is accuracy important in a performance?

- Accuracy ensures the performance is polished and professional, showing strong preparation and rehearsal

2. How does coordination improve a performance?

- It helps performers move smoothly and naturally, making the performance more engaging and believable

3. What is the role of communication in performing arts?

- It ensures the audience understands emotions, themes, and intentions through voice, movement, and expression

4. How can an actor demonstrate control in their performance?

- By using precise gestures, clear vocal delivery, and maintaining emotional consistency throughout

5. What should a performer do if they make a mistake on stage?

- They should stay in character, improvise if needed, and continue confidently without showing hesitation

6. Why is coping under pressure a key skill for performers?

- It helps them stay professional and deliver a strong performance, even in challenging situations.

7. How does interpretation enhance a performance?

- It allows the performer to add unique meaning and depth, making the character or piece more engaging

8. What makes character development successful?

- A performer must understand their character's motivations, emotions, and relationships to make them realistic

9. Why is it important to maintain clarity of style in a performance?

- It ensures the performance fits the intended genre, making it clear and effective for the audience

10. How can movement and gesture enhance a performance?

- They help convey emotions and intentions physically, making the character more expressive and engaging

PHYSICAL EDUCATION

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

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:

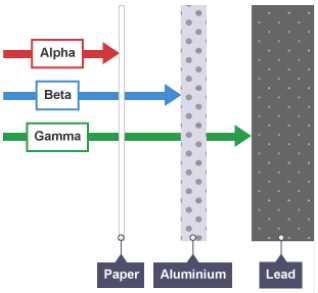
- **S** - Specific,
- **M** – Measurable,
- **A** - Achievable,
- **R** - Realistic and
- **T** – Time bound.

PHYSICS

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What are the different radioactive particles?

- **Alpha** particles are **very ionising**, but will only travel a **few centimeters** in air. They are **stopped** by **paper or skin**.
- **Beta particles** are much **less ionising** than alpha so will travel a **few metres** in air. They are **stopped** by a **thin sheet (3 mm) of aluminium**.
- **Gamma rays** are **much less ionising** than beta particles and will travel **a few km** in air. They are only **stopped** by **several meters of lead or concrete**.

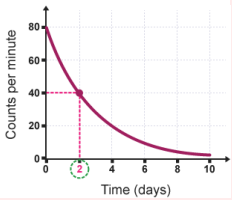


2. How are the radioactive particles produced?

- During **alpha** decay **2 protons and 2 neutrons** are **emitted**.
- During **beta$^-$** decay a **neutron changes into a proton and an electron**.
- During **beta$^+$** decay a **proton changes into a neutron and a positron**.
- During **gamma** decay **electromagnetic energy** is **emitted**.
- These decay can be represented with equations: the **mass and atomic numbers** on either side of the equation must **be equal**

3. What is radioactive half-life?

- Half-life is the time taken for the radioactivity to reduce by half.
- If a radioactive source has an activity of 200 Bq and a half-life of 2 minutes, then in 4 minutes the activity will half twice- 200 ÷ 2 = 100 ÷ 2 = **50 Bq**
- On a graph you see how long it took for the activity to half. Here it goes from 80 to 40 cpm in 2 days.



4. What are the dangers of radioactive particles?

- Radiation can cause visible damage- red skin- due to **radiation burns**.
- Over a long period of time even small doses of radiation can **damage the DNA** inside a cell causing a **mutation**, this can lead to **cancer**.

5. How can people work safely with radioactive material?

- Some people, such as medical staff, work with radioactive sources and they have to **limit their exposure** as much as possible.
- Using **tongs** to hold sources to increase the distance,
- Store radioactive sources them in **lead-lined containers**.
- Keep **exposure time short** and **monitor exposure** using a **dosimeter**.
- If a **patient** is exposed as part of their **diagnosis or treatment**, the **smallest dose** possible is used and sources with a **short half-life** are chosen to limit the exposure time for patients.

6. How are irradiation and contamination different?

- If you are close to a radioactive source you may get **irradiated**, this means you are exposed to radioactive particles emitted by that source- when you move away from the source the irradiation stops.
- If you get a radioactive source on their skin (or in their hair) or inside their body, then they have been contaminated. A person who has been **contaminated** will continue to be exposed to radiation until the radioactive source has been removed or has all decayed.

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What is a gang?

- A group of people who spend time in public places and engage in a range of criminal activity and violence.

2. Reasons young people may join a gang include:

- Fitting in
- Feeling respected and important
- To be protected
- Making money from crime
- To gain status
- To feel powerful.

3. What is an offender?

- A person who has committed a crime.

4. Young people become offenders because:

- Pressure
- Not realising what they are doing
- To keep respect from peers
- They are being told they have to.
- Revenge
- Being drunk or high
- Retaliation
- Fear and wanting protection

5. Young people choose to carry knives because:

- Fear
- Protection
- Retaliation
- Social media glorifying/glamorising
- School life (Bullying, poor attendance, exclusions)
- Poverty
- Mental health difficulties
- Confidence.
- Family life
- Childhood trauma

6. Which area of the UK is most affected by knife crime?

- The West Midlands

7. In 2024 how many people were stabbed to death each week?

- Four

8. Which ethnic group are more likely to be convicted of knife crime?

- White British (69% of people convicted of carrying a knife are white)

SEPARATE SCIENCE

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. What are monoclonal antibodies?

- Identical copies of one antibody.
- Used in pregnancy tests, to detect and treat cancer.

2. Viral life cycles

- Lytic life cycle → attach to a host cell→ replicate DNA→ assemble new viral particles→burst out of cell
- Lysogenic life cycle – As above, except the DNA of the virus becomes part of the DNA of the host cell. When the host divides the viral DNA is included in the host cell.

3. How do plants defend themselves from disease?

- Waxy cuticle/bark to prevent pathogens getting in. Cell walls prevent pathogens from entering cells.
- Some plants release chemicals to kill bacterial or fungal pathogens. Potatoes release substances into the air to deter predators.

4. What is corrosion?

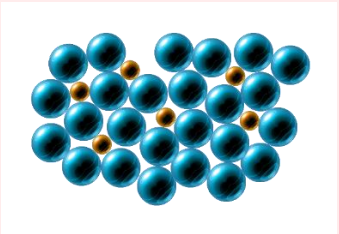
- The **weakening** of a metal through **oxidation**.

5. How can you prevent corrosion?

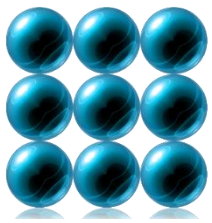
- **Removing** oxygen: Replacing oxygen with **argon/nitrogen**
- **Physical barrier**: Using **oil / paint / plastic** to cover the metal.
- **Sacrificial Protection**: A **more reactive** metal is added onto the top.
- **Electroplating**: A thin layer of an unreactive metal is added on top.
- **Galvanising**: A combination of physical barrier and sacrificial protection.

6. Why are alloys stronger than metals?

Alloy



Pure



- Alloys have **different sized particles**.
- The **layers** cannot **slide past each other**.
- This makes alloys **stronger**.

7. What is in the solar system?

- Our solar system has **8 planets** (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus & Neptune), **moons, asteroids, comets and dwarf planets.**
- The **geocentric** model placed the **Earth** at the **centre** of the solar system
- The **heliocentric** model placed the **Sun** at the **centre** of the solar system
- **Gravity** provides the **centripetal forces** that keeps planets **moving in a circle**.

8. What are the life cycles of stars?

- Small stars like the Sun: nebula → main sequence star → red giant → white dwarf
- Large stars: nebula → main sequence star → red supergiant → supernova → black hole or neutron star

9. What does red-shift tell us about the Universe?

- **Red-shift** is the **stretching** of light **waves** towards the red end of the spectrum.
- It happens because **stars and galaxies** are **moving away from each other**.
- More **distant galaxies move away faster** and show **more red-shift.**
- This proves the **Universe is expanding. CMBR supports the big bang throry.**

TEXTILES

SUMMER TERM 1 (CONTENT FROM SPRING TERM 2)

1. How to analyse a Textile Artist

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

2. 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?

3. Key descriptive words:

- **Accurate**: Precisely rendered design elements.
- **Bright**: Intense or vivid colours.
- **Colourful**: Vibrant and varied use of colours.
- **Disorganised**: Haphazard or chaotic design.
- **Geometric**: Design using shapes and patterns.
- **Hard**: Rigid or defined edges in design.
- **Liquid**: Flowing or fluid design elements.
- **Loud**: Bold or eye-catching design elements.
- **Messy**: Untidy or chaotic design elements.
- **Neat**: Tidy and orderly design.
- **Organised**: Neatly arranged and structured design.
- **Realistic**: True-to-life or natural design elements.
- **Rounded**: Curved or smooth design elements.
- **Soft edged**: Blurred or gently transitioning edges.
- **Spiky**: Sharp, pointed design elements.
- **Structured**: Well-defined and orderly design.
- **Still**: Static or unmoving design elements.
- **Unrealistic**: Imaginative or distorted design elements.