

Year 10 Summer Term 1 Core Knowledge

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



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. How do you use artists to influence your work?

- Incorporating the influence of other artists into your own work can be a powerful way to enrich your creative process and produce more dynamic and meaningful art. Here are some ways you can use artists to influence your work:
- Study Techniques: Analyse admired artists' methods. Experiment with integrating similar approaches into your own or adapting them to your style.
- **Explore Themes**: Reflect on themes explored by others. Consider how they connect with you and reinterpret them in your work.
- **Embrace Style**: Incorporate elements of other artists' styles. Experiment with brushwork, colour, composition, or movements that resonate.
- Find Conceptual Inspiration: Delve into conceptual frameworks behind others' work. Connect these concepts with your own interests for new ideas.
- Respond to Art: Create in response to other artists. Reference their work, initiate dialogue with their ideas, or incorporate elements into your pieces.

3. What different skills can you include in your Art work?

Students are able to use many different medias in their final piece planning designs. You are able to include stitch work on top of your drawings, wire work is a different way of drawing if you make it 2D, or as a sculpture piece if 3D. You can use acrylic paint and add more media to it to make it dry in a 3D manor. Clay work is another skill you can use in your artwork and printing. Printing is something that can be done in so many different ways. Always consider what media you want to use when creating your final piece planning.



1. What are populations and communities?

- Population Number of organisms of the same species in an ecosystem.
- Community Two or more populations of organisms in an ecosystem.
- Ecosystem All living and non-living things in an environment.

2. How are ecosystems organised?

- Producer → Primary consumer → Secondary consumer.
- The arrows represent energy transfer.
- Each stage is called a trophic level.

3. What are Abiotic factors?

- Abiotic are non-living factors that affect organisms.
- Examples include: Light, pH, Space, Water, Nutrients, Wind, CO₂, temperature.

4. What are Biotic factors?

- Biotic factors are living factors that affect organisms.
- Examples include: pathogens, predation, competition (for space, light, food, water, mates.)

5. Estimating population size

♦ Place quadrat randomly →count organisms → repeat.

Population size

Number of organisms in all quadrats

Total size of area where organism lives

Total area of quadrats

6. Sampling techniques

- Belt transect Used to identify links between abiotic factors and distribution of organisms.
- Place a tape measure → place a quadrat at regular intervals → count number of organisms→ sample an abiotic factor → look for a correlation.

7. Parasitic and mutualistic

- Parasitic relationship is where the host is harmed and the parasite benefits.
- Examples Headlice, tape worm, mistletoe, round worm.
- Mutualistic relationship is where both organisms benefit.
- Examples Flowers and insects, coral polyps and algae, oxpeckers and zebras, sea anemone and clown fish.



1. What does employment legislation protect?

The rights of employees from any actions of their employers.

2. What does consumer legislation protect?

The rights of consumers from any harm that might be caused by using or consuming a product or through a transaction with a business.

3. What three things must all goods be?

Fit for purpose Match the description Of a satisfactory quality

4. What is the impact of legislation on sales?

Reputation can be improved by going above and beyond legislation and therefore increase sales through recommendations and repeat custom.

5. What is the impact of legislation on costs?

Meeting legal requirements increases costs: better quality materials, checking adverts are correct and training staff can increase costs.

6. What are the consequences of breaking the law?

Fines
Jail Time
Bad Publicity

7. Why is unemployment bad for the economy?

High unemployment means fewer people have jobs, so incomes are lower. Businesses will sell less, employ less people and invest less. The government will receive less taxes and pay more benefits.

8. What are the three main types of tax?

- Those businesses pay corporation tax
- Those the employed pay National Insurance and Income Tax
- Those consumers pay council tax, VAT, Duties, etc.

9. What is inflation?

An increase in prices



- 1. How can you tell which metal is more reactive?
 - Add to acid / water
 - More bubbles = more reactive.
- 2. What do the words "oxidation" and "reduction" mean (in terms of oxygen)
 - Oxidation: The addition of oxygenReduction: The removal of oxygen
- 3. What is an ore?
 - A rock that contains enough **metal** to make a **profit**.
- 4. What are the three ways we can extract metals?
 - Dig out of the ground (unreactive)
 - Reduce with carbon (less reactive than carbon)
 - **Electrolysis** (more reactive than carbon)
- 5. Why should we recycle metals?
 - **©** Conserves Earth's Natural resources.
 - We don't have to **mine** for more, meaning:
 - Less **noise** / **visual** pollution
 - Less animals' habitats damaged
- 6. What are the four steps of a life cycle assessment?
 - 1. Design of product

- 3. Use of product
- 2. Manufacture of product
- **4. Disposal** of product
- 7. What is a reversible reaction?
- 8. What is dynamic equilibrium?
 - Where both the forwards and backwards reactions are occurring at the same time and same rate.
 - The concentration of reactants and products stays the same.
- 9. Where do we get hydrogen and nitrogen from in the Haber Process?
 - Nitrogen: Fractional distillation of air.
 - Hydrogen: From natural gas.
- 10. What are the ideal conditions for the Haber Process?

Temperature: **450°C** Pressure: **200atm** Catalyst: **Iron**

DESIGN TÉCHNOLOGY

1. Describe the advantages of CAD (Computer aided design)

- Designs can be created, saved and edited easily saving time.
- Designs can be copied or repeated easily.
- Designs can be worked on by remote teams at the same time.
- Designs can be rendered to look photo realistic.
- CAD is very accurate.
- CAD software can process complex stress testing.

2. Describe the disadvantages of CAD

- It is complex to learn.
- It can be very expensive and can have compatibility issues.
- It can have security issues, risking data corruption/breaches.

3. Describe the advantages of computer aided manufacturing

- It is quick, consistent and accurate.
- You make less mistakes as there is no human error.
- You need less workforce, so it is cost saving.

4. Describe the advantages of CAM

- Training is needed to operate CAM.
- It costs a lot of money to buy the machines.
- If the machines break, production stops.
- Job losses could mean social decline.

5. What does planned obsolescence mean?

Where a product is designed to have a specific life span.

6. What does "design for maintenance" mean?

Products that are designed to be repaired and maintained.

7. What are the four scales of production?

- One off: Making a unique item.
- Batch: Making a few/set amount.
- Mass: When you make thousands.
- Continuous: Open ended production

7. Name different types of woods, plastics and metals:

Woods:	Plastics:	Metals:
MDF	Acrylic	Aluminium
Chipboard	Polypropylene	Stainless steel
Hardboard	Polythene	Cast iron
Oak	Urea	Copper
Mahogany	Formaldehyde	Brass



1. List two similes to describe Scrooge in Stave 1

As hard and sharp as flint / As solitary as an oyster

2. Why is Jacob Marley in the story?

Marley is a reflection of the darker aspects of human nature. The chains that Marley drags with him are symbols of his greed and the choices he made. He is a warning to Scrooge.

3. Name three visions Scrooge is shown by The Ghost of Christmas Past.

- Scrooge as a boy at school
- Scrooge as an apprentice, working for Fezziwig
- Belle, breaking off their engagement
- Belle with a family of her own

4. What does The Ghost of Christmas Present symbolise?

• The true meaning of the Christmas holiday is found in the joy that comes from giving to others and celebrating together

5. What does the word 'allegory' mean?

A story that can be interpreted to reveal a hidden meaning, typically a moral or political one.

6. Name two of Bob Cratchit's children

6 Choose from: Martha, Belinda, Peter and Tiny Tim

7. Why does Belle release Scrooge from their engagement?

She believes he values money more than her.



- 1. What do these nouns mean? Un bureau, un canapé, une armoire, une fenêtre, une salle, une pièce, un grenier
 - Desk / office, sofa, wardrobe, window, room, room, attic
- 2. What do these descriptions mean? En bois, en métal, en tissu
 - Made from... wood, metal, fabric
- 3. What are these house types? Une maison individuelle; une maison jumellée ; une maison mitoyenne
 - Detached house; semi-detatched house; terraced house
- 4. What are these house types? Une ferme; un chalet; un immeuble
 - A farm; a wooden house; a block of flats (apartment building)
- 5. What are these areas in English? à la montagne; à la campagne ; en ville ; au banlieue ; au bord de la mer
 - In the mountains; in the countryside; in town; in the suburbs; by the seaside
- 6. What are these compass points in French? North; northeast; east; south-east; south-west; west; north-west
 - Nord; nord-est; est; sud-est; sud; sud-ouest; ouest; nord-ouest
- 7. What do these prepositions mean? Dans, sur, sous, entre, en face de, à côté de
 - In, on, under, between, opposite, next to
- 8. What are the two verbs 'to live'
 - Habiter; vivre
- 9. 'habiter' in the present tense (whole paradigm of verb)
 - J'habite; tu habites; il habite; elle habite; on habite; nous habitons; vous habitez; ils/elles habitent



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



1. What is the purpose of social care

Sometimes people need more help than their family can provide. Social care supports people who are vulnerable because they might be unsafe living alone, be ill or have a disability.

Examples of social care services include:

- Residential care
- Youth work
- Respite care
- Domiciliary care

Examples of informal social care include:

- Spouse or partner
- Son/daughter
- Friends
- Neighbours

Examples of voluntary social care include:

- Charities (Mencap, Mind, Disability Rights UK)
- Faith-based groups (salvation army, Islamic aid)
- Community groups (lunch clubs, food banks, transport services, befriending services)



- 1. What type of fortifications did the Anglo-Saxons build before 1066?
 - Burhs
- 2. What type of castle did the Normans mostly build?
 - Motte and baileys
- 3. What is a motte?
 - A man-made hill
- 4. What is a palisade?
 - A high wall often made from a fence of sharpened stakes
- 5. What is a bailey?
 - A large enclosure
- 6. Why were the early Norman castles built?
 - In response to rebellions
- 7. Who were usually forced to build the castles?
 - Anglo-Saxons
- 8. What are the two different interpretations for the purpose of castles?
 - Status symbol
 - Military fortress
- 9. Who helped William build castles all over England?
 - Barons

1. What is a painting application?

An application that allows freehand drawing and colouring, usually with a mouse or stylus.

2. What are the features of a painting application?

- a palette from which the user can choose colours
- freehand pens and brushes offering different styles and line thickness
- a range of standard shape tools such as rectangles and circles
- colour fill tools
- cut, copy and paste
- zoom (to work in finer detail)

3. What is photo editing software?

Photo editing software allows the user to edit and adjust photographs. Usually these photos come from a digital camera, but they could also be scanned from existing photos.

4. What are the typical features of photo editing software?

Crop – cut off sides of an image to make it a suitable size or remove unwanted areas.

Adjust contrast and brightness.

Remove red-eye.

Layers - you can have several different elements of the graphic as separate layers. These layers can be made invisible or even deleted at any time.

Clone tool – allows the user to clone one part of the picture to another to remove an unwanted element.

5. What are the advantages of a mail merge?

One standard letter can be written and sent to all customers without having to manually add each name and address.

The letter can be personalised - it looks as though the letter has been written to the individual person.

It's a very fast way to produce hundreds of personalised letters.

6. What are the disadvantages of a mail merge?

Letters can lack the personal touch.

The database that provides the information for the mail merge letter must be kept up to date if it is going to be useful.



1. What makes an expression 'quadratic'

It contains a square term e.g. x^2

2. How would you plot a quadratic graph?

Use a table of values then plot the coordinates

3. What methods can you use to solve a quadratic equation?

Factorise the equation, or plot the graph to find the values

4. What do quadratic, cubic and reciprocal graphs look like?

Quadratic = u or n (one change of direction) Cubic = like an s shape (more than one change in direction) Reciprocal = Very steep gradient than gradual levels off (never meets zero)

5. What is the first step of solving a simultaneous equation?

Make either the x's or the y's the same by multiplication

6. What are the definitions of these circle key words?

- Tangent: A straight line that touches the curve only once
- Chord: A line joining two places on the circumference
- Segment: Part of a circle bounded by a chord and a curve
- Sector: Part of a circle made my an arc and two radii

7. What are the formulas for the circumference and area of a circle?

 $Circumference = \pi \times D \ Area = \pi \times r^2$

8. What is the formula to find the volume of a cylinder?

Volume = area of cross section x height/length $(\pi \times r^2 \times h)$

9. What is the formula to find the surface area of a cylinder?

2 x area of circle + area curved = $(2 \times \pi \times r^2) + (\pi \times D \times height)$

10. What is the formula to find the volume of cones and pyramids?

Volume =
$$\frac{Area\ of\ cross\ section \times height}{2}$$



1. What does BBFC stand for?

British Board of Film Classification

2. How many audience classifications are there?

- There are 6 audience classifications within media -
- A = Higher managerial, administrative and professional
- B = Intermediate managerial, administrative and professional
- C1 = Supervisory, clerical and junior managerial, administrative and professional
- C2 = Skilled manual workers
- D = Semi-skilled and unskilled maula workers
- E = State pensioners, casual and lowest grade workers, unemployed with state benefits only

3. Who are OFCOM and what do they do??

The Office of Communications. Ofcom is the UK's communications regulator. They regulate the TV, radio and video on demand

4. What are two television CSPs?

- Dr Who: An Unearthly Child
- His Dark Materials: City of Magpies

5. What is mise-en-scene in media?

Everything in the scene – props, costume, lighting, location, accessories

6. What CSP stand for?

Close Study Product



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

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.

PHYSICALEDUCATION

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/	
Cardiovascular Fittless	Harvard Step test	Fartlek Training	
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.



1. Warm Up

Warm-up

A warm-up has three phases:

Warm-up

Phase 1 Pulse raiser

To raise the heart rate and speed up oxygen delivery to the working muscles. E.g. jogging a lap of the pitch

Phase 2 Stretching

Stretching the muscles and soft tissues you are about to use increases their elasticity and range of movement

Phase 3 Drills

These are more intense practices relating to the main session, such as dribbling if you are playing basketball

Why we warm-up

To physical and mentally prepare for exercise To increase oxygen delivery to the working muscles



Increase
temperature of
muscles,
tendons, and
ligament.
Reducing the
chance of injury

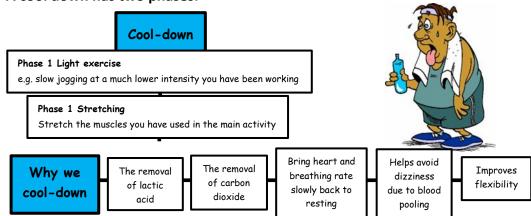
Increase flexibility which will aid performance prepare for exercise

2. Cool Down

A cool down is **NOT** designed to prevent injury it is to return the body to its resting levels

Cool-down:

A cool down has two phases:





1. What are the eight energy stores?

- Energy allows work to be done, it has 8 different stores (types)
- Energy is measured in joules (J)

Thermal	The hotter an object, the more thermal energy it stores	Today
Kinetic	Any moving object has a kinetic energy store	Kids
Chemical	Can release energy through a chemical reaction (e.g. fuels, foods)	Can
Elastic	Anything stretched or compressed (e.g. elastic band or spring)	Easily
Magnetic	In two magnets that are attracting or repelling	Memorise
Gravitational	Due to an objects position within a gravitational field	GCSE
Electrostatic	In two electric charges that are attracting or repelling	Energy
Nuclear	Released from the nucleus (e.g. decay, fission or fusion)	Names

2. What is the conservation of energy?



The **conservation of energy** tells us that: energy cannot be made or destroyed, it can only be transferred between stores

Efficiency = <u>useful energy transferred by device</u> total energy supplied to device

To improve efficiency- reduce the amount of energy wasted.

To **reduce** the amount of **energy wasted**- use **insulation** to reduce heat loss or use a **lubricant** to reduce friction.

3. How can the amount of energy stored be calculated?

Gravitational potential energy (GPE) is stored in raised objects
GPE (J) = mass (kg) x gravitational field strength (N/kg) x change in height (m)

Kinetic energy (KE) is stored in moving objects.

KE (J) = $\frac{1}{2}$ mass (kg) x velocity² (m/s)

4. How are energy and power linked?

- Work done is another way of saying 'energy transferred'
- Power tells us how much energy is transferred every second.
- Power is measured in watts (W) and 1 W = 1 J/s.

5. How to calculate work done & power:

- Work done = force x distance moved
- Power = energy transferred ÷ time





6. What are contact and non-contact forces?

- Contact forces occur when objects are touching
- Non-contact forces occur without objects touching

Examples of contact forces		Examples of non-contact forces		
ॐ	Friction	€	Gravity	
₽	Normal contact	€	Magnetism	
₺	Thrust	€	Static electricity	
₺	Upthrust			
₺	Tension			

7. What are force fields?

- Gravitational fields can only attract, they are round and affect all objects.
- Magnetic fields have different shapes, can attract or repel and only affect magnetic objects
- Electrostatic fields are circular, affect all objects and can attract or repel.



1. Define dishonour:

Dishonour: To bring shame and disgrace

2. What is the difference between honour-based violence and honour-based abuse?

- Honour-based abuse is a crime or incident that is committed to protect or defend the honour of the family and/or community.
- **Honour based violence** refers to specific acts of violence committed in the name of 'honour', for example when talking about physical attached or 'honour' killings.

3. Crimes committed in the name of honour include:

- Domestic abuse
- Threats of violence
- Financial and dowry abuse
- Sexual abuse
- Emotional/psychological abuse
- Coercive control
- Forced or child marriage
- Being held against your will

- Assault
- Female genital mutilation (FGM)
- Virginity testing
- Breast ironing/flattening
- Conversion therapy and practices
- Sex selective abortion

4. What is the difference between a forced marriage and an arranged marriage?

- Forced marriage is when either one or both parties in a marriage have not given consent or are unable to consent to the union.
- An **arranged marriage** is when families or communities of both partners are in charge of arranging the marriage, but the choice to accept the arrangement lies with the young people who are getting married.

5. What are the warning signs that someone may be experience honour-based abuse or violence, including a forced marriage:

- Running away from home;
- Self-harm or attempted suicide;
- Depression, anxiety, change in personality or becoming withdrawn;
- Poor performance at school;
- Unexplained absences;
- A sudden holiday, especially if they do not return or are gone for a long time.

6. Where can a person go to for support if they are a victim of honour-based abuse or violence, including a forced marriage:

- The police
- A trusted adult (not a member of the persons family)
- A teacher or member of staff in the school



1. What should be included in your final piece planning

To meet this assessment objective, demonstrate project development by refining and experimenting with media based on a researched artist. Emphasize extensive refinement towards a final piece, which may include digital or app-based experiments.

2. What are the steps

STEP 1: Design 2/3 ideas (either on your moodboard or drawings) and draw in the style of your selected artist.

STEP 2: Designs are then experimented through media, colour and compositions.

STEP 3: annotate your experiments and state how this links with your Artist.

STEP 4: Create your final refined idea. Add digital app work to link to different colour combinations. Annotate your journey of your project and how you can come to your final idea.

3. What do I do to meet the assessment objective?

Use the words in the assessment objective to help you understand what it is you should do:

- Refine Work: Prioritize quality over quantity by revisiting old samples and enhancing them. Compare and evaluate samples to discern what works and what doesn't.
- Explore Ideas: Translate ideas into sketches or textile samples, even if they don't initially succeed—it's all part of the sampling process!
- **Experiment with Media**: Practice using various techniques and materials, ensuring proficiency with each. Fearlessly combine techniques for unique effects, thinking creatively beyond conventional boundaries.

4. How to Evaluate a sample:

What have you done?

What techniques did you use?

What inspired you?

How does it relate to your theme?

How have you done it?

What did you like / dislike about the technique?

Was it successful? Why / why not?

How could you improve?

What else could you try?

Is there anything you would change? Why?

How will you develop your work now?

5. Key Textile Techniques to try

€	Batik	€	Couching	€	Knitting
€	Beading	€	Embroidery	ॐ	Macramé

CAD
Felting
Mola