Knowledge Organiser

Year 10

Cycle 2

OPTIONS SUBJECTS

Name:

Tutor Group:

What is a Knowledge Organiser and why are they important?

A knowledge organiser is designed to summarise the key information, concepts, and vocabulary for a specific topic or unit of work in each subject. Its purpose is to help students:

- o Understand what they are expected to learn.
- o Make connections between ideas.
- o Retain and recall essential knowledge more effectively.
- o Support independent study and revision

Your Knowledge Organiser contains the essential knowledge that we expect every student to know. Regular use of the Knowledge Organiser helps you to recap, revise and revisit what you have learnt in lessons. This can be part of your homework in some subjects or as independent revision The aim is to help remember this knowledge in the long term and to help strengthen your memory.

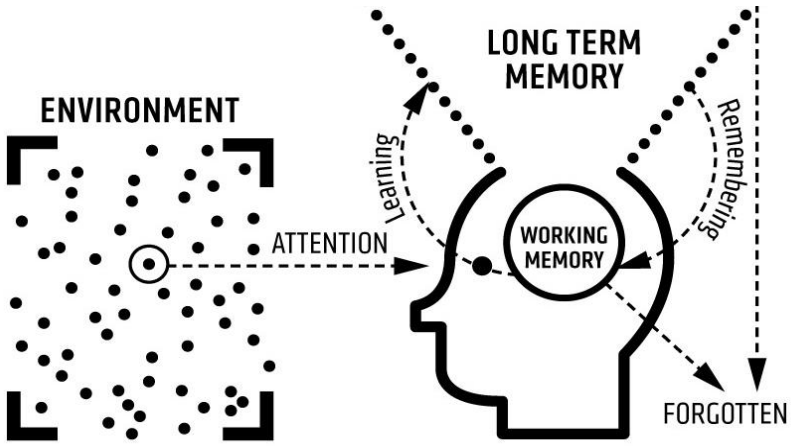
Each cycle there is an assessment in every subject and you will be assessed on the knowledge from your Knowledge Organiser; the more you revisit information the more likely it will be remembered for lessons, assessments and exams.

How we learn anything

We learn by focusing our attention on something. If we are distracted by other things in our environment (eg mobile phones, listening to music) it will affect how much/what we learn.

Information we pay attention to goes into our working memory, but our working memory is not very good and we quickly and easily forget things.

Learning happens when we think about, process or practise doing something so that it is stored in our long-term memory. Even then it can still be forgotten if we do not regularly think about it and go over it. *We remember what we think about*. Using your Knowledge Organiser outside of lessons helps you to remember things in the long-term.



Homework in Year 10-11

The purpose of homework

Homework plays a crucial role in reinforcing what you learn in the classroom, helping you to develop a deeper understanding of the material. It encourages independent learning, time management, and responsibility: skills that are essential for success both in school and in life.

Homework fosters a strong work ethic and a sense of discipline, preparing you for future academic and professional challenges. Homework is not just about completing tasks, it is about building lifelong learning habits. Learning is defined as a change in the long-term memory. You attend 5 hours of lessons per day, which is a lot of new information being taken in. Without additional opportunities to practise remembering, much of that information would be quickly forgotten.

Homework expectations

In Years 10-11 we expect every student to complete around 1 hour of homework a day, 5 days a week. English, Maths and Science will set around 1 per week each and the other GCSE subjects will be around 30 minutes each using the following timetable:

	Monday	Tuesday	Wednesday	Thursday	Friday
Subject 1	Science	Geog/History	Maths	Option Block F	Maths
Subject 2	English	Option Block E	English	Science	Option Block G

Maths and Science homework will be completed on Sparx. All other subjects may be a mixture of Seneca, Knowledge Organiser work and worksheets/tasks. Homework will be recorded on Class Charts to help students and parents keep track of what to do.

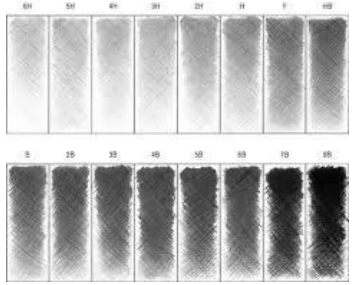
Year 10 Options Cycle 2 Knowledge Organiser Contents Page

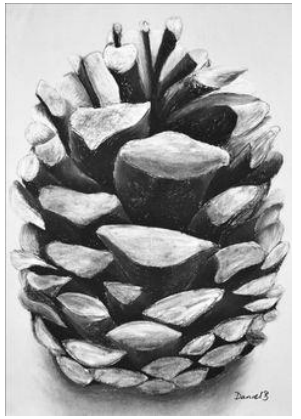
A. Visual Elements Keywords

Line	Line is the path left by a moving point. A line can be horizontal, diagonal or curved and can also change length.
Shape	A shape is an area enclosed by a line. Shapes can be geometric or irregular.
Form	Form is a three dimensional shape, such as a cube, sphere or cone.
Tone	This refers to the lightness or darkness of something. This could be a shade, or how dark or light a colour appears.
Texture	This is to do with the surface quality of something. There are two types of texture: Actual texture really exists, so you can feel it or touch it; Visual texture is created using marks to represent actual texture.
Pattern	A design that is created by repeating lines, shapes, tones or colours.
Colour	Red, yellow and blue are primary colours, which means they can't be mixed using any other colours.

B. Key Knowledge 1: USING TONE to CREATE 3D EFFECT

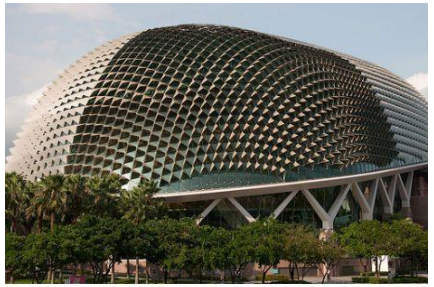
- Create different tones by using different grades of pencil
- HB means 'hard black' this is a standard pencil.
- H pencils are **lighter** as the number gets higher
- B pencils are **darker** as the number gets higher
- You can use pencils to make a variety of marks and tones by how much pressure you apply when using them





E. Expert Modelling: Designers inspired by nature

Zaha Hadid



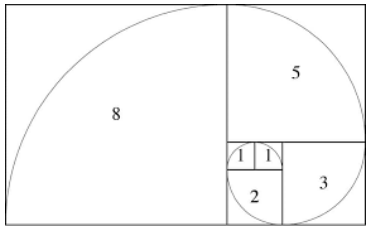
Heatherwick Studio

What Visual Elements can you see in this work?

CREATIVE ARTS
GCSE 3D DESIGN YEAR 10 – BIOMIMICRY

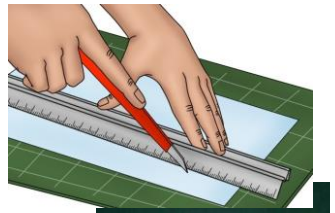
C. Key Knowledge 2: FIBONACCI SEQUENCE

The Fibonacci sequence follows the rule that each number is the sum of the two preceding ones, starting from 0 and 1. This is often found in nature as a growth pattern.



D. Key Knowledge 3: 3D Modelling

Use a scalpel and safety ruler to cut intricate shapes. Experiment with modelling in a variety of different found materials: corrugated card, toothpicks, lollipop sticks, ear buds, newspaper, scrap wood.



F. WIDER READING / THINKING

Amazing buildings inspired by nature

https://www.youtube.com/watch?v=KhSDH7-kyGU

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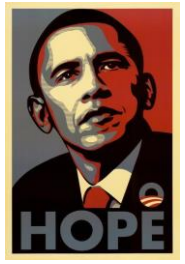
B. Key Knowledge 1: tick once mastered

- ❑ To know how to use a gridded scale to help you draw in scale and in proportion
- ❑ To understand how to paint the wide range of tones present in our skin
- ❑ monochromatic colours are all the colours in a single hue ranging from the lightest to the darkest.
- ❑ Understand basic photoshop skills to manipulate our own photographs
- ❑ To understand the process of lino and dry point printing
- ❑ A continual line drawing means you can take your pencil off of the paper, and blind line drawing means you cant look at the page.

E. Expert Modelling:

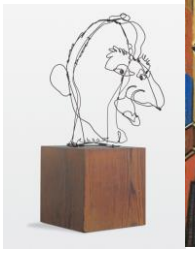
Mark Powell

Lucian Freud



Shepard Fairy

Miguel Ángel Belinchón



Alexander Calder

Pablo Picasso

Diane Komater

Francoise Nielly

What Visual Elements can you see in this work?

GCSE ART AND DESIGN. YEAR 10 – PORTRAITURE

Threshold Concepts:

1. Artists make marks, drawing our attention

2. Art communicates, in every sense

6. Art engages head, hands and heart

C. Key Knowledge 2: tick once you have used these colour relationships in a piece of work

- ❑ Complimentary colours sit opposite each other on the colour wheel. Split complimentary are the colours either side of on of the two complimentary colours.
- ❑ Monochromatic colours are the different tones within a hue from light to dark.
- ❑ Analogous colours are three that sit next to each other on the colour wheel.
- ❑ You need to use all the primary colours while mixing flesh tones to ensure you record all the colours present when

D. Key Knowledge 3

why is mark making important when working with lino?

Why is contrast important when you create art with this method?

How does this medium help the artist reflect the people in his portraits?

F. Wider thinking / further reading:

https://www.npg.org.uk/whatson/self/home/

check out these helpful videos and reading on portraiture!

COMPONENT 1 - Exploring Enterprises

CUSTOMER NEEDS

Learning Aim B Explore how market research helps enterprise meet customer needs & understand competitor behaviour.

Why is it important to anticipate and identify customer needs?

Customers are vital if a business is going to be successful; therefore, the entrepreneur must find out about customer wants and needs. This can be done via market research.

Anticipating customer needs is what is 'expected' of your customers.
For example: When will customers come to the enterprise? What will they want to buy? What market are we going to operate in? How many customers will we have?

Identifying customer needs can only be done once you know who your customers are. The enterprise has to think carefully about its customers, their needs and how they are likely to buy something.
If a 'need' is identified and met then it is very likely to lead to a sale. If you don't identify needs you'll be providing goods and services customers don't want.
How might this be problematic? Think beyond cash flow.

What 3 factors are important when identifying customer expectations?

Value: Customers will want 'good value' goods and services. They want to feel they have got good quality for what they have paid for the good or service.

Enquires: You must respond to enquires rapidly to offer good customer service; this could be a question or a complaint. Customers want to feel they are well thought of as they're spending money with you; they want to have confidence in you and feel listened to. They will tell others how they feel about your enterprise.

Information: Customers are most likely to repeat purchase if they understand what is being offered and its clear to understand. Sometimes (for example when buying a car, jargon can confuse people and put them off). They're also most likely to repeat purchase if they get what they're expecting. Not providing clear information can lead to fines, court and prison depending on the severity.

What is 'after sales' service?

After sales is what the enterprise offers are the customer has left with their purchase. This is can be as simple as checking if they can help the customer in any way (e.g. with a new piece of technology) or finding out if they're happy with their recent purchase (this might be in the form of a SMS questionnaire). Some customers might rate companies publicly (e.g. Trust Pilot, Trip Advisor etc.).

SCAN ME

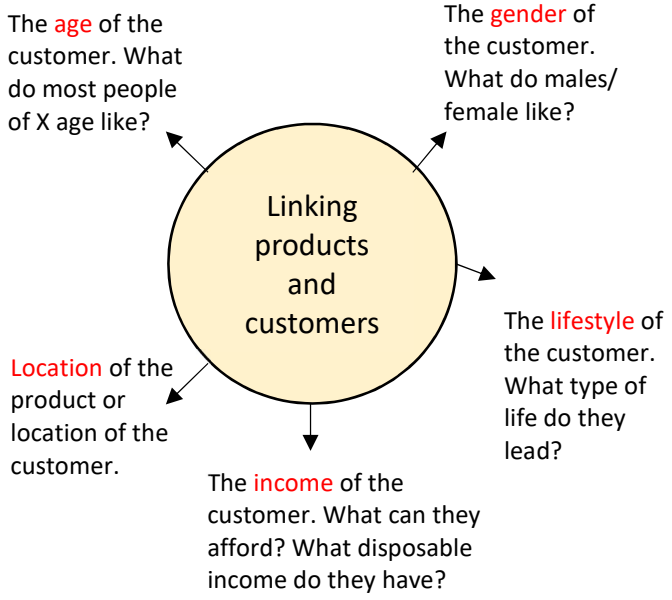
How can a business provide after sales service?

- **Repairs and Maintenance** - this might be offered when you get a new car.
- **Delivery information / tracking** – this might be in the form of providing updates on where the delivery is (web link so it can be self-tracked or via SMS). It might also be the enterprise checking the delivery went smoothly and the customer is happy.
- **Guarantees** – this is the offering of repairs for a specified amount of time after the sale if the product breaks.

SCAN ME

How can a product be linked to a customer?

Linking customers and products well means the enterprise is using its time and resource well.



COMPONENT 1 - Exploring Enterprises

MARKET RESEARCH

Learning Aim B Explore how market research helps enterprise meet customer needs & understand competitor behaviour

Primary

This is research which is collected first hand from the customer by the enterprise. The enterprise should always gain the respondents consent before conducting research.

How can primary research benefit an SME?

- They can gain new customers
- They can gather information about existing customers to keep them loyal and how to encourage them to spend more
- They can tailor the wants and needs of the customer to make sure they leave satisfied
- The enterprise is in control of the research, what they research and how they research; the data collected is then owned by the SME.

What might the drawbacks of primary research be?

- It takes a lot of time and can cost an lot of money;
- It may not be accurate (Ex: Sample size/Honesty)
- It may be biased – the enterprise may word the questions in a way in which they get the answers they want.

What can these things lead to?

- Overall improved performance of the enterprise;
- More satisfied customers;
- The ability for the enterprise to enter new markets (take their products to a new market);
- Increase their products.

How can an enterprise gather primary research?

- Questionnaires;
- Visits/observations;
- Interviews;
- Focus groups;
- Surveys.

SCAN ME

Secondary

Secondary research is research which has already been collected by someone else and you're using it to save you time and money. It may be freely available research or it may be research which it bought.

How can secondary research benefit an SME?

- It is instantly available as it already exists;
- It is publically available and often free to use;
- If details of how it was collected are included it can help the secondary research understand the data better, including any challenges, making it more useful.
- The data is likely to have already been analysed (trends spotted etc.)

What might the drawbacks of secondary research be?

- It is not possible to check the quality of the research
- It may not be perfectly relevant to your enterprise
- It may be out of date
- The method of collection or the source of the research may not be relevant to your enterprise.

How can an enterprise gather secondary research?

- Online research, internet searches
- Company materials
- Market reports
- Reports in trade journals and magazines
- Government reports

SCAN ME

Qualitative – OPEN questions

Collection of information such as ideas, thoughts and feelings. QUALITative research gives QUALITy answers (e.g. the respondent can expand on their answer to give you lots of information).

Quantitative – CLOSED questions

QUANTITative research is much easier to measure as it uses statistics. It can be used to spot patterns of identity trends.

This research can tell you the QUANTITY of times something has happened, but not why (problem?) as it only deals in numbers.

SCAN ME

COMPONENT 1 - Exploring Enterprises

COMPETITORS / COMPETITION

Learning Aim B Explore how market research helps enterprise meet customer needs & understand competitor behaviour

How can I spot competitors?

Identifying competitors allows entrepreneurs to make careful decisions about their enterprise from marketing, pricing and after sales services they provide. Researching competitors is important before you start up your enterprise. This can involve looking online if the enterprise has an online presence or visiting the enterprise/local area if possible to see what goods and services they offer; also, how they offer them.
Factors you might want to consider about your competitors are: location, goods, quality, price, reputation, opening times, customer type and whether or not they operate online.

How can products stand out from

Some ways might be (but this depends on the good/service). They need to encourage customers to make a purchase:

- Features
- Functions
- Colours
- Flavours
- Scents
- Pricing
- Design
- Aesthetics
- Promotions
- Aftersales service
- Incentives
- Quality

Features of competition: Price. Quality, USP, Availability.

Price: This is one of the first ways customers will compare you with your competitors – are you more expensive or not? Being the cheapest doesn't always make you the most attractive; sometimes customers look for the best 'all round' service or for something which stands out.

Quality: Sometimes this is linked to price as the customer wants to make sure the quality matches the price. It is sometimes linked to price as an indicator of how long something might last or the outcome of the service (something expensive would be expected to be very high quality).

Often customers will use the internet to find out of the quality from recent goods and services provided / images and reviews from the enterprise and its past consumers.

SCAN ME

Unique Selling Point: Goods and services can have features and selling points which make them unique (e.g. flavors, rare materials or a service which is different – example: a barbers who offer beard shaving as well as hair cutting (if they're the only ones in the area, otherwise it would be unique)).

Being unique doesn't always mean no other enterprise does something, it means you're unique in that location or to the customers you're serving. Taking Uncle Joes mint balls to London may be seen as unique as they're from the North of England. Being unique gives you options – e.g. pricing.

SCAN ME

Availability of a good– this means whether the product is in stock or whether it can be delivered quickly.

Availability of a service– this means can the customer 'book in' and is it easy to 'book in' (e.g. hair appointment – can you book in and can you maybe book in by calling in, phoning them enterprise or via an app?)

Loyal customers might wait if a good or service isn't available, but you must first work on gaining the loyalty of the customers over time (products mostly being available, different, good quality, reasonably prices etc.).

Child Development

Year 10 Unit 3: Principles of Early Years Practice In this unit you will look at some of the key principles that are reflected in best practice in early years. You will learn about inclusive practice as a way of valuing children and ensuring that they can benefit from the opportunities within the setting. You will also explore how children are empowered to ensure that children learn to become independent and develop a strong self-image, as well as ways in which this is put into practice. A further principle of working with children is the key person approach, which early years settings use to meet children's emotional and care needs. In this unit, you will learn why the key person approach is important to children's learning and development. If you wish to work in early years, it is important that you have a good understanding of the principles as you will need to incorporate them into your practice.		
Week 1 (Learning Aim A1) How children benefit from inclusive practice	The positive effects of inclusive practice on children's outcomes, including: • development of a positive self-image affecting confidence, motivation and positive attitudes towards others • developmental benefits as any needs are identified and a wide range of opportunities is available and, if necessary, adapted to meet needs • opportunities to play and socialise with other children and thus gain social skills and learn to express feelings and emotions • development of self-efficacy, a 'can do' attitude, that gives children confidence to try out new activities or cope in unfamiliar situations • emotional wellbeing as a result of being accepted and cared about by others • positive benefits to health outcomes as physical needs are met through inclusive practice • development of enduring positive attitudes towards others as a result of observing how to value and support others regardless of their age, disability, race, background, gender or lifestyle.	**Key Words** Inclusive Practice Self-image Self-efficacy
Week 2 (Learning Aim A2) How outcomes for children may be affected by non-inclusive practice:	How outcomes for children may be affected by non-inclusive practice: poor self-image as a result of feeling unwanted, helpless or inferior • low self-efficacy as children may have 'learnt helplessness' or see themselves as victims • delayed development as a result of late identification of needs or needs not being met • poor health outcomes if physical care needs have not been attended to, e.g. individual dietary needs unmet • educational outcomes lower as a result of not being given the same opportunities to develop skills and knowledge because needs were not met.	**Key Words** Learnt helplessness
Week 3 (Learning Aim B) Ways in which early years settings implement inclusive practice	Inclusive practice in early years settings, including: • adopting a non-judgemental attitude, e.g. respecting individual differences, cultures and beliefs, uniqueness of each child • implementing a welcoming environment, e.g. posters in different languages, greeting parents • using or displaying resources that reflect children's lives and celebrate diversity, e.g. home corner, dressing-up clothes • developing strong relationships with children and their families to ensure that children's individual needs are fully understood • adapting provision to meet the individual needs of children • keeping children safe • establishing routines • adults consistently acting as positive role models.	**Key Words** Non-judgemental Implementing Role Models

Week 4 (Learning Aim C1) The importance of empowerment of children in early years settings	Why early years settings seek to empower children: • children have a right to be informed, involved and consulted about all decisions that affect them • to value children as their feelings and opinions are taken into account • to show respect to children • to involve children in decision making, e.g. play opportunities, routines. How empowerment benefits children, including: • benefits to physical development, e.g. children gain confidence to try new challenges, more motivated to practise skills, helps children to make decisions about risk • benefits to emotional development e.g. self-esteem encouraged from being given opportunities to be involved in decision-making processes, more likely to be able to manage own behaviour if they have had some input in decisions about appropriate behaviour, boundaries and expectations • benefits to social development, e.g. children develop self-respect and learn to respect and value others and the feelings of others • benefits to cognitive development, e.g. involvement in decision-making process encourages motivation, perseverance and concentration.	**Key Words** Empowerment Self-esteem Perserverance
Week 5 (Learning Aim C2) How adults in early years settings empower children	Ways adults in early years settings empower children appropriate to their age/stage of development, including: • involving children in physical care routines and encouraging them to be involved in self-care to support independence, e.g. washing, dressing • giving children appropriate control and privacy when dressing, e.g. half closing a door so that toddlers can use the toilet in private • encouraging children to help themselves at meal and snack times • supporting child-initiated play whereby children can make choices as to what and how they play, and with whom • involving children in planning so that children feedback what they have enjoyed doing and can make suggestions as to what they wish to do next • involving children in all aspects of preparing the environment, e.g. choosing equipment to put out, tidying away, preparing snacks.	**Key Words** Physical care routines Self-care Child initiated play
Week 6 (Learning Aim D1) Why the key person approach is used in early years settings	Definition of key person role as someone who develops a strong and consistent relationship with a child and their family to ensure emotional and care needs are met. • Main roles of key person, e.g. developing a special bond with the child, sharing information with parents, supporting transition and observing the child. • Key person approach is a requirement of early years education/care frameworks, e.g. Early Years Foundation Stage (England) • Key person approach helps parents to effectively exchange and share information effectively to support children's physical care and development, e.g. dietary needs, allergies, health conditions, ensuring medical and physical needs are met.	**Key Words** Key person Transition

Section 7 (Learning Aim D2) How the key person approach supports children's development	How the key person approach supports children's development: • emotional development is supported as young children are prevented from becoming distressed when separated from parent/carer, e.g. key person understands children's individual emotional needs and ways to comfort them, children feel more secure • language development is supported, e.g. children communicate more to people with whom they have a strong relationship, key person knows how best to communicate with child • children's learning is supported, e.g. key person knows children's interests, children feel more confident to try new experiences and explore • children's physical development is supported, e.g. key person is aware of the child's stage of development, recognises suitable equipment and resources • children's social development is supported as children learn to make relationships beyond their family circle, e.g. key person approach helps children to develop relationships with others in the setting.

YEAR 10 DRAMA CYCLE 2

Week 1

Devising Techniques

Role Play: This is the act of pretending to be somebody else, of taking on a role.
Characterisation: The act of changing voice, body language, movement, gesture etc when in role.
Still image: This is a frozen picture which communicates meaning. It's sometimes called a **freeze frame** or tableau.
Naturalistic: The performance is as close to real life as possible.
Non-Naturalistic: The performance is more theatrical and stylised and tells the story using a variety of techniques such as flashbacks; direct address to the audience; multiple role-play.
Mime: the theatrical technique of expressing an idea or mood or portraying a character entirely by gesture and bodily movement without the use of words

Bertolt Brecht is German poet, playwright, and theatrical reformer whose epic theatre departed from the conventions of theatrical illusion and developed the drama as a social and ideological forum for leftist causes.

Week 2

Devising Techniques

Cross Cutting: Cross-cutting is a device to move between two or more scenes staged in the space at the same time.
Narration: Narrating is adding a spoken commentary for the audience about the action onstage.
Slow motion: is an effect in film-making whereby time appears to be **slowed** down
Hot-Seating: An actor sits in the hot-seat and is questioned **in role**, spontaneously answering questions they may not have considered before.
Thought-Tracking: A thought-track is when a character steps out of a scene to address the audience about how they're feeling.
Gesture: a **defined** movement which clearly communicates **meaning**.
Movement: the physical methods actors use to help with characterisation

Bertolt Brecht's Epic theatre is a form of didactic drama presenting a series of loosely connected scenes that avoid illusion and often interrupt the story line to address the audience directly with analysis, argument, or documentation.

Week 3

Devising for performance

Monologue: an extended speech by one person

Developing a role and characterisation:
Individual and group work on character is vital for effective devising, whether you end up being a single character or playing multiple roles.
To develop a role, you must establish their given circumstances; for instance:

- Who am I?
- Where am I?
- When is it
- Where have I just come from?
- What do I want? (Objectives)
- How will I get what I want?

Genre	Style and Form
Tragedy	Mask
Comedy	Mime
Farce	Promenade
Documentary Theatre	Site-specific Theatre
Morality Play	Verbatim Theatre
Melodrama	Physical Theatre

Week 4

Building Blocks: Devising

Tableaux: A group of motionless figures representing a scene from a story.
Movement and Physical Sequence: Movement and physical sequences in devised work are either literal or symbolic and serve different purpose. **Liberal:** You can develop movement and physical sequences by selecting an element from the research that has clearly identifiable gestures including: ● pace ● size ● the portrayal as realistic or caricature ● the number in the group doing the gestures in synchronisation. **Symbolic:** This style of physical movement sequence can be used alongside more 'traditional' dramatic forms. Many artists that use this style of movement like to create the movements before adding context and meaning.

Week 5

Building Blocks: Devising

Improvisation: The core principles of improvisation for devising are: The starting point must be rooted in research findings, such as: - an image - a line of text - an object - a scenario - a piece of music
Status: the power difference in the relationship between two characters
Genre: a French word meaning 'category' or 'type', e.g. comedy, tragedy, docudrama, farce, or melodrama.
Space: the effective use of available **space in** a performance
Pace: the speed at which someone speaks, e.g. the speed of response in an argument

	Week 6	Week 7	Week 8	Week 9	Week 10
YEAR 10 DRAMA – CYCLE 2	<u>Key themes and meaning DNA</u> Key themes present in DNA by Dennis Kelly are explored using a mixture of short dramatised sequences, narration and talking head-style interviews with some of the key characters. The main **themes** of the play are bullying, gang membership, social responsibility, morality and leadership. The **characters** remain in role in the interview-style sequences, commenting on the events of the play and explaining their views on the events and their role in what has taken place. The **narrator** examines these themes as some key moments are played out. The **narrator** examines the morality and motivations of Leah, Phil, John Tate, Cathy and other characters, as some key moments are played out, providing a voice-over commentary and exploring how the characters link to the themes of the play. The **action** sequences illustrate the themes by moving between significant moments and drawing out some of the key quotations that relate to each of the themes being explored.	<u>Frantic Assembly Context</u> Frantic Assembly was founded in 1994 by Scott Graham, Steven Hoggett and Vicki Middleton; students at Swansea Universtiy. They were inspired and then encouraged to form own theatre company although untrained in any aspect of theatre of dance. Key focuses: • Movement must move narrative • Encouragement learning and training • Setting gradual tasks to build up exercise • Work on character development after the work is created Exercises: • Round by through • Chair Duets • Walking on the wall • Jet Pack • Lifting Exercise • Push/Pull • Hymn Hands Productions: • I think we're alone • Sometimes thinking • The Unreturning • Fatherland • Things I know to be true • The curious incident of the dog in the night-time	<u>DNA by Dennis Kelly</u> <u>Key Points</u> **DNA** was written by Dennis Kelly in 2007 and first performed at the Cottesloe Theatre of the National Theatre on 16th February 2008 and it was directed by Paul Miller.  **DNA** is a dark, chilling and nilhilistic play, examining teenage gang culture and their hierarchical power structures, and the nature of guilt and responsibility, The play captures the nuances of teenage conversation with overlapping dialogue and incomplete sentences punctuated by the group. **DNA** is a play of many themes: responsibility, leadership, gangs, bullying and power. **Directed** by Paul Miller **Set, Costume and Video Designer** by Simon Daw **Lighting Designer** by Paule Constable **Sound Designer** by Rich Walsh **Associate Video Designer** by Paul Kenah	<u>Revision for Knowledge Organiser test:</u> Revise areas on Performance and Devising skills. Ensure clear understanding of Performance skills. You may choose to look over all the performance and devising skills and use the following to support you with your revision: LOOK COVER WRITE CHECK Ensure you have knowledge of White Rose. This includes understanding of the characters, the themes and knowledge of the original performance conditions. Remember how you used the performance and devising elements when creating your drama work on key scenes.	**<u>Performance Criteria Component 1</u>** **Performers must develop skills in:** ● rehearsing and learning lines; adapting work in response to rehearsals (to be done collaboratively) ● voice: use of clarity, pace, inflection, pitch and projection ● physicality: use of space, gesture, stillness and stance ● ability to combine and apply vocal and physical skills ● characterisation ● communication with other performers and with the audience ● understanding of style, genre and theatrical conventions. **Performers will be assessed on their ability to realise artistic intentions through the:** ● use of vocal and physical skills ● creation of character ● communication of creative intent to an audience ● understanding of style, genre and theatrical conventions.

GCSE Food preparation and nutrition

Week 13 Finishing techniques and garnishes	**Week 14** Different dietary needs
Adding a food on a finished dish can improve the aesthetic appearance. Decorations on savoury food dishes are called garnishes. Decorations on sweet foods are simply called decorations. Some examples of garnishes include: Fanning – a strawberry can be cut into slices with a knife leaving the top of the strawberry intact which creates a fan affect Waterlilly effect – using a knife, a V shape is cut around the middle to create a toothed affect. Tomatoes and melon can be prepared in this way Scoring with a fork – score down with a sharp knife or fork to give ridged effect. Cucumber and lemons can be prepared in this way. Twists – slice, then cut from the edge to just past the centre. Cucumber, oranges, lemons can be prepared in this way. Ribbons – courgettes or cucumbers can be peeled along their length to produce ribbons which can be arranged in different ways, e.g making a spiral, folding or wrapping around another food. Specific skills to improve the overall aesthetic: Pipping – piping mash, meringues and other things can make a big difference to the outcome of the dish. Creating sugar work: This can elevate a desert with good finishing techniques with sugar work. Melted chocolate: this can also help elevate a desert as melting and then creating shapes can help with decorations. For more inspiration: https://www.youtube.com/watch?v=1zrxJ5ySyok.	**Lactose intolerant** Intolerant to lactose. Those affected vary in the amount of lactose they can tolerate before symptoms develop. Symptoms may include abdominal pain, bloating, diarrhoea, gas, and nausea. **Coeliac** Intolerant to wheat - Classic symptoms include gastrointestinal problems such as chronic diarrhoea, abdominal distention, malabsorption, loss of appetite and among children failure to grow normally. **Lacto-ovo vegetarian** lacto-ovo vegetarian is a vegetarian who consumes some animal products, such as eggs and dairy. Unlike pescatarians, they do not consume fish or other seafood. **Lacto vegetarian** a person who does not eat meat and eggs. **Vegan** excludes meat, eggs, dairy products, and all other animal-derived ingredients **Vegetarian** Do not eat meat, poultry, fish, or any products derived from animals, including eggs, dairy products, and gelatine **Pescatarian** a person who does not eat meat but does eat fish**.** **Food allergy** Is an immune system reaction that occurs soon after eating a certain food. Even a tiny amount of the allergy-causing food can trigger signs and symptoms such as digestive problems, hives or swollen airways and this could be fatal.

Week 15
Diet related diseases

Obesity

Obesity, or being obese, means being very overweight.

How can it be measured?

You can use body mass index (BMI) to see if your weight falls into the normal range. It is measured by calculating weight (KG)/ height (M) squared.

Health problems linked to obesity include:

1. Type 2 diabetes
2. Coronary heart disease
3. Stroke
4. Cancers
5. Arthritis
6. Depression

Cardiovascular disease

When your heart beats it pumps blood around your body to give your body cells oxygen, energy and the nutrients it needs. The blood then takes away the waste products from your body.

The two main types of cardiovascular disease are:

1. Coronary heart disease
2. Stroke.

Tooth decay - What causes tooth decay?

Tooth decay begins with plaque forming on your teeth and gums that contains bacteria. Over time, this bacteria can interact with the sugars in the foods you eat to make acid. This acid attacks your tooth enamel and can cause tooth decay.

Type 2 diabetes

Diabetes is a condition when the sugar in a person's blood gets too high.

More likely to develop type 2 diabetes if:

- You are overweight/obese
- You are over 40 years old
- You eat fatty, salty and sugary foods often
- You have high blood pressure
- You do not exercise regularly.

Week 16
Energy needs

Your body needs energy for every function and movement that it performs

Energy we use is measured in kilocalories (kcal) or kilojoules (kj).

1g of each nutrient	Energy value in Kcal
Protein	4.0
Fat	9.0
Carbohydrate	3.75

The amount of energy you need changes throughout your life because of these main factors:

- Age – teenagers compared to babies or elderly.
- Activity- your energy needs will change from day to day depending on these activities
- Health – Your own health also affects the amount of energy needed.
- Gender – Whether you are male or female will affect your energy needs.

Basal metabolic Rate

Basal metabolic rate (BMR) is the number of kilocalories you need to stay alive for 24 hours.

Physical activity level

Physical activity level is a way of showing your daily physical activity as a number. Your PAL will vary depending on how you spend your time during the day.

$$\text{Physical activity level} = \frac{\text{Total energy expenditure [24 hours] /}}{\text{Basal metabolic rate [24 hours}}$$

Week 17
Raising agents

Raising agents are something added to sweet or savoury mixtures, such as cakes scones and breads to make them rise.

Chemical

chemical raising agents produce CARBON DIOXIDE

Biological

Yeast is a biological raising agent which during fermentation produces carbon dioxide gas.

Fermentation needs certain conditions for it to work:

1. **Time**
2. **Heat source**
3. **Moisture**
4. **Food source**

Mechanical

Mechanical raising agent are the things that you physically do to a product such as whisking, sieving, folding, mixing. They trap air throughout the mixture and this air turns to steam in the oven.

Week 18
Raising agents

Why is food cooked?

- To make food safe to eat
- To improve the flavours of food
- To improve appearance and smell-
- To improve the texture of food
- To improve the shelf life
- To give variety to the diet

Heat can change the appearance, colour, flavour, texture and smell of food. When food is prepared and cooked you may see one or more of the changes.

Methods of heat transfer

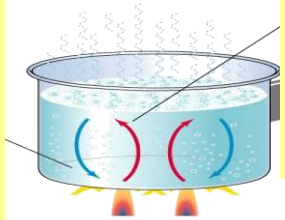
Conduction

Conduction is when the heat travels through solid materials like metal as well as food.

Convection

Convection is when heat travels through air or water. The movement of heat in water or in the air is called the convection current.

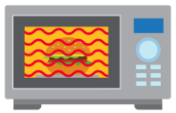
Water cools, becomes more dense and sinks



Hot, less dense water rises

Radiation

Radiation is when heat rays directly warm and cook food. Heat



Week 19
Cooking methods

The ways in which we cook food can be divided into the following groups:

1. Cooking with water
2. Cooking with 'dry heat'
3. Cooking with fat

Cooking with dry heat
- Grilling
- Dry frying
- Baking
- BBQ

Cooking with water
- Blanching
- Boiling
- Braising
- Poaching
- Simmering
- Steaming

Cooking with fat
- Shallow frying
- Stir-frying
- Roasting

Choosing the cooking method – Factors to consider

- Type of food – E.g. Yorkshire puddings require baking
- Skill of the cook – Poaching requires skill
- Time available- Stewing takes hours
- Dietary needs- Low fat diets require low fat
- Sensory requirements- crispy skin or soft vegetables
- Equipment available

Key cooking methods you must understand:

Baking – Poaching – BBQ – boiling – Braising – Dry frying – Grilling – Roasting – shallow frying – Simmering – steaming – stir frying

Week 20
Micro-organisms

Micro-organisms are tiny forms of life, both plants and animals. There are three groups:

1. Bacteria

Optimum conditions

- A suitable temperature and pH
- A supply of moisture and nutrients (particularly protein, fats, minerals and sugar)
- The right level of oxygen (aerobic bacteria need oxygen; anaerobic do not
- Sufficient time – shelf life of food

High risk foods: meat, poultry, fish, seafood, eggs, milk, cream and some cheeses

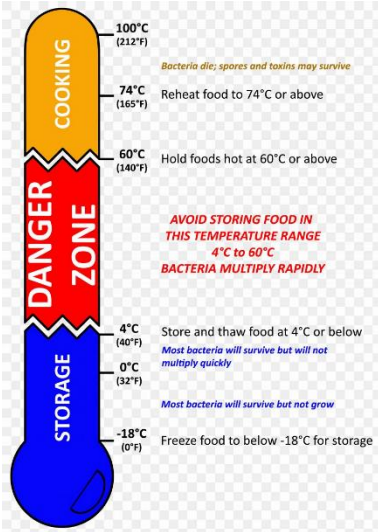
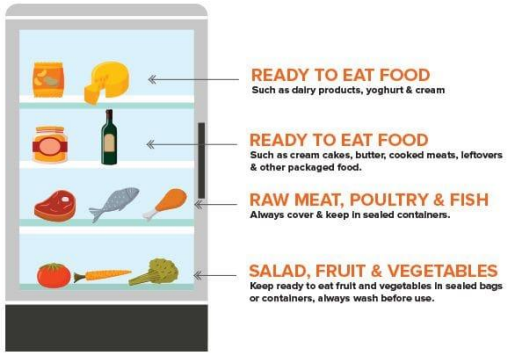
2. Yeast

- optimum conditions to grow and multiply:
- A suitable temperature: 25 – 30 degrees in optimum but they can still grow (slowly) in cooler temperatures.
- A suitable pH – pH of 4 – 4.5 is optimum for yeasts – Acidic
- A supply of moisture
- A supply of energy and nutrients: particularly carbohydrates
- The right level of oxygen – Aerobic and anaerobic
- Sufficient time

High risk foods: jam, honey, fruit, yoghurts and fruit juices

3. Moulds

- Suitable temperature – 20 degrees – 30 degrees, but they can still grow in fridges at lower temperatures.
- A suitable pH – ranging from 2.0 -9.0 – optimum seems 7.0
- A supply of moisture; moulds grow particularly well in humid conditions and on moist foods, but there are some that can grow on dry foods too.
- A supply of energy and nutrients

Week 21 Types of bacteria	Week 22 Principles of food safety	Week 23: List of Seneca for cycle 2
There are different from bacterial food poisoning, because only a few bacteria can cause the illness and the food is the vehicle by which they enter the body, rather than the place where they multiply. In other terms it's the food that is the cause, not the body. The bacteria can come from various different sources including dirty water, sewage, manure, wild animals bird and insects. We need to learn about various different foodborne diseases such as: **1. Campylobacter** **Foods found in:** **Raw and undercooked meats and poultry, raw milk** **2. Escherichia coli (E.coli)** **Foods found in:** **Undercooked meat products e.g burgers, raw milk, raw milk products, apple juice, some cooked meats** **3. Listeria monocytogenes** **Foods found in:** **Soft cheese, pates, cook-chill products, salads, fried rice** **4. Salmonella** **Foods found in: Meat, poultry, raw egg products e.g mayonnaise, milk, dairy products, sauces, salads dressings, coconut, beansprouts** **5. Staphylococcus aureus** **Foods found in:** **Poultry, cooked meats and meat products, egg and egg products, salads, milk and milk products, some dried foods. Found on/in the skin hair, nose, mouth and throats of people and animals.**	**Personal hygiene** people who handle food in a commercial or domestic kitchen must keep themselves clean and hygienic and follow the basic personal hygiene rules**.** **Cross contamination** Cross contamination is the transfer of bacteria from contaminated foods, liquid and solid substances, surfaces, materials or animals to other foods   **Food storage**  	**Week 13:** 1.1.4 – cooking methods 1.1.5- sauce making 1.1.6 – dough and pastry 1.1.7 – shaping and finishing dough **Week 14:** 2.3.2 – informed choices for balanced diet 2 2.3.5 - Diet modifications **Week 15**: 2.3.6 diet related diseases 2.3.7 diet related diseases 2 **Week 16:** 2.3.3- Energy needs 2.3.4 – nutritional analysis 2.3.8 – end of topic test – nutritional needs and health **Week 17:** 3.2.3 Raising agents 1.1.8 – Raising agents and setting mixtures **Week 18:** 3.1.1 – Reasons for cooking and heat transfer **Week 19:** 3.1.2- water based cooking methods 3.1.3- fat based cooking methods 3.1.4- dry cooking methods 3.1.5 – dry cooking methods **2** **Week 20:** 4.1.1 – micro-organisms and signs of food spoilage 4.1.5 – micro-organisms in food production **Week 21:** 4.1.2- enzymes and signs of food spoilage 4.1.3- Food poisoning 4.1.4 – bacterial contamination **Week 22:** 4.2.1 Temperature Control 4.2.2 Ambient Foods & Food Labels 4.2.3 Preparing, Cooking & Serving Food 4.2.4 End of Topic Test - Food Safety **Evaluation of Seneca – complete any outstanding Seneca in preparation for cycle 2**

Year 10 French Knowledge Organiser cycle 1

Complete your weekly assignment on Seneca

Extensions:

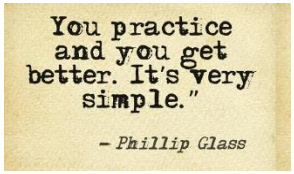
- Create revision cards for each of the main tenses studied to help you remember how to form them.
- Find a picture in a magazine/online and write a photo description
- Do 10 minutes of Duolingo every day to build your vocabulary
- Write a glossary of vocabulary we see in class – memorise it and test yourself at home.

GCSE Music

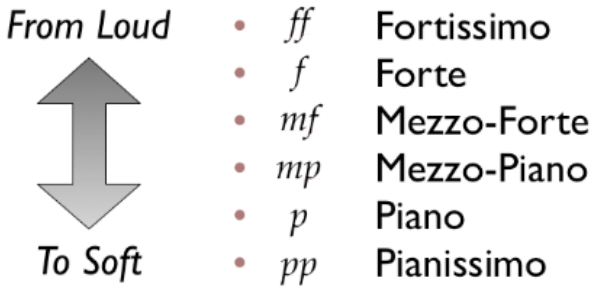
KNOWLEDGE ORGANISER – Instrumental Practice

KEY CONCEPTS

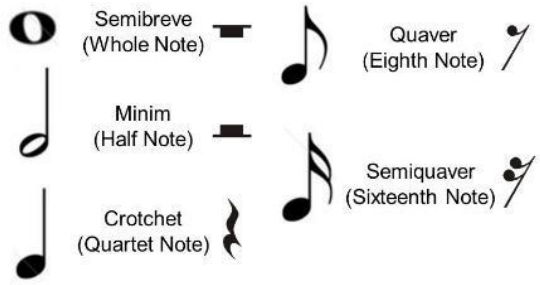
Reviewing your performance	Watching a video of your performance and using it to amend or set new targets
Solo performance skills	Understanding the techniques needed when performing as a soloist and being able to demonstrate them
Preparing for performance	Using rehearsal time and peer/self-assessment to prepare for a performance to a wider audience
Stage Presence	Researching what stage presence is and how to achieve it

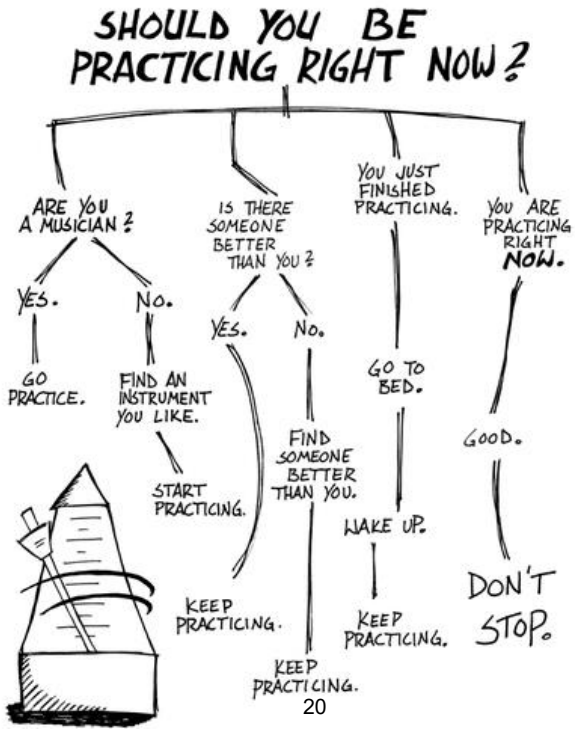


DYNAMICS



NOTE VALUES





KEYWORDS

Technique	ability and control of an instrument
Pitch	high or low sound
Timing	the ability to stay in time accurately
Rhythm	A repeated pattern of sound
Phrasing	the shape of a sequence of notes
Confidence	a belief in your ability to succeed
Repertoire	a collection of pieces
Musical Interaction	the relationship between performers
Practice	developing skills to aid performance
Strength	something you are good at
Weakness	something you need to develop
Time Management	planning and using your time sensibly and profitably – not wasting it
Consistency	always doing something
Focus	keeping your attention on one thing
Fluent	performing with no gaps or hesitations
Accurate	making no mistakes

Musical Elements - DR SMITH

Dynamics – volume
Loud, quiet, soft

Rhythm – long and short beats
Syncopation, dotted, swung, straight, off beat, back beat

Structure – organisation of the music
Verse/chorus, intro/outro, 12 bar blues

Melody – the tune
Stepwise, scalic, triadic, chromatic, leaping

Metre – how many beats in a bar
6 4 3
8 4 4

Instrumentation – the instruments used
Guitar, bass, drum kit, drum machine, voice, tech effects

Texture – the layers in the music
Melody and accompaniment, homophonic,

Tempo – speed
Fast, slow

Tonality – key
Major, minor, pentatonic

Harmony – chords
Chord sequence, power chords, parallel chords

1960s-1970's Rock Music

Rhythm - Opening drum fill, regular beat, syncopated not ostinato, back beat, 2/4, 4/4, 2/2, C, Common Time/Split Common Time,

Melody - short phrases, repetitive melodic ideas, 'hook' (in chorus/on words of title), riff, sequences

Styles:

Psychedelic rock – based on the culture of perception-altering hallucinogenic drugs like LSD, tries to recreate the experience

Heavy metal – loud, aggressive sounding, powerful chord sequences and repetitive driving rhythms, amplified distorted guitars

Rock 'n Roll – came before Rock Music, walking bass line, primary chords, developed from Blues

Film Music

Music contained in the action – digetic music e.g. radio on in the scene

Background music – underscoring, helps to establish mood, time, and place, supports dramatic development and character, moves action forward, adds to dramatic impact, provide continuity across edits

Micky Mousing

Use of Leitmotif

Instrumental colour is very important

Popular Music, Rock Music, Musicals, Film and Game Music

Game Music

Designed to repeat indefinitely

Lacking lyrics and playing over gameplay sounds

Limited polyphony for earlier game music - only three notes can be played simultaneously on the Nintendo so complex rapid sequences of notes.

Modern game music more cinematic

Including devices like fanfares, a hero's theme etc.

Pop music from 1990's to present

RnB - strong backbeat, use of drum machine, 4/4, clear melodic lines, repetitive phrases, use of melodic fills (at the end of vocal phrases), (mostly) consonant harmonies, clear harmonic progressions, sometimes use a hip hop beat (closed hi hat semiquavers, open on the off beat, hand clap off the beat)

Rock 'n Roll - steady / rock /4 beat / 8 beat rhythm, driving rhythm (in drum kit), emphasis on 2 & 4 / backbeat / off-beats, typically three guitars and drum kit, strong bass, repetitive melody lines, memorable 'hook'

Guitar based pop – 4/4 drum beat, drum fills, effects pedals on guitars (distortion) use of riffs and hooks, repeated chord sequences, **Soft Rock** (combined with folk music to produce softer sound), **Country** (acoustic instruments with vocal harmonies, often banjo or violin)

Music of Broadway 1950s to 1990s

4 main types of song: solo character, duet character, action song, chorus number

Ballads – slow romantic, reflective, comedy songs, - funny, music illustrates the lyrics, production numbers –full company, changes in location or plot

Themes based on original stories, Shakespeare, political themes

Songs often 32 bar form, often have a middle 8

Catchy riffs and hooks, catchy melodic lines

Harmony and instrumentation will reflect the musical style e.g. jazz (Bernstein), Rock (We Will Rock You), etc.

Orchestral or band accompaniment

Word painting used to reflect the lyrics in the songs

Year 10 GSCE PE Cycle two

Week 1

Aerobic and Anaerobic system

When we work **aerobically** it means we work **with oxygen.**

Glucose+Oxygen=Energy+CO2+water

Low to moderate intensity - Long distance running

When we work **anaerobically** it means we work **without oxygen or borrow oxygen.**

Glucose = Energy+Lactic acid

Short periods of time, less than 60 seconds – 100metre sprint.

Excess post exercise consumption (EPOC) – The amount of energy needed to recover after anaerobic

The Recovery Process:

- **Cool down**
- **Manipulation of diet**
- **Ice baths and Massage**

Week 2

Components of Fitness

Health
A state if complete physical, mental and social well-being and not merely the absence of disease or infirmary.
Fitness
The ability to meet, or cope with the demands of the environment.

Components of Physical Fitness:
Aerobic Endurance – The ability of the heart, lungs and blood to transport oxygen to the working muscles whilst exercising.
Muscular Endurance – The ability to use voluntary muscles repeatedly without tiring.
Strength – The amount of force a muscle can exert against a resistance.
Flexibility – The range of movement at a joint.
Components of Skill-related Fitness:
Agility – The ability to change the position of the body quickly and control the movement.
Balance – The ability to maintain the body's centre of mass above the base of support.
Co-ordination – The ability to use two or more body parts together.
Power – The ability to perform a strength exercise quickly.
Reaction Time – The time taken to respond to a stimulus.
Speed – The ability to put body parts into motion quickly.

Week 3

Fitness testing

For each component of fitness there is a test you can do to see how good you are in each component.
Aerobic Endurance – Multi-Stage Fitness Test/Cooper Run/ Bleep Test
Muscular Endurance – 60 seconds sit up Test
Strength – Hand Grip Dynamometer Test
Flexibility – Sit and Reach Test
Speed – 30 metre Sprint Test
Agility – Illinois Test
Balance – Standing Stork Test
Co-ordination – Alternate Hand Wall Toss Test
Power – Vertical Jump Test
Reaction Time – Ruler Drop Test.

The reasons we fitness test

- Motivation
- Providing variety
- Establish a starting level of fitness & monitor improvement
- Identify strengths and weaknesses

Limitations of fitness testing

- Tests are general
- Do not replicate sporting movement
- Conducted in Isolation
- Must be carried out using the correct procedure to make valid.
- Need high levels of motivation

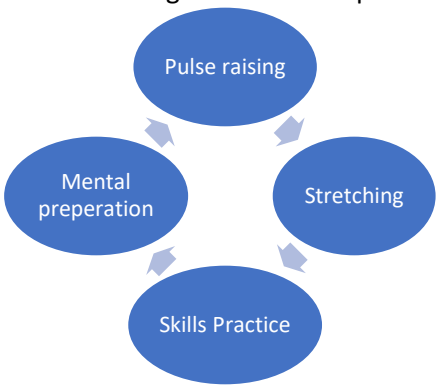
Week 4

Warm up and Cool down

Warm up:
A warm up prepares the body for the physical activity to follow. It also:

- Raises the body temperature
- Increases range of movement at the joints that will be used
- Increases the amount of oxygen delivered to the working muscles.
- Reduces the possibility of injury.

There are 4 stages to a warm up:



Cool Down:
Allows the body's systems to recover after exercise. Reducing the performers heart rate and breathing rate back to resting rates. Waste products like Lactic acid and Carbon dioxide need to be removed.
A cool down will also prevent DOMS from happening.
There are 2 stages to a cool down:

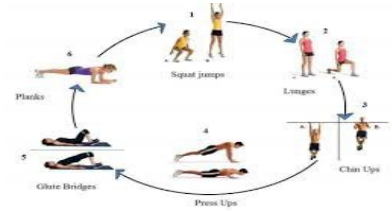
- Pulse lowering
- Stretching

Year 10 GSCE PE Cycle two

Week 5

Types of training

Circuit Training – Circuit training can be really adaptable depending on what exercises you include. You will need to decide how many stations there will be and how long you want to exercise for at each station.



Continuous Training – This training is long, slow or steady-paced. Performers train at a steady-pace at a moderate intensity for at least 30 minutes. Running, cycling or rowing are examples.

Plyometric Training - This training develops explosive power and strength. It involves exercises which muscles are quickly and repeatedly contracted/shortened which produces great force.

For all types of training you need to know the advantages/disadvantages and sports it would benefit.

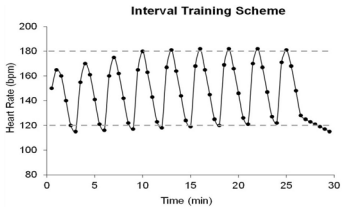
Week 6

Types of training continued

Fartlek Training - The meaning of Fartlek is 'speed play'. This training is performed outdoors with no rest. The performer varies the speed and goes over different terrains (beach, woodland, hills).

30 seconds hard →	1 minute steady
1 minute hard →	1 minute steady
90 seconds hard →	1 minute steady
2 minutes hard →	1 minute steady
90 seconds hard →	1 minute steady
1 minute hard →	1 minute steady
30 seconds hard →	1 minute steady

Interval training - This training involves work periods with rest and recovery periods. You can vary the intensity and lengths of the work periods.



Weight training – This training involves the use of weights /resistance to cause adaptions to the muscles. There are 2 types of weight training:

- Free weights
- Resistance machines

For all types of training you need to know the advantages/disadvantages and sports it would benefit.

Week 7

Principles of training

The SPORT Principle:

S – SPECIFIC - training must be **relevant** to the **individual** and their **sport.**

P – PROGRESSIVE – This means the training needs to get harder over time.

O – OVERLOAD – This can be used through the FITT principle. You can overload through frequency, intensity, time and type.

R – REVERSIBILTY - systems **reverse** or de-adapt if training stops or is significantly reduced or injury prevents training from taking place.

T – TEDIUM – Training needs to be varied to stop boredom from taking place.

The FITT Principle:

A way in which you can adapt your training. Through **Frequency** *(how much),* **Intensity** *(how hard),* **Time** *(how long)* **and Type** *(what type).*

F – FREQUENCY – The number of training sessions you complete over a period of time.

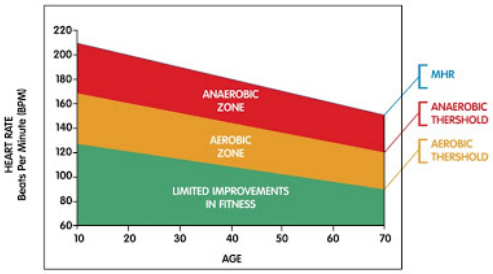
I – INTENSITY – How hard you train. This can be done through heart rate or reps per exercise.

T – TIME – How long you train for. Aim for 15 to 60 mins. This can depend on the intensity of the exercise.

T – TYPE – Appropriate types of training should be used depending on your needs and goals.

Week 8

Training Thresholds



One of the most effective ways to measure intensity and working hard enough to make fitness gains.

BPM = Beats per minute.

MHR = Maximum heart rate

To work out your maximum heart rate (MHR) = 220- age

There are two training zones that you Aerobic training zone and Anaerobic training zone.

If you work in the aerobic training zone (with oxygen) you work between 60-80% of your MHR.

If you work in the anaerobic training zone (without oxygen) you work between 80-90% of your MHR.

A. Visual Elements Keywords

Line	Line is the path left by a moving point. A line can be horizontal, diagonal or curved and can also change length.
Shape	A shape is an area enclosed by a line. Shapes can be geometric or irregular.
Form	Form is a three dimensional shape, such as a cube, sphere or cone.
Tone	This refers to the lightness or darkness of something. This could be a shade, or how dark or light a colour appears.
Texture	This is to do with the surface quality of something. There are two types of texture: Actual texture really exists, so you can feel it or touch it; Visual texture is created using marks to represent actual texture.
Pattern	A design that is created by repeating lines, shapes, tones or colours.
Colour	Red, yellow and blue are primary colours, which means they can't be mixed using any other colours.

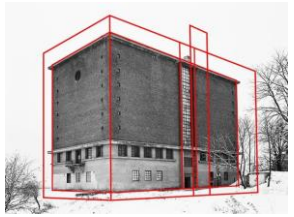
B. Key Knowledge 1: RULES of COMPOSITION

- ❑ **Rule of Thirds**
- ❑ **Balancing Elements**
- ❑ **Leading Lines**
- ❑ **Symmetry & Patterns**
- ❑ **Viewpoint**
- ❑ **Background**
- ❑ **Depth**
- ❑ **Framing**
- ❑ **Cropping**
- ❑ **Experimentation**

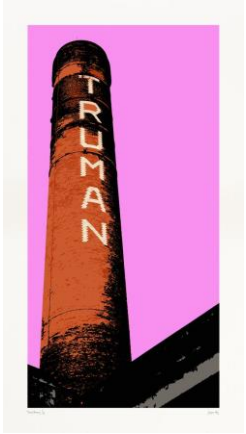
Tick once you have shown evidence of these in your photo shoots and edits

E. Expert Modelling:

Tom Manley



Alexey Bogolepov



Miles Donovan

Jayson Lilley

What Visual Elements / Rules of Composition can you see in this work?

GCSE PHOTOGRAPHY YEAR 10 – URBAN LANDSCAPES

Threshold Concepts:

1. Artists make marks, drawing our attention

2. Art communicates, in every sense

6. Art engages head, hands and heart

C. Key Knowledge 2: tick once you have used these techniques in Photoshop

- ❑ Adjusted and image to black and white showing various edits and grades of contrast
- ❑ Combined two or more images together manually and digitally
- ❑ Adjusted the colour of an image
- ❑ Imported hand made textures into Photoshop
- ❑ Combined and experimented all above techniques to create a digital image

D. Key Knowledge 3

How can Photography be used in different ways?

Why do we Photograph things / people / places?

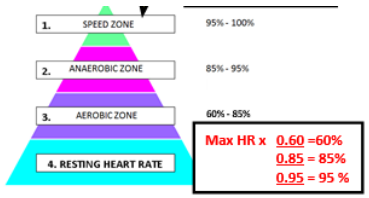
How has Photoshop changed Photography?

What different jobs can you do as a Photographer?

F. Wider thinking / further reading:

https://www.youtube.com/watch?v=n9oYwTMtAlw

Check out these helpful video tutorials in Photoshop

	Week 1	Week 2	Week 3	Week 4	Week 5
BTEC SPORT UNIT 1	**Components of Fitness Learning aim A** **Physical Fitness** 1. Body Composition 2. Aerobic Endurance 3. Strength (Muscular) 4. Speed 5. Flexibility 6. Muscular Endurance **Skill - related Fitness** 1. Co-ordination 2. Reaction time 3. Agility 4. Balance 5. Power Can you link these components to different sports?	**Exercise Intensity Learning aim A** 220-Age=Max HR Training Pyramid  BORG Scale – Rating of Perceived Exertion (RPE)  RPE x 10 = Heart rate bpm E.g Level 13 x 10 =130bpm	**Principles of Training Learning aim A** **FITT Principle** Frequency – How often do you train? (How many times a week) Intensity – How hard do you train? (Heart rate/pyramid, BPM, BORG scale RPE) Time – How long you train for? (min. 30mins) Type – What type of training method (e.g. weight, circuit, interval…?) **SPARRV Principle** Specificity – training specific to the individual needs of athlete (Sport, Position, Component of fitness, Age, Gender) Progressive Overload – Make training gradually harder so body gradually improves and adapts (increase *FREQUENCY/INTENSITY/TIME)* Adaptation – Body adapts in response to training (gets stronger because of strength training etc.) Rest and Recovery –Allows adaptation to take place and to avoid injuries due to fatigue/tiredness (have rest days) Reversibility – Body will reverse back if training is stopped for a prolonged time (illness, injury, and motivation) Variation – Training must be varied to avoid boredom (use different *TYPEs* of training methods)	MID CYCLE ASSESSMENT OF LEARNING AIM A List 3 areas you need to improve on from Learning aim A 1 2 3 **Learning aim B** **Warm up** - Pulse raiser, stretches, joint mobilisation **Cool down** – Pulse lowering, Static stretches, Developmental stretches (PNF)	**Flexibility training** **1. Static Stretching – Active (you), Passive (someone/thing else)** **2. Ballistic Stretching – bouncing, actions** **3. PNF Stretching – stretch, hold, tension, stretch further** **Strength, muscular endurance and power training** **1. Free weights – Sets, reps, barbell, dumbbell** **2. Circuit Training – stations** **3. Plyometric – bouncing, throwing, jumping**

	Week 6	Week 7	Week 8	Week 9	Week 10
BTEC SPORT UNIT 1	**Aerobic Endurance Training** **1. Continuous training – non-stop 30 mins** **2. Fartlek Training – 'Speed play', slow, medium, fast/different terrain** **3. Interval Training – work, rest, work, rest** **Speed Training** **1. Hollow Sprint - broken up by 'hollow' lower level work** **2. Acceleration Sprints - jogging to striding and finally to sprinting at maximum speed.** **3. Interval Training -– work, rest, work, rest**	MID CYCLE ASSESSMENT OF LEARNING AIM A List 3 areas you need to improve on from Learning aim A 1 2 3 **Learning aim C** Why are tests important? Pre-test procedures: • Consent • Calibration of equipment Accurate measurements and recording results Reliability, validity and practicality	**Muscular Endurance** **Sit up and press up tests** Count how many sit ups or press-ups completed in 1 minute ✓ Quick and easy ✓ Little equipment ✓ Large groups at once ➢ Arguments of correct technique can affect results **Power** **Vertical Jump test** Stand side on to wall reach up and mark/set the measure. Standing jump as high as possible touching wall. Measure between two marks/measures ✓ Quick and easy ➢ Technique can affect result as need to jump and mark wall **Strength** **Grip dynamometer** 3 attempts, squeeze grip dynamometer measure result in Kg or KgW. ✓ Simple and easy test ✓ Lots of normative data ➢ Must be adjusted for hand size which may affect results **Flexibility** **Sit and Reach test** Both feet against the **sit and reach box**, reach forward and measure result in centimetres ✓ Well known test ✓ Quick and easy to perform ➢ measures lower back & hamstrings only ➢ length of arms and legs affect results	**Agility** **Illinois Agility test** Cones set up as in the image, lie face down on the floor at the start, measure time to complete course in seconds ✓ Cheap and easy to conduct ➢ Human error with timing can affect results ➢ Weather or surface conditions can affect results **Speed** **35m sprint test** Sprint from one line/cone to another in a straight line over 35m. Record time and compare to normative data ✓ Little equipment so cheap to run ➢ Human error when timing can affect results **Aerobic Endurance** **Multi Stage Fitness Test (MST/Bleep test)** Cones/Lines **20m apart**, run in-between to the sound of a beep. **Gradually gets faster**. Longer you can keep up the higher the level ✓ Can test a large group at once ✓ Tests to maximum effort ➢ Practice can affect score ➢ If outside environment may affect ➢ Scores can be subjective **Forestry Step Test** Step/ bench- 33cm for females and 40cm for males. Step up and down for 5 minutes to a metronome. **(90bpm/22.5steps a min)**. Record pulse and compare to table ✓ Low cost ✓ Can be performed inside or outside ✓ Can test on your own ➢ People may struggle to keep with the stepping pace on metronome	**Body Composition** **Body Mass Index (BMI)** $BMI = \frac{\text{Weight (kg)}}{\text{Height (m)} \times \text{Height (m)}}$ ➢ Easy to carry out ➢ Results can be misleading as muscles weighs more than fat **Bioelectrical Impedance Analysis (BIA)** BIA = electricity passed through body from **WRIST** to **ANKLE.** Measures the resistance from muscle and fat ✓ Quick and gives instant results ✓ Can be repeated over time with no bad effects ➢ Needs expensive equipment **Sum of Skinfolds** Use **CALLIPERS** to measure skin on the **BICEP, TRICEP, SHOULDER BLADE** and **HIP.** Add measurements together and use to the **JACKSON-POLLOCK** nomogram (4 lines) • Provides accurate percentages of body fat ➢ Needs specialist equipment ➢ Problems with people revealing bare skin

F. Decorative Techniques

Appliqué	When one shape of fabric is sewn on top of another piece of fabric, it can be attached using hand stitching or zig-zag machine stitch.
Transfer print	An image from the computer is printed onto paper and then transferred to fabric using a heat press.
Tie dye	A resist dye technique-elastic bands are put around fabric and then placed in dye to create interesting patterns where the elastic bands have been.
Reverse appliqué	Fabric is layered and then a design or pattern is cut into the top layers to reveal the fabrics underneath
Hand embroidery	Using a needle and thread to create patterns or pictures or word with stitches
Batik	Another resist dye method, hot wax is used to draw onto fabric, then dye is painted onto the fabric. Where the wax is the dye will not soak in, and when the wax is removed, white lines remain.
Fabric pens/paints/ crayons	Dye can be applied straight to fabric by pens, paints or crayons, often they need "fixing" (setting of the dye so it won't come out) this is done with heat.
CAD CAM machine embroidery	This is using an automated sewing machine to create words or pictures onto fabric. The machine have some pre programmed designs but your own designs can be up loaded to the machine too if you have he correct software.

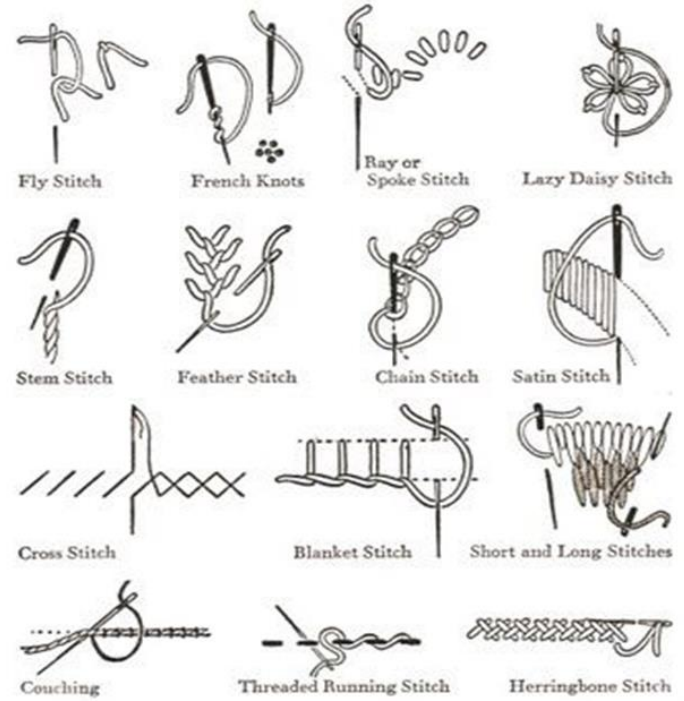
G. Label the Equipment

H. Exemplars:

"In all things of nature there is something of the marvellous" Aristotle

ART & DESIGN
Project – YEAR 10 TEXTURE & THE NATURAL ENVIRONMENT

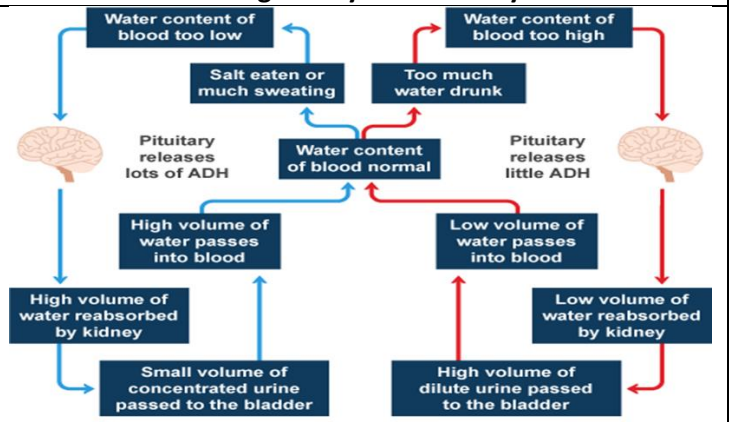
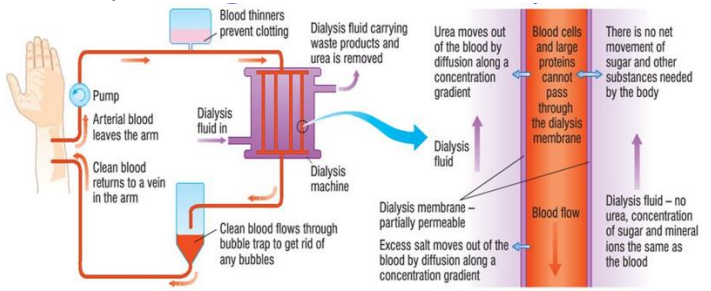
I. Key Knowledge: Decorative stitches



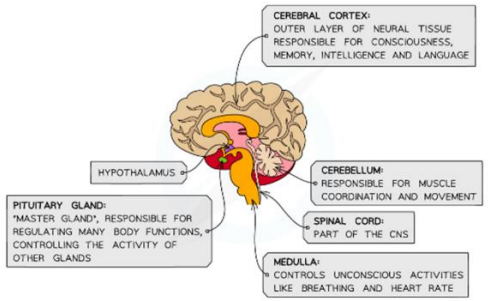
J. Common key words used in annotation

Contrasting	Fastenings
Composition	Interesting
Details	Intricate
Developed	Manipulated
Embroidery	Piece
Experimented	Textures
Evaluation	Unusual

Plant hormones and responses	Using plant hormones	Controlling body temperature
Plants produces hormones to coordinate and control. **Positive tropism**: a plant grows towards the stimulus **Negative tropism**: a plant grows away from stimulus. Responses to light are called **phototropism** -Light is the stimulus -**Positive phototropism** is where plants grow towards light -**Negative phototropism** where roots grow away from light. Responses to gravity is called **gravitropism** -Gravity is the stimulus -**Negative gravitropism** is where shoots grow away from gravity -**Positive gravitropism** is where roots grow towards gravity. **Auxin** is the name of plant hormone responsible for unequal growth in roots and shoots. In shoots auxin stimulates growth. In roots auxin slows growth rate down.	**Gibberellins** are important in initiating seed germination. **Ethene** controls cell division and ripening of fruits **Using plant hormones:** **Rooting powder**-contains growth hormones to make stem cuttings develop roots quickly. **Weed killer**-Selective weed killers contain growth hormones that cause the weeds to grow too quickly and then die. **Promoting growth in tissue culture**- using hormones will help encourage tissues from plants growth by stimulating cell division. **Ethene** is used in the food industry to control ripening of fruit during storage and transport. **Gibberellins** can be used to: -End seed dormancy -Promote flowering -increase fruit size.	Body temperature is monitored and controlled by the **thermoregulatory centre** in the **hypothalamus** in the brain. Thermoregulatory centre contains receptors sensitive to the temperature of the blood. The skin contains temperature receptors and sends nervous impulses to the thermoregulatory centre. If body temperature is too high, blood vessels dilate (vasodilate) and sweat is produced from the sweat glands. Water evaporated from skin transferring energy to the environment. Skin flushes: so that you transfer more energy by radiation. These mechanisms cause a transfer of energy from the skin to the environment. If the body temperature is too low, blood vessels constrict (vasoconstriction), sweating stops and skeletal muscles contract (shiver).

Removing waste products	Kidneys	Treating kidney failure: Dialysis
Water leaves the body via the lungs during exhalation. Water, ions and urea are lost from the skin as sweat There is no control about the water, ions and urea loss by lungs and skins. Excess water, ions and urea are removed by the kidneys in the urine. Water levels in the blood need to stay the same. Too much water in the blood and water will move in to the cells by osmosis. The cells will swell and burst (lysis). Too little water or there is too little solute, water will move out of cells by osmosis, blood cells will shrink (crenation). Urea formation: Proteins are broken down in to amino acids. Amino acids are used for growth and repair, excess is broken down in the liver. Ammonia is formed, this is called deamination. Ammonia is toxic, it is converted in to urea. Urea is excreted from body through sweat and urine via the kidneys.	Kidneys have a role in **homeostasis** to maintain the water balance of the blood (**osmoregulation**). Kidneys produce urine by **filtration** of the blood and **selective reabsorption** of useful substances such as glucose, some ions and water. Kidneys act like filters in a process called **filtration**. -Glucose, mineral ions, urea and water all move out of the blood in to the kidney. -This produces filtrate. -Proteins and blood cells remain in the blood as they are too large. **Selective reabsorption** -Glucose is reabsorbed in to the blood by diffusion and active transport. -The amount of water and ions reabsorbed varies depending on what the body needs. The waste products that the kidneys don't want to put back in to the blood becomes urine. Urine contains all the urea, an amount of water not required by the body and some ions not required by the body. Urine is sent to the bladder for storage via the ureter. **Anti Diuretic Hormone (ADH):** hormone which controls the water levels in the body. Produced by the pituitary gland.	 Kidneys may become damaged by infection, genetic issues or damaged due to an accident. -Can be fatal -Toxins (urea) build up -Water and ion balance is not maintained -Cells can be damaged by osmosis Dialysis is where the function of the kidneys is carried out artificially.  Kidney transplant: where the kidney is replaced with a healthy one.

The brain

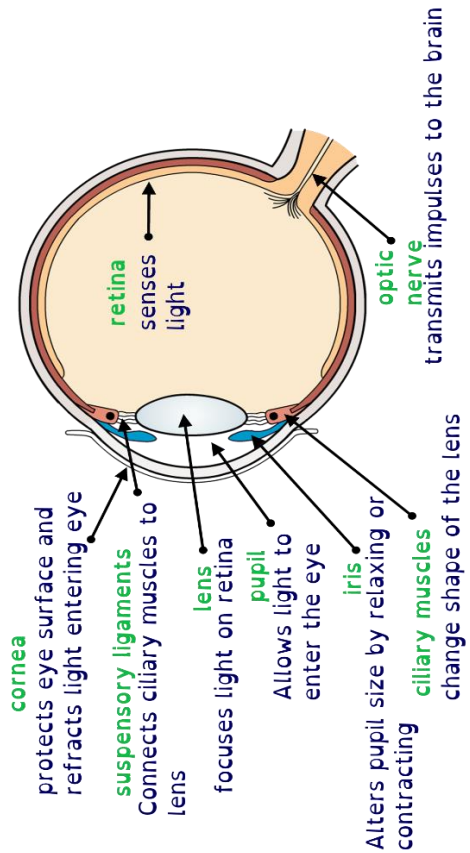


Studying the brain:
-Complex, delicate, hard to reach and regions cannot be studied in isolation.
-Knowledge is limited, treating brain damage and disease is difficult, during treatment further accidental damage can occur.

Treating the brain, regions have been mapped using:
-Patients with brain damage
-Electrically stimulating parts of the brain
-Using MRI scan

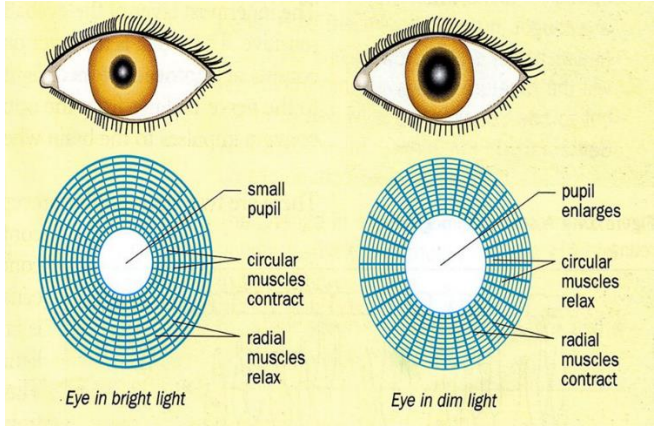
The eye

The eye is a sense organ, containing receptors sensitive to light.
Rod cells-sensitive to light intensity
Cone cells-sensitive to different wavelengths of light (colour).



Common problems of the eye

In dim light the pupil widens to let in as much light as possible.
In bright light the pupil constricts to prevent too much light entering the eye

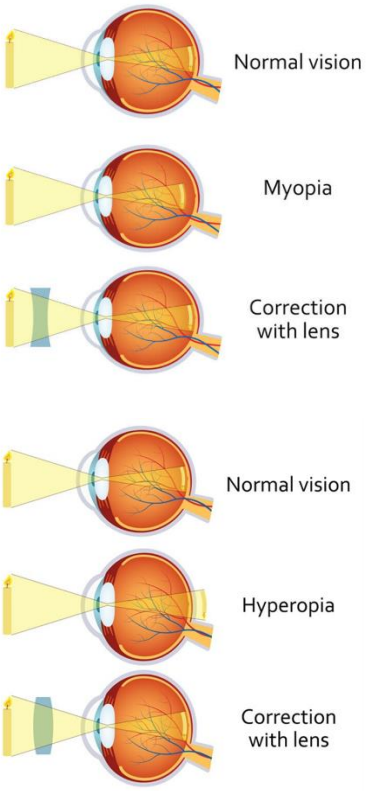


Accommodation: Process of changing the shape of the lens to focus on near or distant objects.

Focusing on near objects:
Ciliary muscles contract, suspensory ligaments loosen
Lens is thicker (more convex) and refracts the light rays more strongly.

Focusing on distant objects
Ciliary muscles relax
Suspensory ligaments are pulled tight
Lens is pulled thin (less convex) and only slightly refracts light rays.

Common problems with the eye



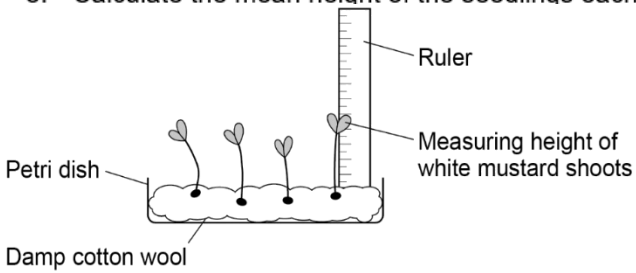
Treatments:
Lens replacement surgery
Hard and soft contact lens
Laser surgery

Required Practical: Plant responses

Aim: Investigating the effect of light intensity on the growth of mustard seedlings

Method:

1. Set up three petri dishes containing cotton wool soaked in equal amounts of water.
2. Put ten mustard seeds in each petri dish.
3. Put the petri dishes in a warm place. They must not be disturbed or moved.
4. Allow the mustard seeds to germinate.
   Add more water if the cotton wool gets dry (equal amounts of water to each petri dish).
5. Each petri dish should have the same number of seedlings after the seeds have geminated. Remove excess seedlings from any dish that has too many.
   For example, one dish has eight seedlings which are the fewest compared to the other petri dishes. Therefore, remove seedlings from the other petri dishes so that each dish has eight.
6. Move the petri dishes into position.
   - One should be placed on a windowsill in full sunlight.
   - One should be placed in partial light.
   - The third should be placed in darkness.
7. Measure the height of each seedling. Do this every day, for at least a week.
8. Calculate the mean height of the seedlings each day.



Equipment:
- white mustard seeds
- petri-dishes
- cotton wool
- a ruler
- water
- access to a light windowsill and a dark cupboard

Rusting and Corrosion

Rusting is an example of corrosion.

Iron needs air and water to rust.
You need to be able to describe an experiment to show the conditions needed for rusting.

Preventing rusting

1.**Barriers** which prevent oxygen or water getting in contact with iron. Paint, grease, electroplating. Aluminium is covered with a layer of aluminium oxide which prevents further corrosion.

2**. Sacrificial protection** – using a more reactive metal to coat or attach to an object. Eg Zn used to galvanise iron or a lump of magnesium attached to a steel ship. Water or oxygen reacts with the more reactive metal rather than the iron. The more reactive metal loses electrons so it is oxidised. This protects the iron from being oxidised.

Alloys

Alloys	Metals	Uses
Bronze	Copper and tin	statues
Brass	Copper and zinc	Musical instruments
Gold alloys	Gold with Ag, Cu, Zn 24 carat is pure gold, 18 carat is 75% gold	jewellery
Steels	Iron with carbon and other metals. High C steel is strong and brittle, Low C steel is softer and more easily shaped. Stainless steels contain Ni and Cr are hard and resist corrosion.	Construction of buildings, bridges, cars etc
Aluminium alloys	Al can be mixed with lots of different elements. Al alloys are low density	aircraft

Composite materials

Most glass is soda lime glass which is made by heating a mixture of sand, sodium carbonate and limestone.

Borosilicate glass is made from sand and boron trioxide. It melts at higher temperatures than soda lime glass.

Clay ceramics eg pottery and bricks are made by shaping wet clay then heating in a furnace.

Most composites are made of 2 materials – a matrix or binder which surrounds and binds together fibres or fragments of the other material. This is called reinforcement.

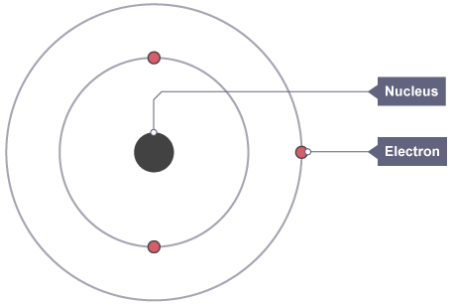
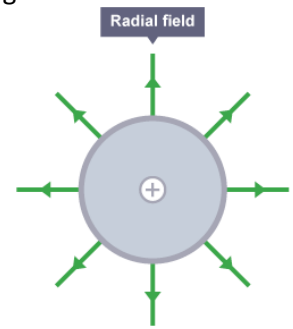
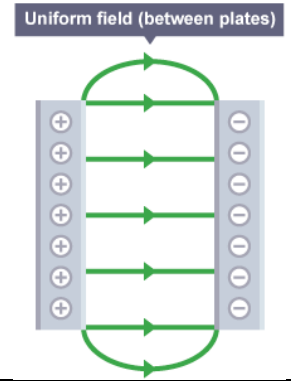
Examples -
Concrete is made from cement, sand and gravel.

MDF is made from woodchips held together by a polymer resin

Fibreglass was made from a polymer as a binder and fine threads of glass. More advanced composites now use carbon fibres or nanotubes.

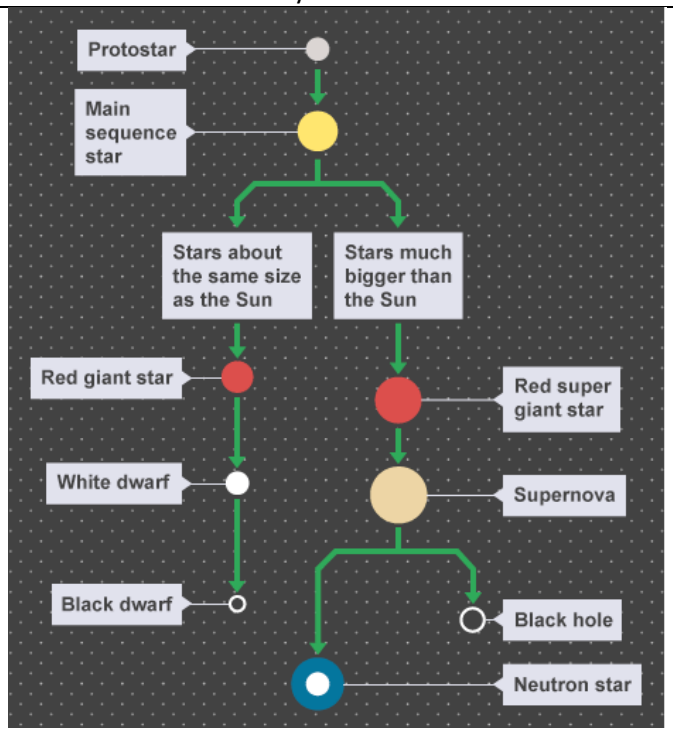
Recap on Acids and Alkalis	Neutralisation	Strong and weak Acids
Acidic and alkaline solutions **Acids** Acids form acidic solutions in water. Acids produce hydrogen ions, H^+ in aqueous solution. For example: $HCl(aq) \rightarrow H^+(aq) + Cl^-(aq)$ Acidic solutions have pH values less than 7. **Alkalis** Alkalis form alkaline solutions in water. Alkalis produce hydroxide ions, OH^- in aqueous solution. For example: $NaOH(aq) \rightarrow Na^+(aq) + OH^-(aq)$ Alkaline solutions have pH values greater than 7. **Neutral solutions** A neutral solution is neither acidic, nor alkaline. A neutral solution has a pH value of 7. **Indicators and the pH scale** The pH scale measures the acidity or alkalinity of a solution. The pH of a solution can be measured using a pH probe, or estimated using universal indicator and a colour chart.	**Neutralisation** **Bases and alkalis** A base is any substance that reacts with an acid to form a salt and water only. This means that metal oxides and metal hydroxides are bases. Bases that are soluble in water are called alkalis and they dissolve in water to form alkaline solutions. For example: • copper oxide is a base, but it is not an alkali because it is insoluble in water • sodium hydroxide is a base, and it dissolves in water so it is also an alkali	**Strong and weak acids** **Acids in solution are a source of hydrogen ions, H^+. The hydrogen ions are produced when the acid dissociates or breaks down to form ions.** Strong acids completely dissociate into ions in solution. For example, hydrochloric acid is a strong acid. It ionises completely to form hydrogen ions and chloride ions: $HCl(aq) \rightarrow H^+(aq) + Cl^-(aq)$ Nitric acid and sulfuric acid are also strong acids. Weak acids only partially dissociate in solution. For example, ethanoic acid is a weak acid. It is only partially ionised to form hydrogen ions and ethanoate ions: $CH_3COOH(aq) \rightleftharpoons H^+(aq) + CH_3COO^-(aq)$ The $\rightleftharpoons$ symbol is used in the equation to show that the reaction is a reversible reaction and does not go to completion. **pH and Hydrogen Ion Concentration- The pH of a solution is a measure of its concentration of hydrogen ions:** • the higher the concentration of H^+ ions in an acidic solution, the lower the pH • the lower the concentration of H^+ ions in an acidic solution, the higher the pH This means that, for a given concentration in aqueous solution, the stronger an acid, the lower the pH.

Titration	Required Practical	Titration Calculations
Making salts from acids and alkalis A soluble salt can be prepared by reacting an acid with a dilute solution of an alkali such as sodium hydroxide or ammonia. The main steps are: 1. Carry out a titration. This is to determine the volumes of acid and alkali that must be mixed to obtain a solution containing only salt and water. 2. Mix the acid and alkali in the correct proportions, as determined in step 1, but this time without including an indicator. Pure dry crystals can be produced by crystallisation, followed by drying on a watch glass or in a warm oven.	**Carrying out a titration to find out volumes of acid and alkali solutions that react** The apparatus needed includes: • a pipette to accurately measure the volume of a reactant before transferring it to a conical flask • a burette to add small, measured volumes of one reactant to the other reactant Method This is an outline method for carrying out a titration in which an acid is added to an alkali. The method is the same for sulfuric acid, hydrochloric acid and nitric acid. 1. Use the pipette and pipette filler to add a measured volume of sodium hydroxide solution to a clean conical flask. 2. Add a few drops of indicator and put the conical flask on a white tile. 3. Fill the burette with hydrochloric acid and note the starting volume. 4. Slowly add the acid from the burette to the alkali in the conical flask, swirling to mix. 5. Stop adding the acid when the end-point is reached (when the indicator first permanently changes colour). Note the final volume reading. 6. Repeat steps 1 to 5 until concordant titres are obtained. More accurate results are obtained if acid is added drop by drop near to the end-point.	**Titration calculations - Higher** The results of a titration can be used to calculate the concentration of a solution, or the volume of solution needed $\frac{V_1 \times C_1}{N_1} = \frac{V_2 \times C_2}{N_2}$

Lesson 1 Electrostatic forces	**Lesson 2** Electric fields
Atoms are made of charged protons and electrons and neutral neutrons.  Atoms have no overall charge, but if it loses or gains an electron it becomes a charged ion. Electrons can be transferred between insulators due to friction. This results in a material which gains electrons and becomes negative and one which loses electrons and becomes positive. Objects that are charged can affect other charge objects due to static electricity, which produces the non-contact electrostatic force. Opposite charges lead to a force of attraction (attract). Like charges lead to a force of repulsion (repel). Neutral (uncharged) objects may also be attracted to charged objects (regardless of whether the object itself is positively or negatively charged.) The forces will be larger when the objects are closer together.	The region where charges experience a force is called an electric field. Electric fields are shown in diagrams with field lines. The arrows on these lines show the direction a positive charge will move in the field. The closer the field lines are together, the stronger the force. The field around a point charge is radial:  The field between two parallel plates is uniform: 

Y10 Triple Science Physics
Space Physics

Lesson 1 The solar system and beyond	**Lesson 2** Life Cycles of Stars	**Lesson 3** Satellites

The **Sun** is a star, one of billions in our Galaxy. The sun is the most massive object in the solar system and is at the centre of it, orbited by a number of objects:
• 8 planets
  ○ As distance from the sun increases, surface temperature decreases and time to orbit the sun increases
  ○ The various planets have natural satellites called moons.
• Dwarf planets
  ○ The gravitational field of a dwarf planet is not strong enough to clear the neighbourhood, so there may be other objects in its orbit around the Sun.
• Asteroids and comets
  ○ Highly elliptical orbits. There are many asteroids in the asteroid belt between mars and Jupiter and in the Kuiper belt beyond Neptune.
 	
Light from distant galaxies exhibits **redshift** which shows that they are receding from us.
 	
Together with the cosmic microwave background radiation, this is evidence that the Universe has been expanding since the Big Bang.
		Artificial satellites travel in one of two different orbits:
		
		• polar orbits
		• geostationary orbits
		
		Polar orbits take the satellites over the Earth's poles. The satellites travel very close to the Earth (as low as 200 km above sea level), so they must travel at very high speeds (nearly 8,000 m/s).
		
		Geostationary satellites take 24 hours to orbit the Earth, so the satellite appears to remain in the same part of the sky when viewed from the ground. These orbits are much higher than polar orbits (typically 36,000 km) so the satellites travel more slowly (around 3 km/s).

Year 10 Spanish Knowledge Organiser cycle 1

Complete your weekly assignment on Seneca

Extensions:

- Create revision cards for each of the main tenses studied to help you remember how to form them.
- Find a picture in a magazine/online and write a photo description
- Do 10 minutes of Duolingo every day to build your vocabulary
- Write a glossary of vocabulary we see in class – memorise it and test yourself at home.