

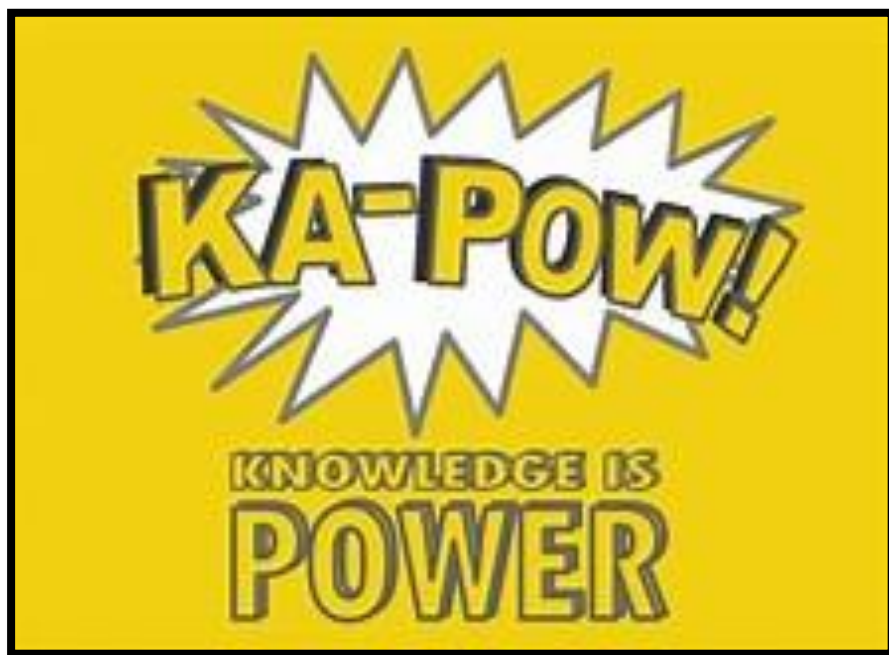


Year 7

Knowledge Organiser

Booklet

Half Term 6



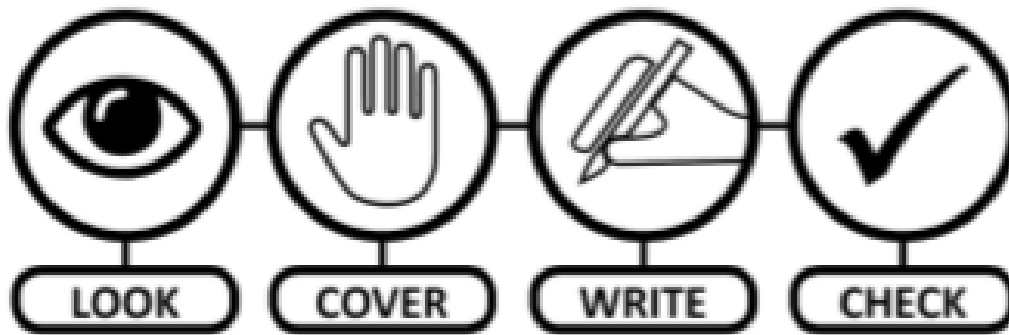
Name

Self-Quizzing Book

Knowledge organisers contain **critical** knowledge you must know. They will help **you remember more** and learn complex information and concepts. Using knowledge organisers will make you more successful in your subjects.

You need to bring your knowledge organiser booklet and self-quizzing book with you **every day**.

For homework you will be asked to self-quizz using your knowledge organisers. You will do this in this book using look, cover, write, check.



Look: Spend a small amount of time reading a section of the knowledge organiser and trying to memorise the content.

Cover: Cover up that section of your knowledge organiser.

Write: In your self-quizzing book, write out the information you have tried to memorise from the knowledge organiser.

Check: Uncover the section of your knowledge organiser and check every word, including spellings. Make any corrections using a **green pen**. If it is all correct, tick what has been written.

Repeat this process until **one whole page** of your self-quizzing book is full, with **no whole lines left empty**.

Respect

Resilience

Responsibility

Expectations

You should be proud of the work you produce and how hard you have worked.

There should be no wasted space on each page.

No whole lines should be left empty.

Corrections should be made in a **green pen**.

Example

Subject, underlined

Date in full, underlined

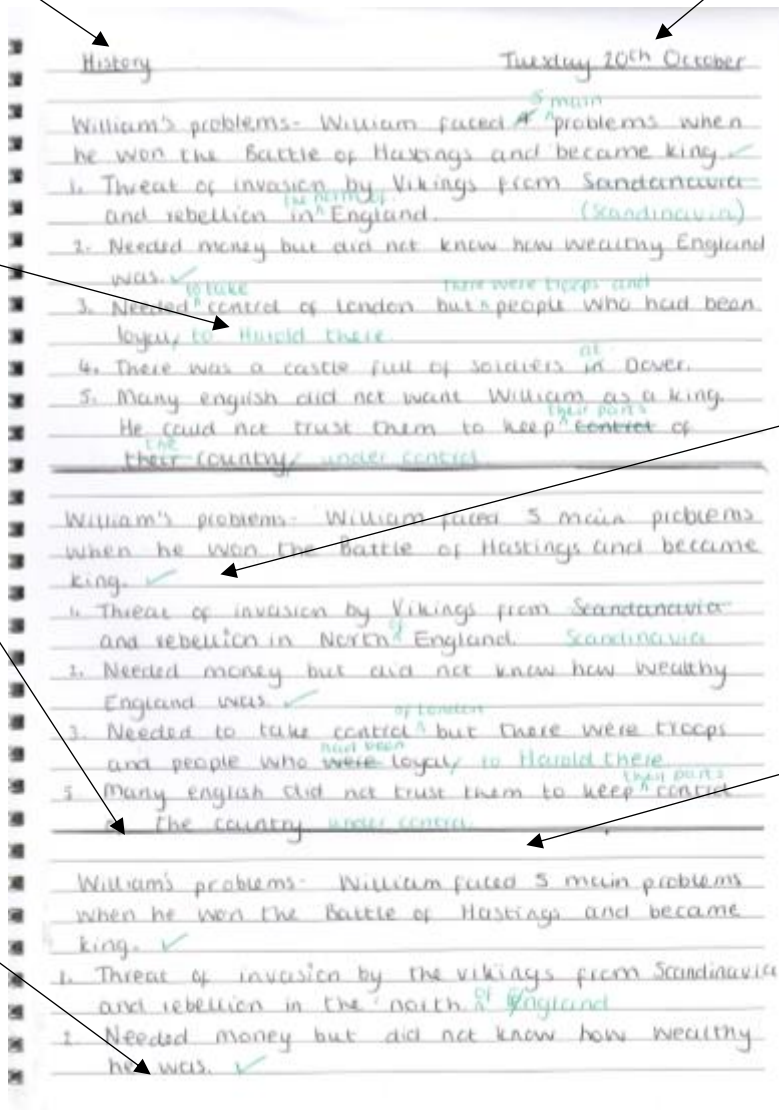
Corrections made in green pen.

Each line checked and ticked if correct.

Solid black line after each attempt

Repeat until the whole page is full

No whole lines left empty except between repeats.

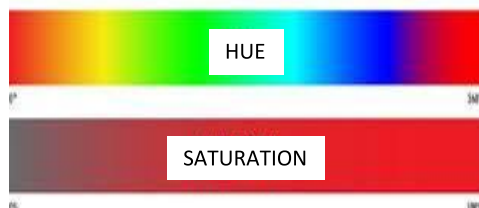
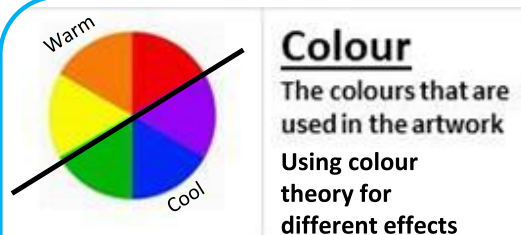


Respect

Resilience

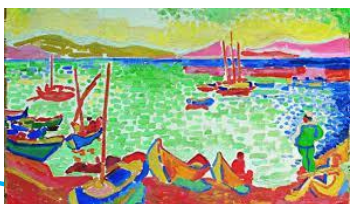
Responsibility

Year 7 Fauvism and Colour



Hue means colour – What colour hue is it? Blue/Red/Yellow/Green/Orange/Purple are all hues.

Saturation means how much colour is there? How intense is the colour – is the Red vibrant and full of colour or faded and greyish (less saturated)?



Blue, Red and Yellow are special. They can not be made from other colours. They can make all the other colours except Black and White. If you were stuck on an island, in your suitcase, you would pack these 3 colours!



White is not a colour, it is considered to be a **tint**. Black is not a colour, it is considered to be a **shade**. Grey is a **tone**.

Check out the Fauvist Art Movement! Andre Derain, Henri Matisse and the Cubist artist Pablo Picasso are masters of Colour.



Primary Colors
Blue Red Yellow



Secondary Colors
Green Orange Purple

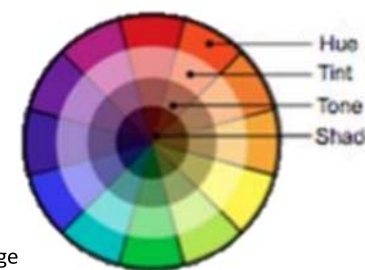


Tertiary Colors
Blue-Green Blue-Purple
Red-Orange Red-Yellow
Yellow-Green Yellow-Orange

Tertiary Colours are made by mixing a Primary colour and Secondary colour that are next to each other. These colours always start with the Primary first. *Yellow Orange, Not Orange-Yellow*



In the middle of this tonal strip is the colour blue (**Hue**), at the right side we have added black (Shade) which makes the colour darker. At the left side we have added white which makes the colour lighter (**Tint**).



Different tones of one colour/Hue are called **Monochromatic** colours. Mono means one. (One colour in different tones)

Harmonious Colours are next to each other in colour wheel. Harmony means peace, so we imagine these colours holding hands with each other.



You can make a colour **darker/less saturated** by adding the opposite colour to it.



Some colours look amazing next to each other. These are called **Complementary Colours!** Certain pairs look good because they are on **opposite** sides of the colour wheel to each other.

Blue/Orange Red/Green Yellow/Purple



1. **Wild Beasts:** The movement's name derives from the French word for wild beast – fauve – and was coined by the stunned art critic, Louis Vauxcelles, when writing a review of the Autumn Salon exhibition in Paris in 1905.
2. **Advances in Colour:** Fauvism was only made possible by advances in industrial manufacturing in the 19th Century, which created new and brighter-coloured paint pigments. The group often used these straight from the tube, without mixing



- For the public and some critics, especially in the US, Matisse's radical use of colour was outrageous, even offensive.
- His early paintings were surprisingly conservative, but Matisse experienced an artistic about-face when his friend the Australian painter John Peter Russell introduced him to the work of [Vincent van Gogh](#) in 1897.

Functions of Packaging

Protect- Make sure product is safe, undamaged and unopened

Inform- Information about the product: Calorie Content, Barcode, Ingredients, Recycling Info, Allergy Advice, Contact

Contain- To keep product in, prevent leakages, be shaped to fit **Transport-** Should be easy to transport (in bulk), must remain intact

Preserve- Make sure temperature and freshness is maintained over time

Display- Advertise product to make it look good. Window to see product (made of acetate)

Types of Paper and Card

- **Cardboard-** is thicker than paper as it is made up of a number of layers, glue or laminated together. The diagram opposite shows a net / development of a package. It can be folded to produce a carton.
- **Tracing paper-** Is used pupils, students and designers. It allows the designer to copy an existing drawing / shape. Tracing paper can be useful when there is a need to produce several drawings that are based on the same outline. Also, tracing paper makes it possible to place one design on top of another to produce a second layer. The original design can be seen under the second drawing.
- **Cartridge paper-** is used for general drawing. It is often good quality and generally 100 to 135g in thickness. This paper is used for design and technology projects and will take colour from pencils and felt pens without too much leaking to the opposite side of the paper.

- **Solid white board-** This is normally top quality cardboard made from quality bleached wood pulp. It is the best card for printing on to and consequently it is used for hard backed book and more expensive items.
- **Foil lined board-** is good quality cardboard with a aluminium foil lining. This type of container is ideal for ready made meals or take away meals. The foil retains the heat and helps keep the food warm.
- **Corrugated card-** This type of board is often used for packaging large electrical items. These large boxes (often brown in colour) protect the contents from damage. Corrugated board is strong because it is composed of a top and bottom layer and in between there is a triangulated section. A triangular section is very strong compared to its weight.
- **Duplex board-** This is used for containers and can contain liquids as it may have a water-proof liner on the inside. It can have a wax feel. This type of card is used by the food industry and



How To Make Paper:

1. A tree is cut down and the trunk is fed into a chipping machine where it is cut into very small pieces.
2. The wood chips are boiled in water to form a thick wood pulp
3. Chemicals / ingredients such as starch and bonding agents are added.
4. The pulp is poured over a fine mesh and the water escapes leaving the cellulose fibres behind. This forms the paper.



Key Material Properties and Definitions

Natural: Textile produced via plants and or animals

Synthetic: Textile that is manufactured (man-made)

Regenerated: Textile created by breaking down and re-forming old textile materials/materials



Sources and origins

The **raw materials** needed to create textiles come from all over the world. They can be natural, grown from plants or taken from animals, or synthetic, **refined** from oil.

Natural fibres

Plant based

•**cotton** - harvested from cotton plants from China, USA and Pakistan, the fibres are cleaned, **carded** between wire brushes to lie in the same direction and spun into yarn

•**bamboo** - grown in China and Japan and is **pulped** and crushed, softened and carded before being spun into yarn

•**linen** - made from the flax plant grown in Canada, France and Russia, and processed in the same way as bamboo

Animal based

•**wool** - fleeces are sheared from animals such as sheep, alpaca and goats in UK, Australia and New Zealand; the short, **staple fibres** are cleaned, carded and spun into a yarn

•**silk** - silk moth cocoons are harvested in China and India, heated to undo the filament bonds and then spun into a filament fibre

Silk moth on cocoon



Synthetic fibres

Oil based

•**polyester** - polymer chains are extracted from oil and are then forced through a small hole into a filament fibre

•**acrylic** - polymer chains of **acrylonitrile** (a **thermoforming** polymer) are extracted from oil into a filament fibre

Regenerated

•**viscose** - wood pulp from Canada or European forests is dissolved by chemicals to extract the cellulose, which is then **extruded** through a spinneret to make a fine filament fibre

•**acetate** - wood pulp from Canada or European forests is dissolved by acetic acid and then extruded through a spinneret to make a filament fibre

Natural fibres

Natural fibres are all derived from vegetation, cellulose-based materials, as well as products that are made from animals.

Natural fibre	Properties	Use
Cotton	Cool, cheap, strong, renewable	Denim jeans, shirts, lightweight clothing
Bamboo	Cheap, renewable, soft, absorbent, comfortable	Knitwear, socks
Linen	Renewable, strong, creases easily	Lightweight clothing
Wool	Soft, hardwearing, renewable	Knitwear, carpets
Silk	Expensive, renewable, drapes (hangs) well, good insulation properties (cool in summer, warm in winter)	Wedding dresses, ball gowns

Synthetic fibres

Synthetic fibres are not plant or animal based; they are made from polymers that are derived from **petrochemicals**.

Synthetic fibre	Properties	Use
Polyester	Cheap, durable, non-renewable	Shirts, school uniform
Acrylic	Warm and soft, non-renewable	Bedding, clothing
Viscose	Cheap, lightweight, versatile, non-renewable	Clothing, underwear
Acetate	Resistant to degradation, cheap, no elasticity, non-renewable	Shiny, reflective clothing and curtains

Blended fabrics

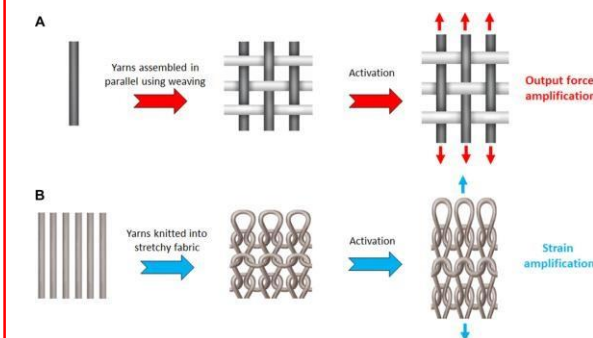
Fabrics can be blended to improve their properties.

Blended fabric	Properties	Use
Polycotton	Cheap blend of polyester and cotton, crease resistant	Shirts, bedding
Elastane	Stretchy, retains shape well, cheap	Sportswear, leggings
Kevlar	Five times stronger than steel, uses chemical bonds and weave patterns for strength	Bullet-proof vests, car tyres
Nomex	Heat resistant and lightweight	Firefighters' outfits
Sympatex	Breathable and waterproof	Sportswear and outdoor equipment

Stock forms

Textiles are sold as different **stock forms**, depending on the standard sizes and thicknesses:

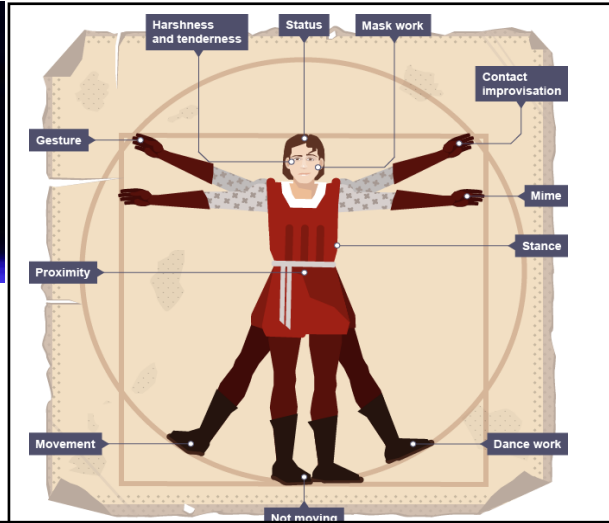
- **rolls and bolts** - fabric is sold by the metre in the roll (circular) or bolt (flat roll) and standard sizes are 90 cm, 137 cm and 154 cm
- **denier** - the unit of weight that measures fineness, used to describe the thickness of tights, where 30 denier is thin and 100 is thick, increasing commonly in increments of 10
- **ply** - yarn (wool) is sold in coils, reels or balls, and ply is the number of threads spun together to create a yarn



Drama

Year 7 Term 3

Physical Theatre



Physical Theatre techniques

So, if there is little to no dialogue, how do you tell the story effectively?

Here are some common physical theatre techniques:

Mime: Miming is used frequently in physical theatre, and can be either stylised or realistic movement.

Gesture: A gesture can be something small, which has a big impact, or it can be a particular movement that defines a certain character.

Status: This can be shown by use of levels, distance, strength of contact or a combination of all of them to portray status effectively.

Proximity: This is simply, how close, or far you are from the other performers, which can be really impactful.

Stance: A strong stance is usually associated with strength and authority however a weak stance often shows a lack of confidence or status. This can be achieved through your posture.

Movement: Perhaps the most common technique, every movement needs to be well thought out and practiced to be effective.

Stillness: Surprisingly, a lack of movement can also be really effective to show contrast to the other characters.

Motif: This is the repeated use of a movement pattern which reminds us of the meaning and central theme of the performance

Moving your body

- The business of movement on stage is about moving your body effectively. You need to think about position, scale and the amount of movement that's convincing.
- Movements also need to be in relation to other performers that are on stage.
- Movements can be entirely realistic, or stylised and representative. It is a question of what's demanded by the context of the production.
- Body language is also known as non-verbal communication. It is communication coming from movement or position, especially facial expressions, gestures and positions.
- It may add layers of meaning to the spoken word.

What is Physical Theatre? Physical theatre is a form of theatrical performance that tells a story primarily through stylized physical movement instead of dialogue or music. Physical theatre draws from various influences in different performing arts disciplines, such as mime, commedia dell'arte, and contemporary dance. All types of physical theatre emphasize storytelling through the human body. There are different viewpoints about what qualifies as physical theatre and how it differs from other forms of theatre or performance, such as dance or puppetry.

How performers use their voice

A person's voice provides lots of information, such as their age and where they are from. Performers need to ensure that their voice is loud and clear so the audience can hear what they are saying. Performers also use a range of vocal skills to convey the subtext of a line.

Emphasis

Emphasis is where a performer will stress a particular word or phrase within a sentence to indicate importance. To stress a word, they may increase their volume or use intonation to draw attention to it.

Emphasis can be placed on any word within a line, and can completely change the meaning of what is being said. By emphasising different words in bold in the line below, the meaning of the line will change:

I didn't lose your keys - somebody else lost them

I **didn't** lose your keys - I absolutely did not lose them

I didn't **lose** your keys - I did something else with them

I didn't lose **your** keys - the keys didn't belong to you

I didn't lose your **keys** - I lost something else

The same will work for any sentence.

Year 7 English – Knowledge Organiser – A Midsummer Night's Dream - Shakespeare

Context: 1590s Renaissance

Elizabeth I (the virgin queen) reigned England. Several female characters seem to represent her: Hippolyta her military prowess; Titania her patronage of dancing, music and the arts. Oberon also makes reference to her virginity (she famously chose not to marry or have children) and escaped assassination.

English country fairy lore:

People believed fairies & mischievous spirits existed (especially the lower classes). They often appeared in stories and were well-known figures in English folklore.

English traditions:

On Midsummer eve, English men & women would tell supernatural stories round bonfires in the woods. The 'rite of May' involved youths singing & dancing in the woods. These traditions came under attack from Puritans: is Shakespeare defending them?

Characters

- ✓ **Theseus:** Duke of Athens; represents power & order
- ✓ **Egeus:** father of Hermia
- ✓ **Hermia, Helena, Lysander & Demetrius:** young Athenian lovers
- ✓ **Oberon & Titania:** King & Queen of fairies
- ✓ **Puck:** Oberon's servant/jester. A mischievous fairy who enjoys playing pranks on mortals. Arguably, the play's protagonist.
- ✓ **Nick Bottom:** a foolish and arrogant weaver who wants to play all the parts in the wedding play.
- ✓ **Hippolyta:** Queen of the Amazons who is to wed Theseus



Plot (Storyline)

Act one: Theseus (*Duke of Athens*) prepares to marry Hippolyta (*Queen of the Amazons*). He is approached by Egeus who complains his daughter refuses to marry the suitor of his choice, Demetrius and that he should be allowed to assert the law of Athens: to kill Hermia for her disobedience or send her to live in a nunnery. Theseus tells Hermia she should obey her father but she refuses, secretly plotting to run away with her love Lysander. She confides in Helena who is in love with Demetrius therefore tells him so that they can pursue the lovers together. Meanwhile, a group of actors discuss a play they will perform at the royal wedding.

Act two: Oberon and Titania (*King & Queen of the fairies*) argue over a changeling boy. Oberon plans to get revenge by asking his servant Puck to pour love potion on Titania's eyelids so that she will fall in love with the first thing she sees on opening her eyes. Oberon observes Demetrius dismissing Helena and tells Puck to give him a dose of the potion too. Puck pours the love potion onto Lysander's eyes by mistake who wakes and sees Helena, falling in love with her and following her through the woods. Hermia wakes to find Lysander is gone.

Act three: The actors rehearse and Puck turns Bottom's face into the head of a donkey. The other actors run away but Titania wakes and falls in love with Bottom. He instructs her fairy maids to tend to his every need. Puck tells Oberon Titania has fallen in love with a donkey but Oberon is confused when he sees Helena and Lysander. Realising Puck's mistake, he pours love potion onto Demetrius' eyes who wakes and sees Helena so that now both men are in love with Helena. Helena believes the men are mocking her and that Hermia is in on the joke. Lysander and Demetrius challenge each other to a duel. Puck places an antidote on Lysander's eyes as he sleeps.

Act four: Oberon orders Puck to remove Titania's love spell and return Bottom's head to normal. Theseus and Egeus find the lovers in the wood and Demetrius declares that he now loves Helena. Theseus suggests that the two pairs of lovers get married on the same day that he marries Hippolyta. Bottom rejoins his fellow actors.

Act five: The play is performed to the audience's amusement and the fairies bless the marriages.

Vocabulary

Hierarchy (n): a rank according to status or power

Prophetic (adj): predicting the future

Patriarchal (adj): ruled by men

Egotism (n): over-confidence/self-absorbed

Allusion (n): a reference to something

Stereotype (n): a fixed idea of a type of person/thing

Submissive (adj): obedient/passive (*following orders*)

Patron (n): a person who gives financial support to something

Benevolent/malevolent (adj): kind/cruel

Malicious (adj): intending to do harm

Elopement (n): run away secretly

Ethereal (adj): heavenly/spiritual

Parody (n): an imitation for comic effect

Grotesque (adj): ugly (*often comically*)

Year 7 English – Knowledge Organiser – A Midsummer Night's Dream - Shakespeare

Anchor Quotes

‘as she is mine, I may dispose of her, which shall be either to this gentleman or to her death.’ (*Act 1 Scene 1, Egeus*)

- Personal pronoun ‘she’ dehumanises Hermia – expresses Egeus’ anger or lack of respect/care?
- Possessive pronoun ‘mine’ reveals he perceives her as a possession emphasising the sense of dehumanisation
- The choice he offers Hermia (‘either...’or’...) is to be trapped in a loveless, unhappy marriage to death exposing his harsh attitude/lack of paternal love.
- ‘gentleman’ positive noun – he seems to care more for Demetrius than his own daughter
- ‘death’ – particularly emotive noun: would rather his daughter die than defy him. Criticism of patriarchal strictness of Renaissance era?

‘My mistress with a monster is in love’ (*Act 3 Scene 2, Puck*)

- Noun ‘mistress’ denotes seniority yet Puck still ridicules Titania – another reminder of the patriarchal society where men rule (even in the fairy Kingdom)
- ‘monster’ – there is a sadistic pleasure in what Puck has done as shown in the undertone of pride, partly because he wishes to please Oberon.
- ‘love’ – a reminder from Shakespeare of the complexities of love: it can be irrational and transcend social boundaries such as class or even type of being as seen here by the unity of fairy and beastly animal

‘If we shadows have offended, Think but this, ..., That you have but slumber’d here While these visions did appear.’ (*Act 5 Scene 1, Puck*)

- Puck’s epilogue plays on the power of the imagination.
- Noun/metaphor ‘shadows’ begins to end the suspension of audience’s disbelief – actors not real beings just transient shapes.
- Noun ‘visions’ also fits semantic field of fantasy.

Example of an Analytical Paragraph: How does Shakespeare present power in the play?

An unyielding patriarchal father who shows no mercy, Egeus’ behaviour and language in the first scene of the play demonstrates his concern with power and punishment over his daughter’s happiness. He reveals a desire to ‘dispose of her’, with use of the verb ‘dispose’ conjuring up images of unwanted possessions to be thrown away, making the audience instantly aware of his harsh attitude towards Hermia, devoid of any paternal love. Obsessed with maintaining the hierarchy where he is entitled to choose his daughter’s suitor, Egeus refers to his daughter using the possessive pronoun ‘mine’, even alluding to the alternative as her ‘death’. Contextually this is significant because, the Renaissance era was a patriarchal world with an established hierarchy where daughters married men of their fathers’ choosing or faced severe punishments. However, even Theseus, the ultimate patriarch as Duke of Athens, is eventually willing to prioritise the lovers’ happiness over the demands of the law, revealing a benevolent side to his character. Perhaps by characterising Theseus in this way, Shakespeare wished to draw the contemporary audience’s attention to the problems around this Renaissance insistence of all power and control being held by men particularly with regards to emotions which are complicated and cannot be forced.

Stylistic features of the paragraph:

- Topic sentence featuring noun appositive
- Topic sentence featuring participial phrase
- Short, embedded quotes
- Grammatical terminology
- Modal language (adverb) for possible interpretations



Content features of the paragraph:

- Topic sentence linked to how power is presented in the play
- Examine words used by Shakespeare and the connotations/image evoked
- Effect on the audience
- Link to context (Renaissance England, patriarchy and the position of women)
- Link to elsewhere in the play
- Shakespeare’s intentions

Point
Evidence
Technique
Analysis
Link



Spanish Knowledge Organiser

Year 7 - Summer 2

Week 1&2

Connectives

- **pero** - but
- **y** - and
- **sin embargo** - however
- **sobre todo** - especially
- **tambien** - also

Qualifiers

- **muy** - very
- **un poco** - a little
- **bastante** - quite
- **demasiado** - too

This year you have been learning sentences which use the 10 keys. For this last half term we would like to remind you of some of those key words that we want to see you continuing to use next year.

Week 3&4

Opinions

- **Me gusta** - I like
- **Me gusta mucho** - I really like
- **Me encanta** - I love
- **No me gusta** - I don't like
- **Odio** - I hate

Reasons

- **porque** - because
- **dado que** - because
- **es** - it is
- **son** - they are

Week 5&6

Future

Time phrases

- **Los fines de semana** - at the weekend
- **Normalmente** - Normally
- **A menudo** - Often
- **Todos los días** - every day
- **A veces** - sometimes

- **Voy a + infinitive** - I am going to
- **Vamos a + infinitive** - We are going to
- **El fin de semana próximo** - next weekend
- **El sábado próximo** - next Saturday

French Knowledge Organiser

Year 7 -Summer 2

Week 1&2

Connectives

- **mais** - but
- **et** - and
- **cependant** - however
- **surtout** - especially
- **aussi** - also

Qualifiers

- **très** - very
- **un peu** - a little
- **assez** - quite
- **vraiment** - very
- **trop** - too

This year you have been learning sentences which use the 10 keys. For this last half term we would like to remind you of some of those key words that we want to see you continuing to use next year.

Week 3&4

Opinions

- **J'aime** - I like
- **J'aime beaucoup** - I really like
- **J'adore** - I love
- **Je n'aime pas** - I don't like
- **Je déteste** - I hate

Reasons

- **parce que** - because
- **car** - because
- **c'est** - it is
- **ils/elles sont** - they are

Week 5&6

Time phrases

- **Le week-end** - at the weekend
- **Normalement** - Normally
- **Souvent** - Often
- **Tous les jours** - every day
- **Parfois** - sometimes

Future

- **Je vais + infinitive** - I am going to
- **Nous allons + infinitive** - We are going to
- **le week-end prochain** - next weekend
- **samedi prochain** - next Saturday



The Eatwell guide

What is the Eatwell Guide?

The Eatwell Guide is a guide that shows you the different types of food and nutrients we need in our diets to stay healthy.

Why is the Eatwell Guide important?

The Eatwell Guide shows you how much (proportions) of food you need for a healthy balanced diet.

What are the consequences of a poor diet?

A poor diet can lead to diseases and can't stop us from fighting off infections.

What are the sections on the Eatwell Guide?

1. Fruit and vegetables
2. Potatoes, bread, rice, pasta and other starchy food
3. Dairy and alternatives
4. Beans, pulses, fish, egg, meat and other proteins
5. Oils and spreads

Eat 5 portions of Fruit and Vegetables a day. One portion is 80g .

Heat Transfer and Cooking methods

Heat Transfer

The way in which heat energy is passed into food

Conduction - Transferring heat through a solid object into food

e.g. Frying bacon in a pan, using a pan on the hob, a metal spoon in water

Convection - Transferring heat through a liquid or air into food

e.g. Baking a cake, boiling water, cooking in an oven

Radiation - Transferring heat by infra-red waves that heat up what they come into contact with

e.g. grilling sausages or bacon, making toast

Cooking methods

Dry Heat	Moist Heat	Frying
Baking	Steaming	Deep fat frying
Grilling	Boiling	Shallow frying
Roasting	Poaching	Stir frying
Barbequing	Stewing	Saut��ing
Basting	Simmering	

Year 7 Food Knowledge Organiser: Principals of Nutrition

Macronutrients

Needed in **large amounts** to help the body to function properly

Fat



Function:
Energy
Warmth
Protection of organs



Sources

Saturated Fat (Bad Fats)
Meat
Processed Foods
Lard

Unsaturated Fat (Good Fats)
Avocado
Nuts
Olive oil

Saturated Fats - solid at room temperature and are from animal sources. Unsaturated fats are liquid at room temperature and are vegetable sources..

Too much

- Obesity
- Type 2 diabetes
- Heart Disease

Too little

- Fat soluble vitamin deficiencies

Protein



Function:
Growth and Repair
Energy



Sources:

Plant
Nuts
Quorn
Beans
Lentils

Animal
Eggs
Fish
Meat

Too much

- Turns to fat if not turned into energy

Too little

- Anaemia
- Slow growth in children

Carbohydrates



Function:
Energy



Sources:

Bread
Pasta
Rice
Wheat
Potatoes
Cereals

Sugars:
Cakes
Sweets
Fizzy drinks

We should consume no more than 30g of sugar per day

Too much

- Obesity
- Type 2 diabetes
- Heart Disease

Too Much

- Tooth decay
- Type two diabetes
- Obesity

Water

Keeps us hydrated.

Source

Drinks, fruit and vegetables, soup.

Function

- Controls body temperature.
- Gets rid of waste in the body.

Too little

- Dehydration leads to headaches, irritability and loss of concentration.

Fibre

Function:

It helps with digestion
It helps to get rid of waste

Source:

Wholegrain,
Whole wheat,
Wholemeal cereals,
Peas and beans

Too Little

- Constipation
- Bowel Cancer

Micronutrients

Needed in **small amounts** to help the body to function properly

Useful web links:

<http://www.foodafactoflife.org.uk>



Watch the video to learn more

<https://www.youtube.com/watch?v=ISZLTJH5IYg>

Mineral	Sources	Function
Iron	Red meat, spinach, beans and lentils	Helps our red blood cells carry oxygen so that we are not anaemic.
Calcium	Milk, cheese and some cereals	Help us to have strong bones and teeth.
Sodium	Processed foods	Controls the body's water content and helps our nerves

Vitamin	Sources	Function
Vitamin A (fat soluble)	Fish, eggs, oranges	Helps us to see well
Vitamin D (fat soluble)	Eggs, the sun	Helps our bones to grow
Vitamin C (Water soluble)	Oranges, tomatoes, vegetables	Helps to heal cuts, helps the immune system.
B Vitamins (Water soluble)	Cereals, meat, fish	Helps to keep us healthy

Why Food is cooked

Different cooking methods change our food in different ways
Appearance, Texture, Flavour, Smell and Nutritional value

To improve shelf life

To make safe to eat

To develop flavour

To improve texture

To improve appearance

To give variety in diet

Bacteria

A micro organism that multiply in certain conditions.

Where can bacteria be found?
Everywhere!

Are all bacteria bad?

No- some are good and essential for normal bodily function.

How can you reduce the risk of bacteria?

- Storing food separately
- Storing and cooking foods at the correct temperatures

The 4 C's

Cleaning – wash your hands properly

Cooking – make sure you cook food properly or you could make someone very ill

Chilling – keep it chilly silly

Cross contamination – keep raw meat and cooked food apart

Year 7 Food Knowledge Organiser: Food and kitchen hygiene

Key Terms

Hygiene	Keeping the workplace and food workers clean which ensures food is safe to eat
Hygiene procedure	The steps you would go through to ensure that a product is produced in a safe and hygienic way
Contamination	Presence in food of harmful substances or bacteria. To spoil or dirty something
Physical contamination	The presence of a foreign body in a food product for example a plaster that has fallen off the food workers hand
Chemical contamination	The presence of unwanted or unsafe chemicals in food
Biological contamination	The presence of harmful microorganisms in food
Danger zone	A temperature of between 5°C and 63°C when bacteria will grow most rapidly
Cross contamination	Safe food being contaminated by unsafe food.
Food poisoning	Chilled foods should be stored at between 1°C and 5°C to slow the growth of bacteria Illness caused by food being contaminated by microorganisms. Food poisoning occurs if harmful microorganisms contaminate food and are then allowed to grow.
Symptoms	The physical signs that are shown when someone is unwell

Storing Food

Temperature is really important to keep food safe.
The following temperatures should be used:

Refrigeration	Fridges should run at 4°C or below.
Freezing	Freezing of food at -18°C or below will stop bacteria multiplying.
Cooking	Temperatures of 75 °C or above kills almost all types of bacteria.
Danger Zone	The temperature range where bacteria is most likely to reproduce: 5°C-63°C.

High risk foods - ready-to-eat food that will support the growth of pathogenic bacteria easily and does not require any further heat treatment or cooking". Such foods are usually high in protein and moisture require strict temperature control and protection from contamination and include: cooked meats , cooked shellfish.

What do bacteria need to multiply?



Temperature: bacteria grows when warm



Time: if food is exposed to these things for a long time they will quickly multiply



Moisture: bacteria need moisture to grow



Ph: Bacteria prefer conditions that are neutral.



Aerobic vs Anaerobic Bacteria

Aerobic	Anaerobic
Must have oxygen to survive	Cannot live in the presence of oxygen



Food: provides the energy for bacteria to grow, multiply and produce toxins

Common Food poisoning Pathogens

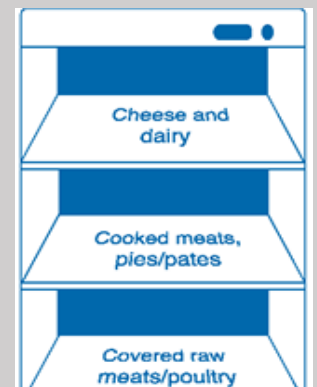
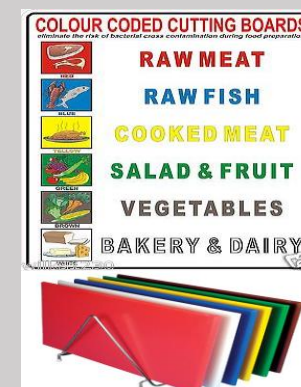
Pathogen	Sources	Symptoms
E coli	Raw meat, untreated milk and water.	Vomiting, blood in diarrhoea, kidney damage or failure
Listeria	Soft cheese, pate, unpasteurised milk, under cooked meat	Mild flu, meningitis and pneumonia
Campylobacter	Meat (chicken) shellfish, untreated water.	Diarrhoea, headache, fever, abdominal pain.
Salmonella	Raw meat , eggs, seafood, dairy products	Diarrhoea, vomiting and fever.
Bacillus cereus	Cooked rice, pasta, and cereal foods	Nausea, vomiting, diarrhoea
Staphylococcus Aureus	Anything touched by hand, Dairy product	Nausea, vomiting, diarrhoea

Watch video to confirm knowledge

<https://www.youtube.com/watch?v=flxB8NKMzE>

Storage

To prevent cross contamination (the spreading of bacteria), foods must be stored separately. Follow the rules of food storage within a fridge:



Most bacteria grow rapidly at body temperature (37°C), but can grow between 5°C and 63°C. This is known as the danger zone. The more time food spends in the danger zone the greater the risks of harmful bacteria growing. Therefore it is vitally important that we try to keep food out of the danger zone during the production processes.

The Design Process

Brief



A brief is a set of **instructions** given to a designer by a company (**client**) about a job or task they wish to be completed.

A **company** (client) will ask a **graphic designer** to create a **product**. A product means an item that can be sold to people (**consumers**).

A brief will set out clearly what it is that should be made (**constructed**) and what requirements (**specifics**) will need to be included in the **design process**.



Isometric

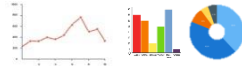
When the concept drawing is finished, the design will be turned into an isometric drawing where the size (**dimensions**) of the parts are finalised. Specific measurements (**metric – CM, MM**) are used so that it can be copied many times (**mass produced**).

The design will be computerised (**digitally formatted**) so that it can be **saved, shared** and **inputted** into the machines that produce it.

Market Research



Companies will employ people to conduct **surveys**. A survey is a set of **questions** that are asked to many people. Often companies would decide which people they will ask (**target audience**). They wish know peoples **preferences** and **spending habits**.



The answers are important to the **design process** and can influence the way the product is **designed**. To make it easy to see large amounts of **data**, companies use **graphs**.

Testing Models



When isometric drawings are complete, it will go through a process of being made **3D**. A number of **machines** will be used to create practice models (**prototypes**) to see how the product works. It must be easy for a human to use (**ergonomics**). **3D printers** are often used.

If the product is made out of different **materials** such as glass, metal or wood, these would require different methods of construction (**manufacturing**).

Design Process



Designers will explore lots of ideas before selecting the right one. Often this involves creating **mind maps**, **sketches** and **mood boards**.

A mind map starts with a single word and then **explores ideas** around it, these are sorted into **categories**.

When drawing sketches, designers will work out how it works (**functions**). Ideas at this stage can be really **creative** and **imaginative**.

A mood board is a collections of pictures, drawings, text (**typography**) and **materials** to do with the **theme**.

Packaging



When a final product has been made and passed safety standards, it will be labelled and have its own (**custom**) **packaging**.

Packing must –

- Be eye catching (**visually pleasing**) to attract customers to buy it.
- Protect the item inside it to **avoid damage** or **contamination**.
- Provide **accurate information** about the product inside.
- Stack easily for **transportation** from factory to shops.

Concept Art



Artists/**illustrators** will draw a number of different sketches of the product from different angles.

When designing, **colour** and **style** is important. It is important to think about how it looks (**aesthetics**). Designs will consider the mood board and specifics.

Drawings can be in **traditional** materials (pen, pencil, paint) or using **CAD** (Computer Aided Design) and electric drawing pads (**graphics tablets**).

Advertising



For companies to make money (**financial income**), they must tell as many people as possible about their product.

This often happens through **social media**, **adverts**, **radio stations**, **magazines** and **displays** in shops.

Its important that the product is well received by its target audience so that people buy it and share reviews of it. Companies make a **profit** when they sell items for more than the price of making it. .

Year 7 Geography: Nigeria

- Overview
- People
- Opportunities
- Challenges

Overview

- Nigeria is a country in the North East of Africa
- Located along the gulf of Guinea.
- It is 4 times the size of the UK.
- The capital city is Abuja.
- Nigeria has 2 large rivers Benue and Niger
- Biomes include the rainforest and desert
- It is the 12th biggest exporter of oil in the world

People

Nigeria is a country of contrasting landscapes. Life for people in urban and rural areas can be very different. It is a very youthful country, with the average age being 18.4%

Urban areas

- Urban areas are made of poor and wealthy areas
- There are many slums in Nigerian cities. A slum is an informal area of makeshift housing, often unplanned and built illegally.
- Makoko is the largest slum in Nigeria. It is in the city of Lagos
- Lagos also has areas which are affluent, e.g. Ikoyi



Rural areas

- 51% of the population live in rural villages
- There is more poverty in rural areas, only 4.6% of the wealthiest people live here
- 36% of people have access to schools
- 41% have access to electricity



Opportunities

Nigeria's biggest opportunity is that it has a plentiful supply of natural oil that it can export around the world.

This oil source creates a lot of jobs for people and allows the country to have a high GDP (income). This means Nigeria has money to spend on improving and providing facilities for the population. If money is invested into key areas such as healthcare and education then the quality of life for the population will improve.

Economic opportunities

Job industries in Nigeria include:

- Oil
- Agriculture
- Film
- Manufacturing
- Telecommunications

Social Opportunities

- Improved education and literacy rates
- Better infrastructure
- Wider access to electricity and water

Challenges

Like all countries and within particular areas lots of challenges can exist.

Economic challenges

- 86.9 million people live in extreme poverty
- There are many subsistence farmers, they can only grow enough food to feed themselves and not to sell.

Social challenges

- 10 million children do not go to school, most of these are girls
- Diarrhea is a common cause of death for children
- Some people do not have access to clean water

Political challenges

- Boko Haram, a terrorist group, causes conflict in Northern Nigeria
- In 2014, over 260 girls were kidnapped from school
- Many Nigerians are fleeing to southern Nigeria and neighboring countries for safety

Environmental challenges

Sourcing and refining oil can cause many challenges for the environment including

- Oil spills in water sources
- Poisoned soil, unable to grow vegetation
- Deforestation

Year 7 History Knowledge Organiser Half-term 6: Britain 1700-1900

Industrial change

- Before the Industrial Revolution most men were farmers, but women and children also worked from home. This was called the 'domestic system', these people used a spinning wheel to turn wool into cloth and they worked whenever it suited them.
- The factory system changed all this. Many people left their villages to go work in factories called mills. Water-power was used to power the machines, this meant that the machines and workers could work non-stop. Women and children worked in the factories as well as the men and they were cheap to employ. The factory owners were able to make huge profits.

Child workers

Some of the factory children were orphans as the owners agreed to clothe and feed them. Other child workers were the sons and daughters of poor families

Children were employed in factories because:

- The machines were automatic so children were able to run them.
- Children were paid less than adults so factory owners employed lots of them.
- Children were able to crawl under the machines to fix broken threads, replace bobbins and clean away dust.

Railways

The development of steam power and the invention of steam locomotives led to industrial changes

- Steam trains made travel quicker and cheaper. In 1836 it took 46 hours to travel from London to Edinburgh by stage coach: it took 12½ hours by train in 1850.
- The whole country began to use the same time (so that train timetables could be used)
- They changed how people ate- fresh food could reach all over the country.
- This created jobs and led the coal and iron industries to grow. BUT this was at the expense of canals and stage-coaches.

People's lives

Industrial Towns

- **Pollution:** By the 1860s nearly all workshops and factories were powered by coal-burning steam engines. The tall chimneys puffed out smoke all day, every day. Coal was also used for heating houses and for cooking. This household smoke made the air pollution even worse.
- **Overcrowding:** So many people moved to the towns that there were not enough houses. Builders and landlords, who were keen to make large profits, built thousands of new houses but they crowded as many people in as possible and often used the cheapest building materials. Rents were high so whole families lived in a single room.
- **Population-** The population grew from around 4 million in 1701 to over 35 million in 1901. This was partly because more children were born and fewer died. This led to overcrowding and poor living conditions, more food was needed, the rich got richer but more of the poor worked in towns/cities for low wages.

Seaside towns

- In 1800, few people had holidays. Workers were only given a day off for religious holy days e.g. Christmas Day and Easter Sunday.
- By 1850 things had started to change, as people worked shorter hours than ever before, they found themselves at home earlier in the evenings and off work on Saturday afternoons as well as Sundays.
- In 1871, Parliament introduced Bank Holidays, giving workers a few more days off throughout the year.
- All over the country, the coming of the railways brought seaside resorts within the reach of ordinary people. London was the biggest city in the world: When the London-Brighton railway opened in 1841, millions of people were suddenly only two hours' train ride away from the seaside. For the first time, the 'day tripper' appeared in Brighton.

Crime and punishment

Highway robbery

Highway robbery involved threatening or attacking travellers and forcing them to hand over their valuable possessions. It became more common in the 18th century for a number of reasons:

- Increase in trade and wealth.
- Isolated country roads.
- More travellers with valuable goods.

It then decreased because:

- The death penalty was introduced for anyone found armed and in disguise on a high road.
- Mounted patrols on major roads in the 19th century.
- The growth of the banking system meant that there was less need for people to carry large sums of money.

Police

- The Bow Street Runners were the first organised crime-fighting team. By 1785, the Bow Street Runners were officially paid by the government and were the first modern detective force.
- In 1829 the Metropolitan Police was set up in London by John Peel- the first paid full-time police force.

Pentonville Prison

- Pentonville Prison was built in 1842 as a prototype where the 'separate system' could be tested. Under this system, prisoners were kept apart as much as possible. They lived in separate cells and stayed there for up to 23 hours a day.
- Every aspect of the new prison was designed to support the separate system. The building had five wings with a base for staff in the central area each wing was made up of dozens of individual cells.
- The cells had a floor area of 4m by 2m. There was a small high window at the end to allow some natural daylight in. The window had thick glass and were fixed with iron bars. Each cell had piped water, a small basin and a basic toilet. This improved the health and living conditions of the prisoner, but also ensured they had limited chances to see or speak to other inmates, as they had no reasons to leave their cells.

KS3 Knowledge Organiser

Computing History

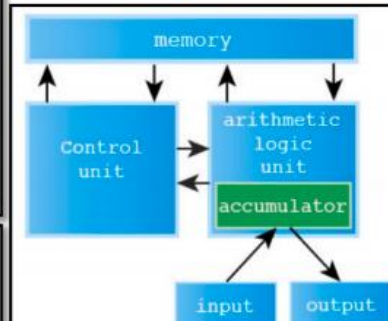
Knowledge Organiser – Foundations of Computing

Key Term

High-level programming language: A programming language which is more abstracted, so easier to read and write and therefore more user-friendly.



▲ Alan Turing



▲ Diagram of Von Neumann Architecture

Key Term

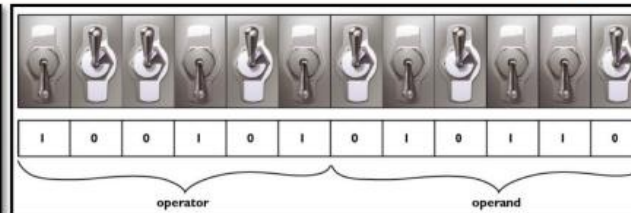
Assembly language: A programming language that uses easy-to-remember codes rather than binary to give a CPU an instruction. Mnemonic codes are used to represent operators and labels are used to represent operands. A mnemonic is a pattern of characters used to make something easier to remember.

Key Terms

Accumulator: The name given to the place where the computer does all its calculations.

Note: Instructions such as **INP** and **OUT** automatically refer to the accumulator so the operand does not need to be specified.

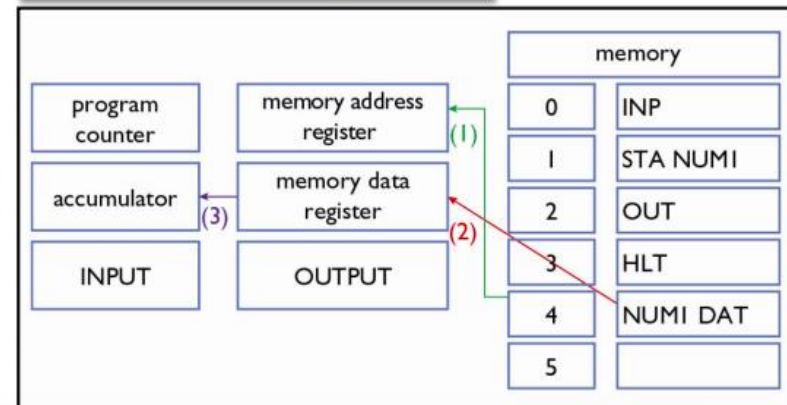
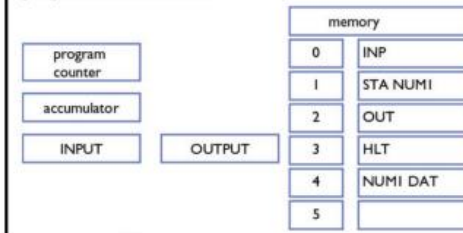
Variable: A named location in memory used to store data.



Key Term

Dry run: To run through a program on paper to see how it works. A dry run records the state of each variable when each line of the program is executed, so it has one line for each line of code in the program.

A diagram of the CPU after we have written our simple program looks like this:



Key Terms

Operator: The part of a machine instruction that gives the CPU an instruction to do something.

Operand: The part of a machine instruction that tells the CPU the data or memory location where the instruction – the operator – should be carried out.

The instruction 100101010110

might become

STA NUM1

Store a number.

In the memory location labelled 'NUM1'.

The Early Years

1940s: when African-American music artists from the south were playing and recording "rhythm and blues." This was jazz-based music with a very solid, heavy beat. The lyrics were centered around success and failures of life in general (relationships, freedom, goals). In the southern regions of the United States, this music was referred to by many as "race music".



1950s: white middle-class America was listening to the innocent sounds of artists like Perry Como, Patti Page, and Bing Crosby. Sweet wholesome entertainment to go along with what was on the early television shows. I Love Lucy and Bewitched.



Rock and Roll Music

The rhythm and blues of the late 1940s would soon see its style of music morph into rock 'n' roll. The characteristics:

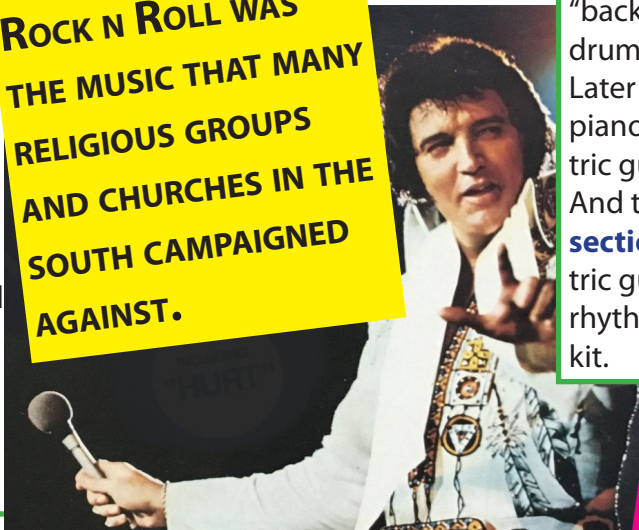
Hard driving accented backbeat
The distinct guitar sound and solo work
Loud vocals
Thought-provoking lyrics



Rock 'n' Roll was definitely designed for dancing. Remember these: The Twist, The Stroll, The Handjive, The Jitterbug.

A white DJ from Cleveland named Alan Freed was promoting the black rhythm and blues artists on his radio show (Moon Dog Show) and using the expression "rock 'n' roll".

**ROCK N ROLL WAS
THE MUSIC THAT MANY
RELIGIOUS GROUPS
AND CHURCHES IN THE
SOUTH CAMPAIGNED
AGAINST.**



Instruments

The black rhythm and blues music of the late 1940s had a sound that was original. The sax or piano were the lead instrument, along with the string bass and drums. The "beat" of this music centered around an offbeat which many of us now call the "backbeat" played on the snare drum.

Later in the 1950s the sax or piano was replaced by the electric guitar as the lead instrument. And today, the normal **rhythm section** will consist of two electric guitars (one lead and one rhythm) electric bass and drum kit.

**LEARN THE SONG TITLES
AND THE ARTIST PLEASE**

A mix of black and white song artists that all contributed their special unique sounds to a great genre.

1. Johnny B. Goode - Chuck Berry
2. Jailhouse Rock - Elvis Presley
3. Rock Around The Clock - Bill Haley & His Comets
4. Tutti-Frutti - Little Richard
5. Whole Lot of Shakin' Going On - Jerry Lee Lewis
6. What'd I Say - Ray Charles
7. Summertime Blues - Eddie Cochran
8. Hound Dog - Elvis Presley

9. Long Tall Sally - Little Richard
10. That'll Be The Day - Buddy Holly & the Crickets
11. Maybellene - Chuck Berry
12. Bo Diddley - Bo Diddley
13. Shake, Rattle And Roll - Joe Turner
14. Blue Suede Shoes - Carl Perkins
15. Don't Be Cruel - Elvis Presley
16. Bye Bye Love - Everly Brothers
17. Great Balls Of Fire - Jerry Lee Lewis
18. Earth Angel - Penguins
19. Why Do Fools Fall In Love - Frankie Lymon & the Teenagers
20. Good Golly Miss Molly - Little Richard

The Birth of Rock and Roll

7D Ecosystems

1. Variation

Habitat	The place where an organism lives.
Variation	The difference between organisms.
Continuous	Type of variation where the measurement can be any value in a given range. <i>e.g. height, mass</i>
Discontinuous	Type of variation where the measurement falls into certain categories. <i>e.g. eye colour, blood group</i>
Offspring	The new organism produced by reproduction.
Species	Group of organisms that can reproduce to produce offspring that can also reproduce.
Hybrid	The offspring of two different species. They cannot reproduce.

2. Adaptations

Environment	The conditions in a habitat.
Adaptations	Features that help an organism to survive in the environment where it lives.
Polar Bear Adaptations	<ul style="list-style-type: none"> Thick fur to keep warm small ears to stop heat loss white fur for camouflage rough soles to grip ice large feet to spread out weight / swimming

Cactus Adaptations

- Stem stores water
- roots cover large area to absorb water
- no leaves to stop water loss

Jack Rabbit Adaptations

- large ears to allow heat to escape
- large hind legs to increase running speed
- gets all its water from food, doesn't drink

Community

All the animals and plants that live in a habitat.

Ecosystem

The community and all the physical environmental factors together.

Inherited Variation

Variation between features caused by an organism's DNA

Inherited Variation Between Same Species

Gametes contain different instructions for features. A different sperm and egg produce each offspring, so each has different features.

Identical Twins

Identical because they develop from one fertilised egg cell.

3. Effects of the Environment

Environmental Variation	Variation caused by environmental factors. <i>e.g. hairstyle, accent</i>
Daily Changes	Environmental changes during the day.
Seasonal Changes	Environmental changes during the year.
Nocturnal	Animals that are only active at night.
Nocturnal Animal Adaptations	Excellent eyesight Nocturnal owls have superb hearing as well and can fly.
Deciduous	Trees that lose their leaves in winter to stop water loss.

Evergreen

Trees with tougher leaves that don't lose much water so they keep them all year.

Hibernation

Organisms become inactive in winter so they don't need food.

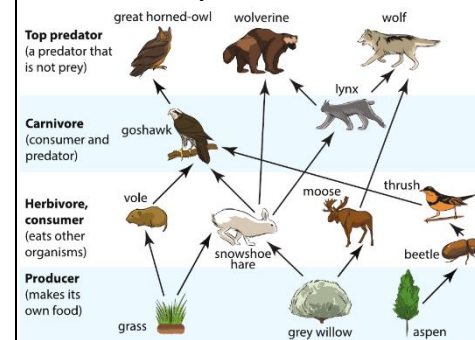
Migration

Birds fly to warmer places for winter to find food.

4. Effects on the Environment

Resources	What an organism needs to survive and grow- oxygen, food, water, etc. for animals.
Population	The numbers of a specific organism.
Food Chain	Represents what eats what in a habitat Grass → hare → lynx
Competition	Organisms compete over the resources that they need.
Food Web	Formed by joining together all food chains in an ecosystem.

Food Web Example



Interdependent	Organisms in an ecosystem all depend on one another.
Predator	Eats another animal.
Prey	Eaten by another animal.

5. Transfers in Food Chains

Food Chain Arrows	Represent energy passed between organisms.
Energy Flow	Energy is lost at each stage along a food chain due to being released by respiration for movement etc. and some food remains undigested.
Pyramid of Numbers	Diagram showing number of each organism at each stage of a food chain.
Pesticides	Poison that kills pests.
Pests	Organisms that cause problems.
Persistent	Poisons that are not broken down in nature.
Poisons in a Food Chain	Poisons get more concentrated the further along a food chain.
DDT	Persistent pesticide used in the UK that caused bird shells to become weak and break easily. Banned in 1984.

Lesson	Memorised?
1. Variation	
2. Adaptations	
3. Effects of the Environment	
4. Effects on the Environment	
5. Transfers in Food Chains	

	<h2>7E Mixtures and Separation</h2>
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1. Mixtures	
Mixture	Two or more substances jumbled together but not joined together.
Suspension	A mixture of a solid and liquid, where the solid bits are heavy enough to settle out if the mixture is left to stand.
Colloid	A mixture of a solid, liquid or gas in a solid, liquid or gas where the substances do not settle out if left to stand.
Dispersed	Spread out without settling out, such as the bits in a colloid.
Opaque	Cannot be seen through- colloids are opaque / cloudy.
Solution	When a substance has dissolved in a liquid.
Transparent	Light can pass through and it can be seen through- solutions are transparent.
Filter	Something through which a liquid is passed to remove suspended pieces of solid.

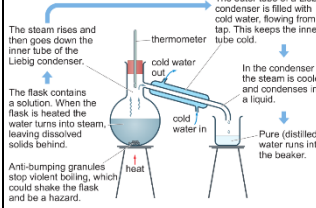
2. Solutions	
Solvent	The liquid in which a substance dissolves to make a solution.
Solute	The substance that has dissolved in a liquid to make a solution.
Dissolve	When a substance breaks up into such tiny pieces in a liquid that it can no longer be seen and forms a solution.

Soluble	Describes a substance that can dissolve in a liquid.
Conservation of Mass	The total mass of a solution is the same as the mass of the dissolved substance plus the mass of the liquid at the start.
Saturated	A solution that contains so much dissolved solute that no more solute can dissolve in it.
Solubility	The amount of a substance that dissolves in a particular solvent at a particular temperature to make a saturated solution.

3. Evaporation	
Evaporation	When a liquid changes into a gas. Can be used to separate a liquid from the solid dissolved in it.
Sodium Chloride	The scientific name for table salt that we use on our food.
Rock Salt	When sodium chloride is found in thick layers of rock underground.
Extracting Rock Salt	Can be dug up or mined. Water can be pumped into layers of salt underground, dissolving the sodium chloride which is then pumped to the surface and heated to evaporate the water, leaving behind sodium chloride.
Boiling	When there is liquid turning into a gas in all parts of a liquid- creates bubbles of gas in the liquid.
Boiling Point	The temperature at which a liquid boils.

4. Chromatography	
Chromatography	Used to separate substances dissolved in a mixture.
Paper Chromatography	A concentrated dot of a mixture is placed at the bottom of special chromatography paper. The bottom of the paper is dipped into a solvent (such as water). As the solvent moves up the paper it carries the dissolved substances.
Concentrated	A solution that contains a large amount of solute dissolved in a small amount of solvent.
Chromatogram	The results of chromatography such as a dried piece of paper for paper chromatography showing when the dissolved solids have been separated.
How chromatography works	Different substances in a mixture are carried at different speeds, depending on how soluble they are, which separates them out from each other.

5. Distillation	
Desalination	Separating water from the salts in salty/sea water to produce fresh drinking water.
Distillation	The process of separating a liquid from a mixture by evaporating the liquid and then condensing it to be collected.
Steam	Water as a gas.

Condenses	When a substance changes from its gas state into its liquid state.
Pure	A single substance that does not have anything else in it. (Pure water only contains water and no dissolved solutes)
Distillation Apparatus	 <p>The steam rises and then goes down the inner tube of the Liebig condenser. The outer tube of a Liebig condenser is filled with cold water, flowing from a tap. This keeps the inner tube cold. In the condenser the steam is cooled and condenses into a liquid. Pure (distilled) water runs into the beaker. The flask contains a solution. When the flask is heated the water turns into steam, leaving dissolved solids behind. Anti-bumping granules stop violent boiling, which could shake the flask and be a hazard.</p>
Solar Still	Energy from the Sun is used to evaporate salty/dirty water which is then condensed, forming pure/clean water.

Lesson	Memorised?
1. Mixtures	
2. Solutions	
3. Evaporation	
4. Chromatography	
5. Distillation	

KS3 PE THEORY

KNOWLEDGE ORGANISER

Components of Fitness

Agility – the ability to change direction at speed whilst maintaining control.

Balance – maintenance of centre of mass over base of support.

Cardiovascular Endurance – the ability of heart and lungs to supply oxygen to working muscles.

Coordination – the ability to use 2 or more body parts smoothly and efficiently together.

Flexibility – the range of movement possible at a joint.

Muscular Endurance – ability of a muscle or group of muscles to undergo repeated contractions avoiding fatigue.

Power – product of strength x speed.

Reaction Time – the time taken to initiate a response to a stimulus.

Speed – the maximum rate at which an individual is able to perform a movement or cover a distance in a period of time.

Strength – the ability to overcome a resistance (4 types: maximal, dynamic, static, explosive).



Agility



Flexibility/Balance/Strength



Reaction Time

Health and Fitness

Health – A state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.

Fitness – The ability to meet or cope with the demands of the environment.

Movement Analysis

Flexion and Extension

Decreasing the angle at a joint

(hip/knee/elbow/shoulder)

Increasing the angle at a joint

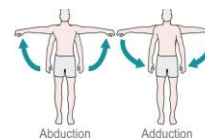


Abduction and Adduction

Movement away from the midline of the body

(hip/shoulder)

Movement towards the midline of the body



Dorsiflexion and Plantarflexion

Pulling toes up towards the sky

(ankle)

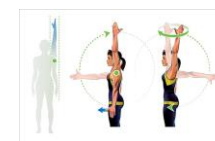
Pointing toes down towards the floor



Rotation

Circular movement around a fixed joint

(hip/shoulder)



Muscle Contractions

Isometric

(no movement)

Muscle remains the same length as it contracts



Isotonic

(movement):

When the contraction of a muscle causes it to change length:

Concentric – muscle shortens as it contracts

Eccentric – Muscle lengthens as it contracts

