Ormiston Shelfield Community Academy

Spring Term

Study Skills Booklet

Name	
Year	
Form	
Form Room	
Form Tutor	

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Model of Memory

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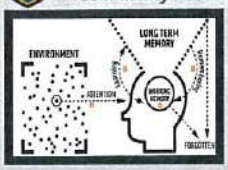
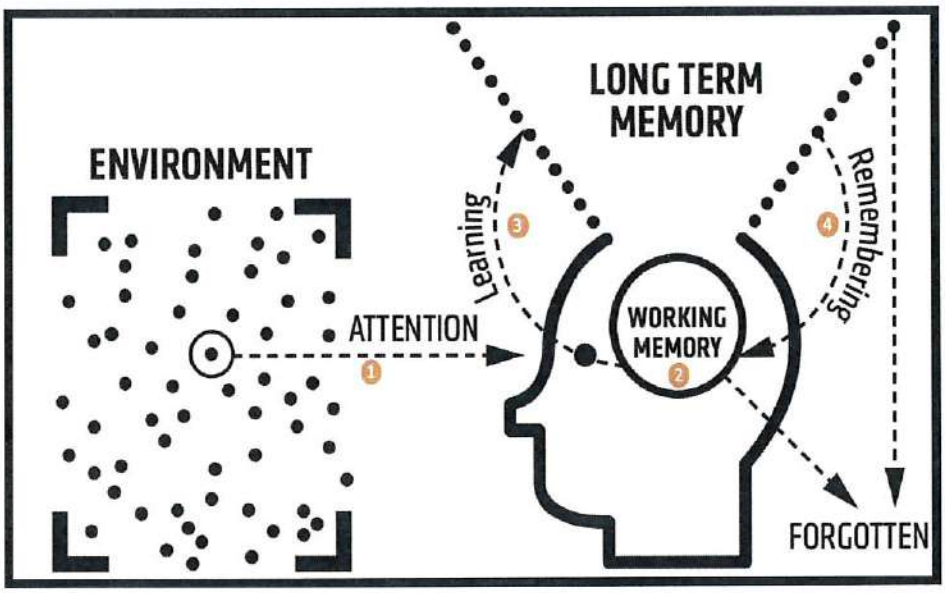


Last term we looked at how to learn, retain knowledge, and store information in our long-term memory. This term we will look at:

- *How successful we were and what needs to change*
- *Revisiting study skills*

Study environment and focus

Long Term memory



Working memory

Remembering

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Mid-Year Results Reflection

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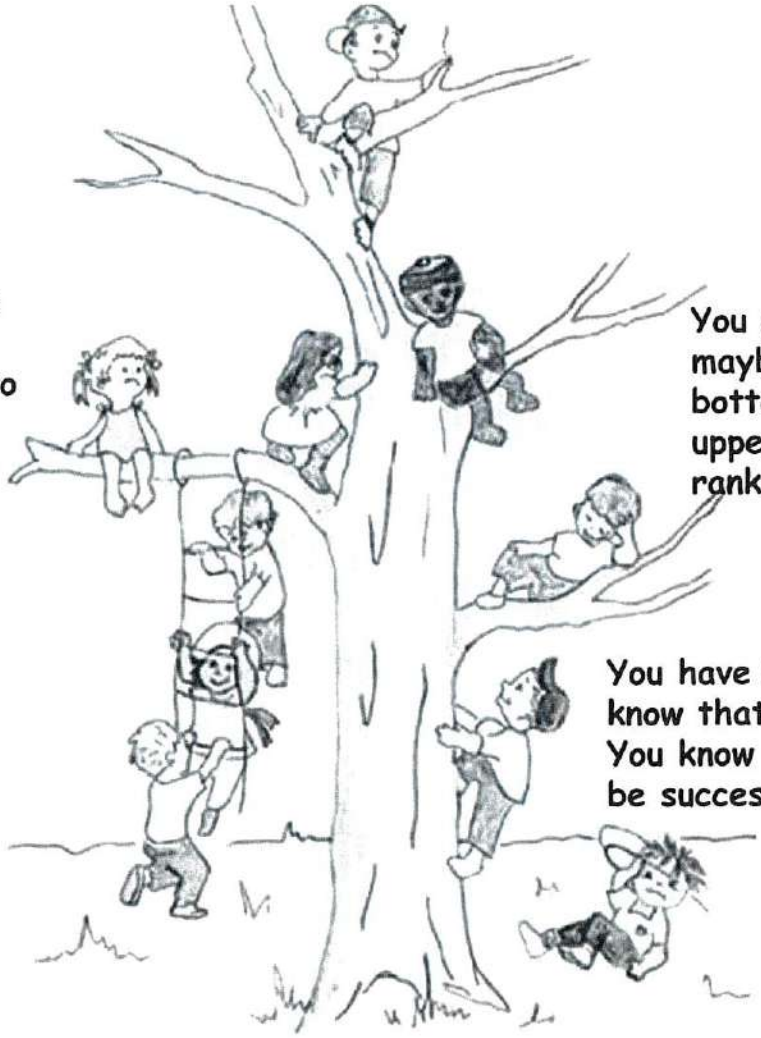
Subject	Rank Autumn	Rank Spring	Reflection and What I need to do next
English			
Maths			
Science			
History			
Geography			
Spanish			
ICT			
Drama			
Art			
Music			
Technology			

Mid-Year Results Success Tree

You have completed your Mid-Year assessments and have your rank order for each subject. Look at your results and where you are in the rank orders - where do they reflect where you are on the Success Tree?

At the top. You have the highest rank scores and are confident that you are on track to achieve the top grades when you get to GCSE.

You can see the top. You know what you have to do to put that extra effort to achieve it.



You are coasting - maybe at the bottom middle or upper middle of the rank orders.

You have made progress and know that you can improve. You know what is needed to be successful.

On the way up the ladder. You are pleased with some of your progress. You need some help and support to get you to the next level.

You are at the bottom of rank ordering. You are disappointed in your results and have underperformed. You need some support to get up the rank orders.

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Mid-Year Results Success Tree

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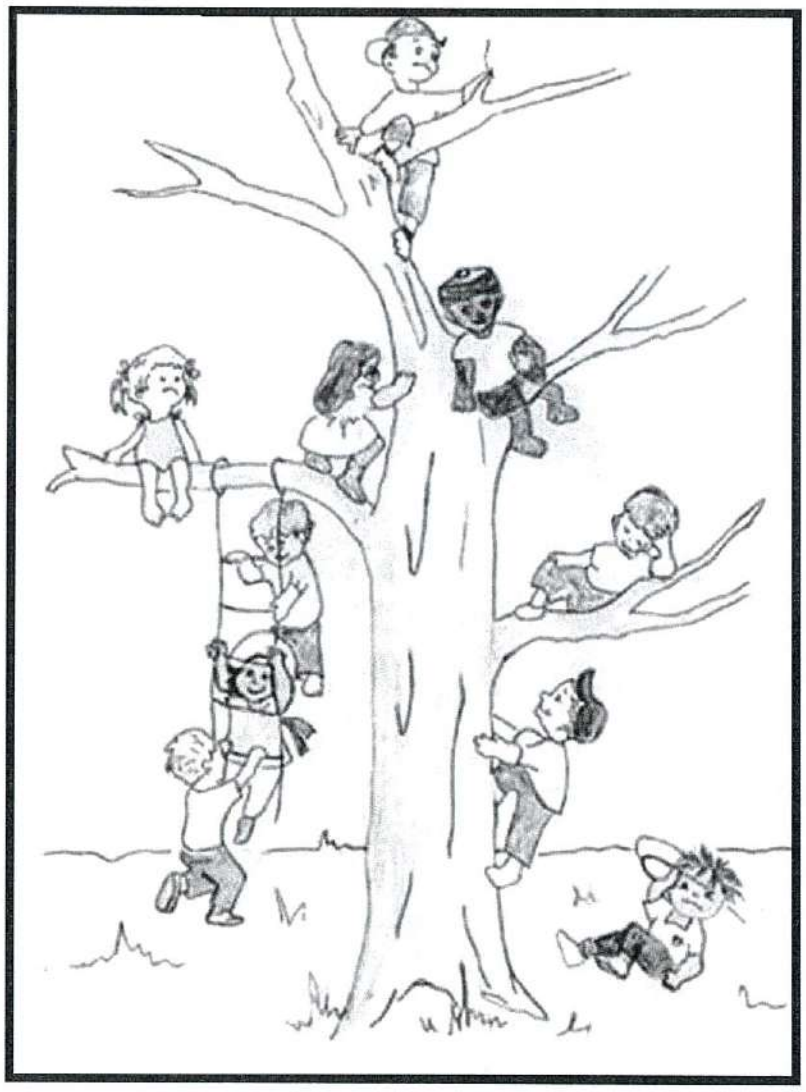
Look at your results and where you are in the rank orders. Label your Success Tree with your subjects according to where you are and where you need to be by End of Year assessments.



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Timetable

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Gates open at 08:15 and you should be on-site and inside the building by 08:30. The first bell rings at 08:37, followed by the second bell at 08:40, signalling that you should be in your form room. This routine helps establish order and set a positive tone for the day, promoting punctuality and focus.

A WEEK Timetable					
Lesson	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
Morning Reg					
Period 1					
Period 2					
Period 3					
Period 4					
Period 5					
Afternoon Reg and activities					
Study Subjects					

B WEEK Timetable					
Lesson	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
Morning Reg					
Period 1					
Period 2					
Period 3					
Period 4					
Period 5					
Afternoon Reg and activities					
Study Subjects					

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Study Skills Reflection

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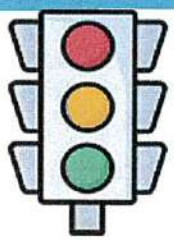
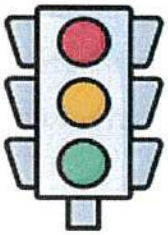
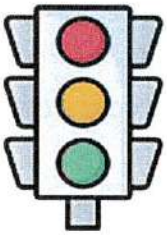
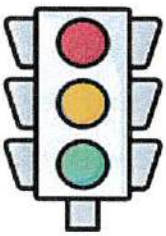
You now need to think about the study skills you have been taught and how you have used them. Beside each strategy start by RAG rating and then write why you have given them that rating. The final box is for a study method that you may have found useful that is different to what you have been taught.

Study Skill	*Reflection*
Mind Map	
Flashcard	
Re-Teach	
Spelling strategies	
Own Strategy	

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Using Critical Knowledge Organisers to Study Effectively

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Take this easy quiz to make you think about how you went about studying for your Mid-Year assessments. Make some decisions based on the right answers and your assessment results.

1. **Why is creating a study timetable important?**
   a) It helps you avoid distractions
   b) It ensures you manage your time effectively
   c) It makes studying more fun
2. **What is the best way to take notes during a lesson?**
   a) Write down everything the teacher says
   b) Summarise key points in your own words
   c) Copy from your friend's notes
3. **Which of these is an active revision technique?**
   a) Reading notes silently
   b) Highlighting text only
   c) Creating flashcards and testing yourself
4. **Why should you take regular breaks when studying?**
   a) To check social media
   b) To help your brain process and retain information
   c) To finish later
5. **What is the benefit of setting specific goals for each study session?**
   a) It makes you feel busy
   b) It gives you a clear focus and sense of achievement
   c) It allows you to study less
6. **Which environment is best for studying?**
   a) A quiet, well-lit space with minimal distractions
   b) A noisy café
   c) Your bed while watching TV
7. **What should you do if you don't understand a topic?**
   a) Ignore it and move on
   b) Ask your teacher or use reliable resources to clarify
   c) Wait until the exam

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Critical Knowledge Organisers

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You have critical knowledge organisers for every topic you study. CKOs contain powerful and important core knowledge. The information forms the foundation for that subject with the facts and key vocabulary that you can, and should, learn. They do not replace what you learn I class!

Rationale	*Explanation*
For class work	You will have a CKO for every subject: Maths, English, Science, Spanish, History, Geography, ICT, Music, Drama, Art, D&T.
For homework	The Study Booklet has all the CKOs and you will have them on you at all times – this is part of your core academy equipment.
For checkpoints and assessments	Your Form Tutors and teachers will teach you the revision strategies and how to use them with your subject CKOs.
For revising	You will be set revision tasks for homework on your CKOs so that you are ready for classwork as well as assessment points.
For checking core learning	Why is it important that you have a secure and confident knowledge of the core information needed in every subject you study at Key Stage 3?

How well did you use your CKOs in preparation for your Mid-year? What could you have done better?

Reading

What is a Reading Age?

A Reading Age is:

My Reading Age should be:

Academic Reading *Transactional Reading* *Reading for Pleasure*

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Tracking the Text

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There are many proven reasons why tracking the text improves reading. Whether you are a good reader, a weaker reader, dyslexic, have ADHD etc, this is the easiest step on your journey to successful reading.

Why do I Track the Text?

- **It improves my focus and attention**: Tracking helps me stay engaged with the text and reduces distractions.
- **It enhances my eye movement and tracking skills:** Guides my eyes smoothly across the page, preventing skipped words or lines.
- **It boosts word recognition and fluency:** Reinforces the connection between spoken and written words.
- **It supports my comprehension:** Helps me process and understand what I am reading more effectively.
- **It reduces visual stress:** Tools like reading rulers can minimize glare and visual overload, especially helpful if I have dyslexia or ADHD.
- **It encourages independence and confidence:** Tracking tools help my self-guided reading and reduce frustration.
- **It works for all ages and abilities:** Whether using a finger, a ruler, a pen or any of those, tracking is a strategy that benefits me regardless of what I am reading.

How to Track With Your Finger

1. Put your finger *under* the text—not covering it.
2. Move smoothly from left to right.
3. Keep your eyes on the words, not your finger.
4. Follow the line breaks carefully.
5. Aim to read each word once without skipping.

Academy Spelling Strategies

Syllabification

Breaking words into sound chunks/syllables

This is how you learn more challenging words and their spelling.

Application

temperature

how hot or cold a thing, place or person is, measured in degrees Celsius, Fahrenheit or Kelvin

Choose vocabulary from a CKO and use this method to learn the spelling.

Academy Spelling Strategies

You can pyramid the word, letter by letter
Or
You can pyramid the word syllable by syllable

Application

Choose some vocabulary from a CKO and pyramid them below.

Academy Spelling Strategies

Prefixes: *added to the beginning of the root word to create a new word with a different meaning.*

Suffix: *added to the end of the root word to create a new word with a different meaning.*

Application

UN help FUL

EX port ED

De ACTIV ate

Choose some tricky vocabulary from a CKO and use this method to learn the spelling.

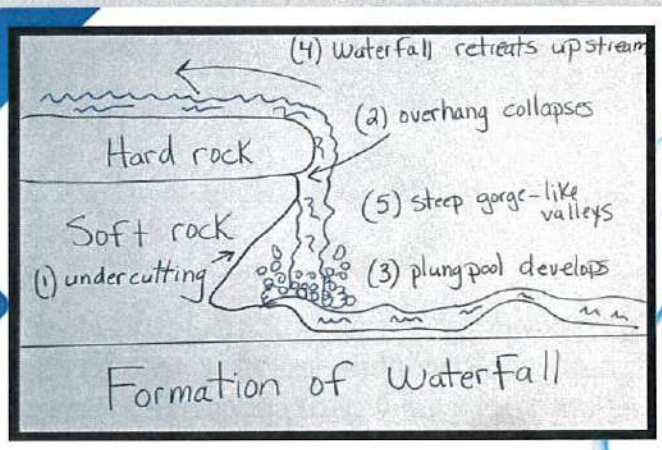
Using the Internet for Support

Sometimes we are unsure of a topic or we really want to find out more about it. Sometimes we just want to consolidate our learning. Here is a guide to some websites that might help you.

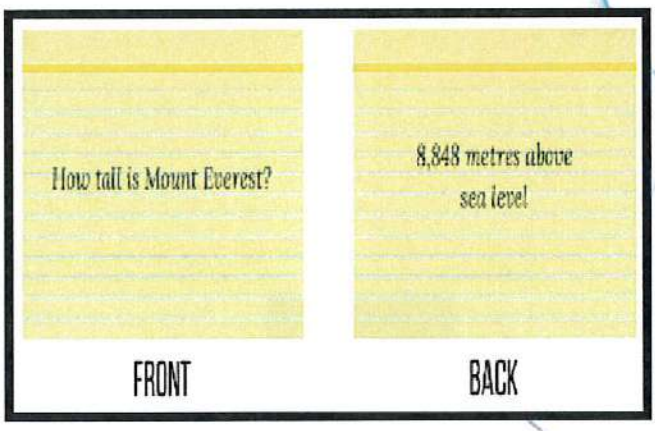
Name of website	*What it does*
Khan Academy	https://www.khanacademy.org/lohp/learner Free, high-quality online learning resources and offers instructional videos, practice exercises, and personalised learning tools across a wide range of subjects.
Quizlet	https://quizlet.com/gb Interactive flashcards, practice tests and study guides
BBC Bitesize	https://www.bbc.co.uk/bitesize BBC's free online educational platform providing study support and revision resources.

Flashcards

Flashcards are great for revision because they help you remember things more easily. They help your brain get better at remembering the information. Flashcards are quick to use, easy to carry, and make learning more fun

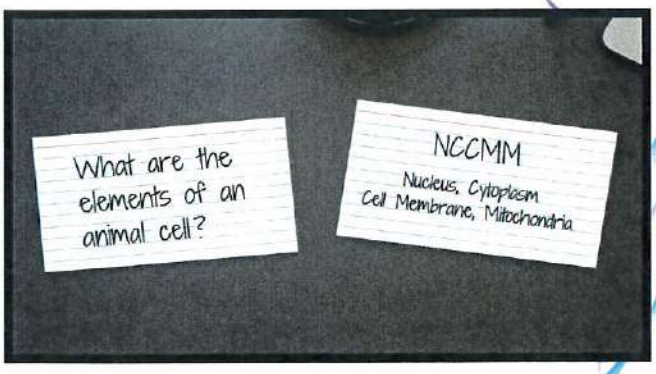


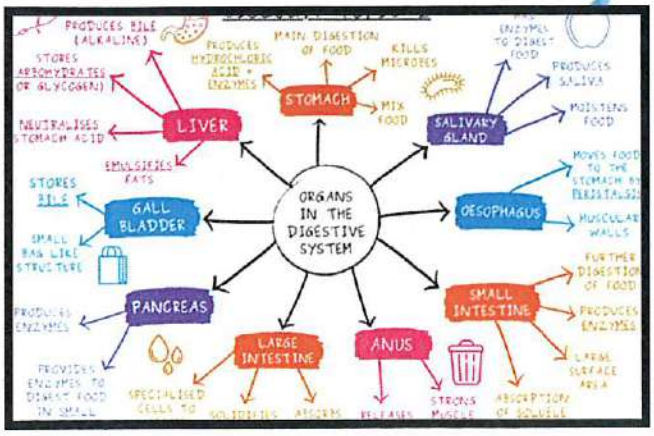
Use flashcards for revision by writing a question or prompt on one side and the answer on the other.



Use flashcards for revision by writing a question or prompt on one side and the answer on the other.

You can then test yourself or have someone to test you and the exact correct answer is on the back.





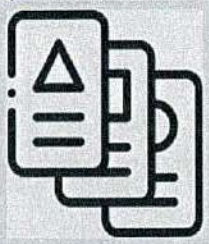
This is too busy for such a small space and better suited for a mind map as there is too much crammed onto a small card

Flashcard Practice

Flashcards are great for revision because they help you remember things more easily. They help your brain get better at remembering the information. Flashcards are quick to use, easy to carry, and make learning more fun

Create your own flashcard (front and back) on a topic of your choice, in your preferred style

Flashcard Practice



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Mind Mapping

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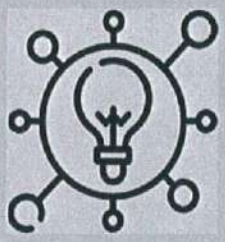


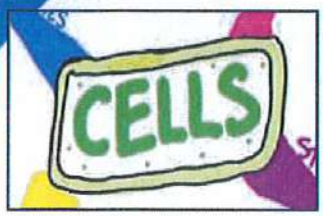
Mind maps help you learn better by showing information in a clear and fun way. They help you see how things are linked and what the most important points are.

Step 1:
Draw or write the main title, issue or focus.

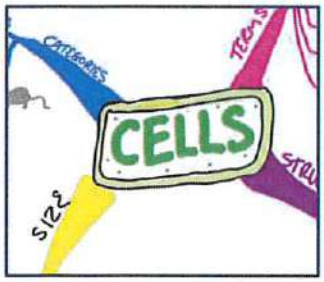
Step 2:
Draw some branches off your main title, issue or focus to help you organise your thoughts.

Step 3:
At the end of each branch, draw thinner branches of ideas relating to the content and possible images.

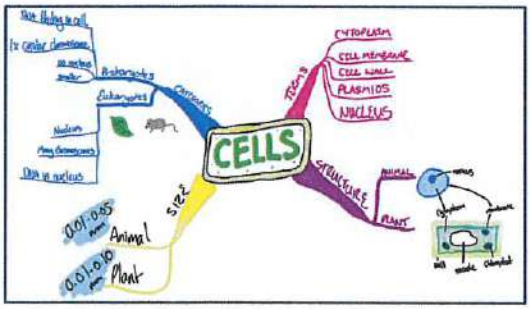
Step 4:
Once complete:.
Are there connections between your ideas? Can you draw arrows to link together different parts of your mind map?



Step 1:



Step 2:



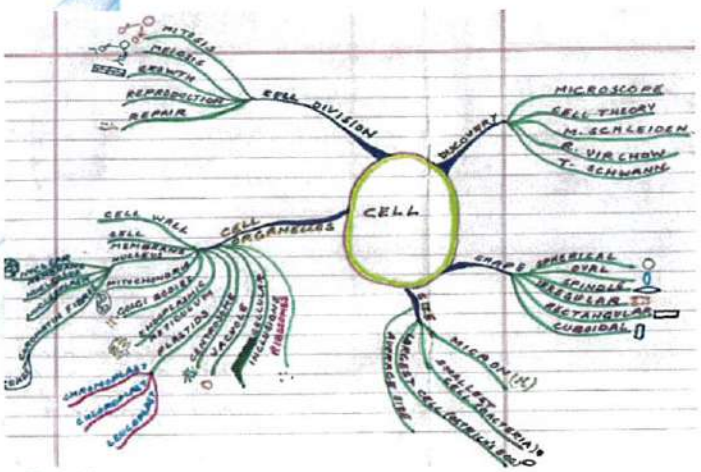
Step 3:

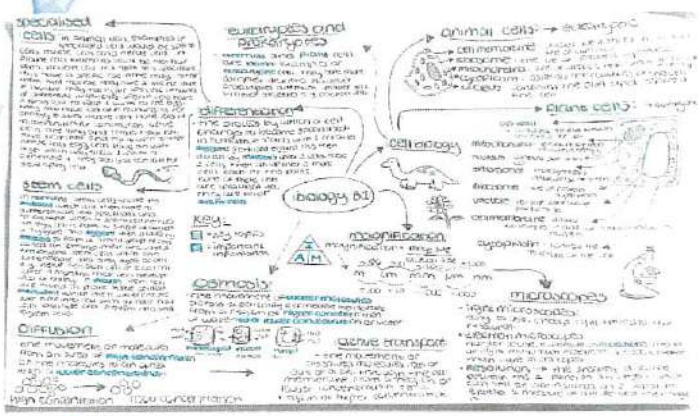
Step 4:

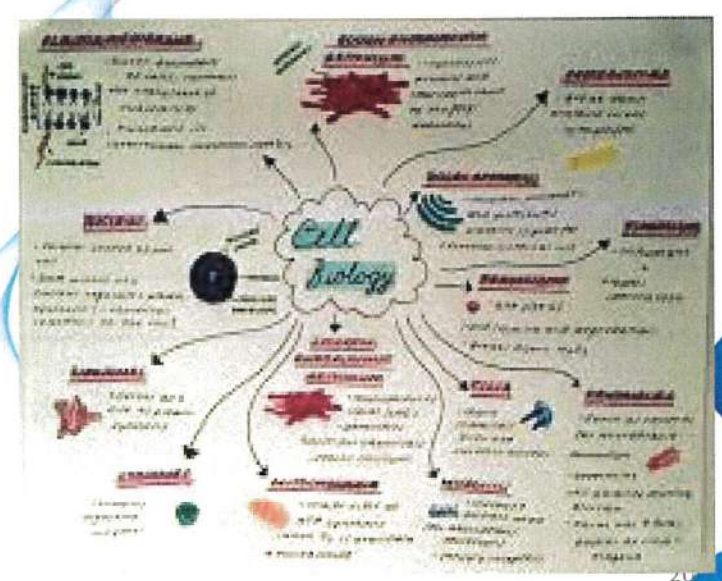
Mind Mapping

When creating mind maps, you need to make sure that it works for you. So, how much detail, and whether you use images, acronyms etc depends on how **you** like to remember things.

What is good in these mind-maps?







Mind Map Practice

Create your own mind map on a topic of your choice, in your preferred style

Re-Teach

Re-teaching is a good revision technique because it helps you check what you really understand. Your brain works harder to remember and understand it properly. If you get stuck, it shows you what you need to go over again.

Steps

Step 1

Choose a topic. Write down the key points that are critical - you could use flashcards or a mind map for this.

Step 2

Explain the topic/idea to someone: (parent/carer, family or friend)

Step 3

Identify where you have a knowledge gap/something you could not remember, and go back to learn it.

Step 4

Go through the process again, refine your explanation until you can explain the topic simply and accurately.

Re-Teach

Use this page to practise the Re-teach method on a topic of your choice.

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Mindfulness Moments for Studying

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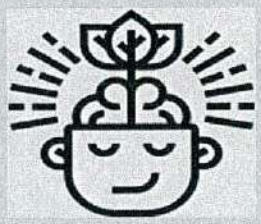


Here are some simple mindfulness exercises that can be done in 5 minutes or less to help you reset during a study break.

Mindful Breathing: A simple and very effective exercise.

- Sit comfortably with a straight back and your feet flat on the floor.
- Place one hand on your stomach and the other on your heart.
- Inhale slowly and deeply through your nose, feeling your belly expand.
- Exhale slowly through your mouth, feeling the air leave your chest and then your stomach.
- Repeat this for 10 breaths, or count each breath up to ten and start again

5-4-3-2-1 Sensory Technique: This grounding exercise uses your five senses to bring your attention to the present moment.

- Acknowledge **5** things you can **see** around you (e.g., a crack in the wall, the texture of your desk).
- Acknowledge **4** things you can physically **feel** (e.g., your feet on the floor, the fabric of your clothes).
- Acknowledge **3** things you can **hear** (e.g. distant traffic).
- Acknowledge **2** things you can **smell** (e.g., a scented candle, a cup of tea).
- Acknowledge **1** thing you can **taste** (e.g., the lingering taste of coffee, or take a sip of water).

Mindful Movement: Get up and move your body with intention.

- **Stretching:** Reach your arms overhead, roll your neck, and wiggle your fingers and toes, paying close attention to the sensations of tightness and release in your muscles.
- **Slow Walk:** Walk a short distance very slowly, focusing entirely on the sensation of each step and the movement of your body.

- **Mindful doodling:** A good way to calm the mood and improve concentration.
- Find a pen/pencil and paper, sit comfortably.
- Draw basic shapes (circles, lines, zigzags) or patterns repeatedly.
- Link your drawing to your breath – inhale to make a stroke, exhale to pause or make another.

Attendance and Achievement

Regular attendance is a key driver of academic success, personal development, and future life opportunities. When you attend school consistently, you benefit from high-quality teaching, structured routines, and meaningful relationships that support both learning and wellbeing. Attendance is not only an educational requirement - it is a strong indicator of your future outcomes and long-term potential.

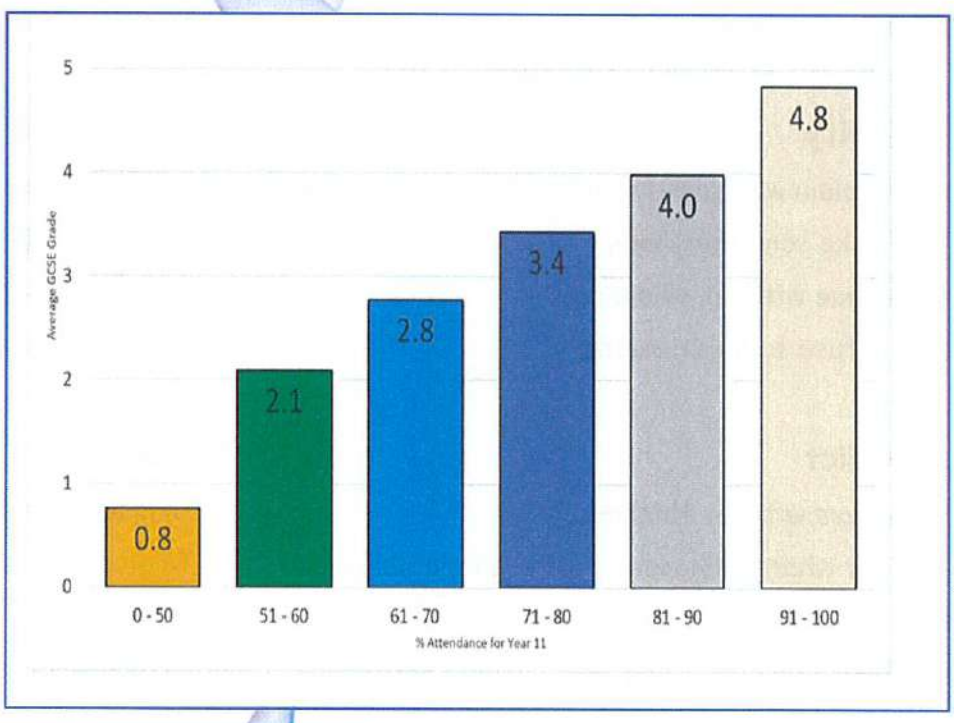
How many days absence have you had?

What are the reasons students may be absent?

What happens when an employee is absent from work?

What happens when a student misses lessons?

What does this chart tell you about the impact that poor attendance has on academic success?



QUOTES:

Every day you show up, you grow up.

Success begins with showing up—even on the days you don't feel like it.

Your future self will thank you for today.

Small steps each day lead to big achievements.

You don't need to be perfect—just present.

Now make up your own quote

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Vocabulary Quiz

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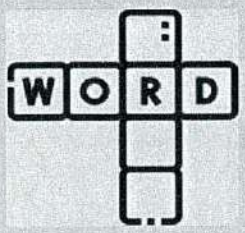


The bigger your vocabulary the more power you have.
The following words are all words that you will commonly find on assessments, GCSEs and BTEC PSAs. By the end of this term –you will have learn them all!

1. Analyze

a) To ignore something completely
b) To examine something carefully in detail
c) To copy someone's work
d) To make something bigger

2. Contrast

a) To show how things are similar
b) To show how things are different
c) To make something look better
d) To hide the truth

3. Justify

a) To explain why something is fair or reasonable
b) To make something look attractive
c) To argue without evidence
d) To refuse to give reasons

4. Predict

a) To guess without thinking
b) To say what will happen in the future based on evidence
c) To describe something that already happened
d) To change your mind often

5. Evaluate

a) To judge the value or quality of something
b) To ignore all details
c) To copy someone's ideas
d) To make something disappear

6. Summarize

a) To write every detail of a text
b) To give a short version of the main points
c) To create a new story
d) To argue against something

7. Infer

a) To state something directly
b) To guess randomly
c) To figure out something from clues and evidence
d) To copy what someone said

8. Significant

a) Very small and unimportant
b) Very important or meaningful
c) Easy to forget
d) Something that happens often

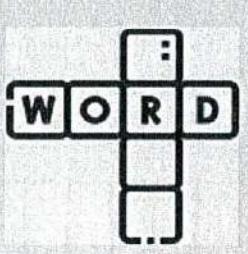
Emphasize

a) To make something less noticeable
b) To give special importance or attention to something
c) To ignore something completely
d) To repeat something without meaning

10. Interpret

a) To translate or explain the meaning of something
b) To copy someone's ideas
c) To make something disappear
d) To argue without evidence

Vocabulary Quiz



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1. Demonstrate

a) To show clearly by example or action
b) To hide something from view
c) To guess without thinking
d) To refuse to explain

2. Establish

a) To destroy something completely
b) To set up or create something firmly
c) To ignore all details
d) To make something disappear

3. Ilustrate

a) To decorate with pictures only
b) To explain or make clear using examples or pictures
c) To argue against something
d) To copy what someone said

4. Maintain

a) To keep something in good condition or continue it
b) To stop something suddenly
c) To ignore something completely
d) To make something disappear

5. Modify

a) To change something slightly to improve it
b) To destroy something completely
c) To copy someone's ideas
d) To ignore all details

6. Obtain

a) To lose something important
b) To get or acquire something
c) To make something disappear
d) To refuse to accept something

7. Require

a) To need something because it is essential
b) To ignore something completely
c) To guess without thinking
d) To make something disappear

8. Respond

a) To refuse to speak
b) To answer or react to something
c) To ignore all details
d) To copy someone's ideas

9. Clarify

a) To make something easier to understand
b) To confuse someone on purpose
c) To hide the truth
d) To ignore all details

10. Indicate

a) To point out or show something
b) To destroy something completely
c) To guess without thinking
d) To refuse to explain

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Countdown to End of Year Assessments

January	February	March	April	May	June
1 Th New Year's Day	1 Su	1 Su	1 We	1 Fr	1 Mo
2 Fr	2 Mo	2 Mo	2 Th	2 Sa	2 Tu
3 Sa	3 Tu	3 Tu	3 Fr	3 Su	3 We
4 Su	4 We	4 We	4 Sa	4 Mo	4 Th
5 Mo	5 Th	5 Th	5 Su Easter	5 Tu	5 Fr
6 Tu	6 Fr	6 Fr	6 Mo	6 We	6 Sa
7 We	7 Sa	7 Sa	7 Tu	7 Th	7 Su
8 Th	8 Su	8 Su	8 We	8 Fr	8 Mo
9 Fr	9 Mo	9 Mo	9 Th	9 Sa	9 Tu
10 Sa	10 Tu	10 Tu	10 Fr	10 Su	10 We
11 Su	11 We	11 We	11 Sa	11 Mo	11 Th
12 Mo	12 Th	12 Th	12 Su	12 Tu	12 Fr
13 Tu	13 Fr	13 Fr	13 Mo	13 We	13 Sa
14 We	14 Sa	14 Sa	14 Tu	14 Th	14 Su
15 Th	15 Su	15 Su	15 We	15 Fr	15 Mo Assessment
16 Fr	16 Mo	16 Mo	16 Th	16 Sa	16 Tu Window
17 Sa	17 Tu	17 Tu	17 Fr	17 Su	17 We
18 Su	18 We	18 We	18 Sa	18 Mo	18 Th
19 Mo	19 Th	19 Th	19 Su	19 Tu	19 Fr
20 Tu	20 Fr	20 Fr	20 Mo	20 We	20 Sa
21 We	21 Sa	21 Sa	21 Tu	21 Th	21 Su
22 Th	22 Su	22 Su	22 We	22 Fr	22 Mo
23 Fr	23 Mo INSET Day	23 Mo	23 Th	23 Sa Half Term	23 Tu
24 Sa	24 Tu	24 Tu	24 Fr	24 Su	24 We
25 Su	25 We	25 We	25 Sa	25 Mo	25 Th
26 Mo	26 Th	26 Th	26 Su	26 Tu	26 Fr
27 Tu	27 Fr	27 Fr	27 Mo	27 We	27 Sa
28 We	28 Sa	28 Sa Easter	28 Tu	28 Th	28 Su
29 Th		29 Su Holidays	29 We	29 Fr	29 Mo
30 Fr		30 Mo	30 Th	30 Sa	30 Tu
31 Sa		31 Tu		31 Su	

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End of Year Assessment Dates

Use this space to write in the dates and periods of your End of Year assessments and Check points. This will help you plan your revision.

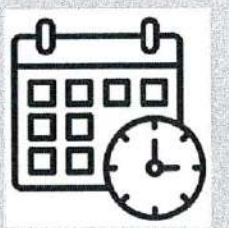
Subject	Date and lesson	Notes (topics to be revised, important things to remember)
English		
Maths		
Science		
History		
Geography		
Spanish		
ICT		
Drama		
Art		
Music		
Technology		

Spaced Practice

1. *What is the difference between cramming and spaced practice?*

2. *Why is spaced practice better than cramming?*

3. *What are the steps in spaced practice?*



Study Timetable

	4.00pm	5.00pm	6.00pm	7.00pm	8.00pm
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					

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Spaced Practice

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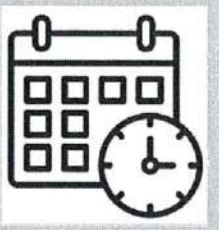
1. *What is the difference between cramming and spaced practice?*

2. *Why is spaced practice better than cramming?*

3. *What are the steps in spaced practice?*



Study Timetable

	4.00pm	5.00pm	6.00pm	7.00pm	8.00pm
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					

Independent Study Skills

Being able to study independently:

- ***Boosts confidence***: *You learn to rely on yourself and feel proud of what you achieve.*
- ***Improves results***: *The more you practise, the more you remember and understand.*
- ***Prepares for the future***: *Exams (GCSEs, PSAs, A Levels) need strong study habits.*
- ***Builds responsibility***: *You take charge of your learning, which helps in school and in life.*

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Homework

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Homework will be set by subjects as necessary and must be completed and handed in on time, showing effort and thought.
Homework completed well will be rewarded.
Homework not completed will be sanctioned.

HOMEWORK		
Week beginning	Subject Content and due date	Signature
	Half Term	

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Homework

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Homework will be set by subjects as necessary and must be completed and handed in on time, showing effort and thought.
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Homework not completed will be sanctioned.

	Easter Holiday	

Notes

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Reading Record

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Form Time Reading

You will read in Form every day.

You will bring your own book.

You can bring a book from home or from the library

Date	Title of book	One sentence thought about the book	How many stars? (out of 5)

Notes pages

Notes pages

English Year 9 Term 2: Tragedy "Romeo and Juliet"

Vocabulary	Definition & Sentence Level Example
Corruption (n.) Corrupt (v.) Corrupt (adj.)	Dishonest or illegal behaviour, especially by powerful people.
	The mayor was removed from office because of corruption.
Tyranny (n.) Tyrant (n.) Tyrannical (adj.)	Using power in a cruel or unfair way.
	The tyrannical ruler punished anyone who disagreed with him.
Moral (n.) Morality (n.) Moral (adj.)	Related to right and wrong behaviour.
	His actions showed a strong sense of morality.
Patriotism (n.) Patriot (n.) Patriotic (adj.)	Showing love and support for your country.
	His patriotism inspired others to help their country.
Virtue (n.) Virtuous (adj.)	Behaviour that displays a high moral standard.
	She was known as a virtuous person who always helped others.
Hubris (n.) Hubristic (adj.)	Too much pride or confidence, often leading to failure.
	His hubris made him believe he couldn't lose, but he did.
Isolation (n.) Isolate (v.) Isolated (adj.)	To be separated from others.
	The village was isolated during the snowstorm.
Exploitation (n.) Exploit (v.) Exploitative (adj.)	Unfair use of someone or something for personal gain.
	The company was accused of the exploitation of workers.
Transgression (n.) Transgress (v.) Transgressive (adj.)	An act that goes against a rule or law.
	He transgressed the school rules by cheating on the test.
Subversion (n.) Subvert (v.) Subversive (adj.)	To secretly try to ruin or destroy a system or belief.
	The subversive speech caused a lot of anger.
Futility (n.) Futile (adj.)	Pointless or useless.
	It was futile to argue with someone who wouldn't listen.
Conforming (n.) Conform (v.) Conforming (adj.)	To follow rules or behave like others.
	She didn't want to conform to what everyone else was doing.
Ignorance (n.) Ignorant (adj.)	Lacking knowledge or awareness.
	His ignorance of history caused him to make mistakes.
Benevolence (n.) Benevolent (adj.)	Acting kind and generous.
	Her benevolence was known throughout the community.
Malevolence (n.) Malevolent (adj.)	Having or showing a desire to harm others.
	His malevolence was clear from his cruel actions.

'Romeo and Juliet' Specific Vocabulary

Vocabulary	Definition & Sentence Level Example
Divisive (adj.)	To cause disagreement or hostility between people.
	Although Tybalt is a Capulet, his actions are divisive when he ignores Capulet's instructions.
Reckless (adj.) Recklessness (n.)	A person who doesn't care about the consequences of their words or actions.
	Romeo is reckless because he proposes to Juliet just hours after their first meeting.
Obedient (adj.) Obedience (n.)	Complying or willing to comply with an order or request; submissive to another's authority.
	Juliet should be obedient to her father, but she marries Romeo instead.
Reconciliation (n.) Reconcile (v.)	To restore friendly relations between people or groups.
	Friar Laurence wants the feuding families to reconcile so he agrees to marry Romeo and Juliet.

English Year 9 Term 2: Tragedy "Romeo and Juliet"

Critical Knowledge Organiser - KS3

Basic Sentence Structure

Term	Definition	Example
Subject	The person or thing doing the action in a sentence.	The cat sat on the mat.
Object	The person or thing affected by the action.	The cat sat on the mat.
Main Clause	A group of words with a subject and verb that makes sense on its own.	She ran to the shop.
Fragment	An incomplete sentence missing a subject or verb.	Running through the park. ✗
Run-on Sentence	Two or more main clauses joined incorrectly.	I went to the shop I bought sweets. ✗
Corrected Run-on	Use punctuation or conjunctions.	I went to the shop, and I bought sweets. ✓

Parts of a Sentence

Type	Definition	Example
Subject	The person or thing doing the action.	The cat sat on the mat.
Verb	The action or state of being.	The cat sat on the mat.
Object	The person or thing affected by the action.	She kicked the ball.

Word Classes

Type	Definition	Examples
Noun	A person, place, thing, or idea.	dog, London, happiness
Proper Noun	A specific name (always capitalised).	Harry, Paris, Monday
Verb	An action or state.	run, is, think
Adjective	Describes a noun.	happy, blue, tall
Adverb	Describes a verb, adjective, or another adverb.	quickly, very, silently
Adverbial Phrase	A group of words acting as an adverb.	In the morning, she ran.
Fronted Adverbial	An adverbial phrase at the start of a sentence (followed by a comma).	Before sunrise, he left.

Punctuation

Punctuation	Use	Example
Inverted Commas	Show speech or quotations.	She said, "Hello."
Semi-colon (;)	Link two related main clauses.	It was late; we went home.
Colon (:)	Introduce a list or explanation.	He brought three things: a pen, a book, and a ruler.
Comma (,)	Separate items, clauses, or after fronted adverbials.	After lunch, we played.
Dash (—)	Add extra information or emphasis.	He was fast — like lightning.

Critical Knowledge Organiser - KS3

Sentence Types

Key Concept	What You Need to Know	Example
Simple Sentence	One main clause (subject + verb).	The sun set.
Compound Sentence	Two main clauses joined by a coordinating conjunction (FANBOYS).	She was tired, but she kept working.
Complex Sentence	A main clause with one or more subordinate clauses.	Although it was late, he stayed up.

Clause Structures

Clause Type	Definition	Example
Main Clause	Can stand alone as a sentence.	The dog barked.
Subordinate Clause	Cannot stand alone; adds detail.	Because it was hungry
Varying Clause Position	Clauses can appear at the start, middle, or end of a sentence.	When the bell rang, the students left.

Pronouns

Punctuation	Use	Example
Personal Pronouns	Replace people or things.	I, you, he, she, it, we, they, me, him, her, us

Prepositions

Definition	Examples
Show relationships in time, place, or direction.	above, across, against, along, among, around, at, before, behind, below, beneath, beside, between, by, down, from, in, into, near, of, off, on, to, toward, under, upon, with, within

Conjunctions

Type	Examples
Coordinating	and, but, or, so, yet
Subordinating	because, since, although, even though, while, as soon as, in case, though
Conjunctive Adverbs	therefore, moreover, however

Determiners (word classes)

Type	Definition	Examples
Articles	Define nouns as specific or unspecific.	a, an, the
Demonstratives	Point to specific things.	this, that, these, those
Quantifiers	Show quantity or amount.	(a) few, fewer, (a) little, many, much, more, most, some, any

Sentence Structure	Definition	Example
Adjective Attack	A sentence that uses two adjectives.	The red, shiny apple was delicious.
Triple Adjective Punch	A sentence that uses three adjectives.	The tall, dark, handsome stranger walked in.
Preposition Push Off	A sentence that starts with a prepositional phrase.	In the morning, I like to drink coffee.
Without Without	A sentence that uses 'without' repeatedly.	Without a doubt, without hesitation, she agreed.
Three Verb Sentence	A sentence that uses three verbs.	She danced, sang, and laughed all night.
Double Adverb Snap	A sentence that uses two adverbs for emphasis.	Quickly and quietly, she left the room.
Last word, first word	A sentence that repeats the last word as the first word of the next sentence.	She was happy. Happy to see him.
Almost, Almost, When	A sentence that uses 'almost' repeatedly.	I was almost there, almost at the finish line, when I tripped.
Repeat and Reload	A sentence that repeats a word for emphasis.	He was very, very tired.
Not, Nor, Nor Sentence	A sentence that uses 'not' and 'nor' for negation.	He did not sing, nor did he dance, nor did he laugh.

Year 9 - CKO – Sentence Variation

Y9

Maths Knowledge Organiser NP12

NP4 recap

8^3

Base

The number that gets multiplied when using an exponent.

Exponent

The exponent of a number says how many times to use that number in a multiplication.

It is written as a small number to the right and above the base number.

This can also be called an index number.

Index Notation

NP4 recap

A way of representing numbers that have been multiplied by themselves a number of times.

The value is written with a base and an exponent.

Index notation

8^3

Powers of 10

$10 = 10^1$	$0.1 = 10^{-1}$
$100 = 10^2$	$0.01 = 10^{-2}$
$1000 = 10^3$	$0.001 = 10^{-3}$
$10\,000 = 10^4$	$0.0001 = 10^{-4}$
$100\,000 = 10^5$	$0.00001 = 10^{-5}$
$1\,000\,000 = 10^6$	$0.000001 = 10^{-6}$

Writing in standard form

$x \times 10^n$

$1 \leq x < 10$

n is an integer

Numbers in standard form

Large numbers

26 000 000 000

$= 2.6 \times 10^{10}$

Numbers in standard form

Small numbers

0.000 000 000 26

$= 2.6 \times 10^{-10}$

Large numbers in standard form

Number in ordinary form

5 000 000 000 000 000 000 000 000 000

=

5×10^{27}

Same number in standard form

Know your Calculator

Casio fx-83GT CW

To type numbers in standard form we need to use the EXP button.

Try writing 5.8 EXP 5 then press =.

Your calculator should display the answer in ordinary form.

SI Units

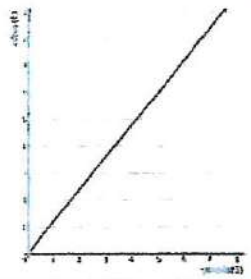
The International System of Units, internationally known by the abbreviation SI (from French *Système international d'unités*), is the modern form of the metric system.

SI Units

Unit name	Abbreviation	Measurement
metre	m	length
kilogram	kg	mass
second	s	time
ampere	A	electric current
kelvin	K	temperature
mole	mol	number of particles
candela	cd	light intensity

Maths Knowledge Organiser A9

Conversion Graph

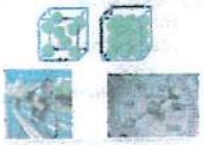


A graph that shows us how to change between units of measure.

Compound unit

A unit of measure which combines two other measurements

Speed, pressure and density are all have compound units

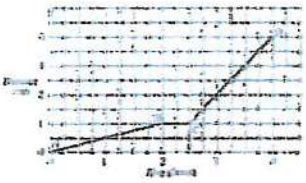


Speed

A compound measure which combines distance and time

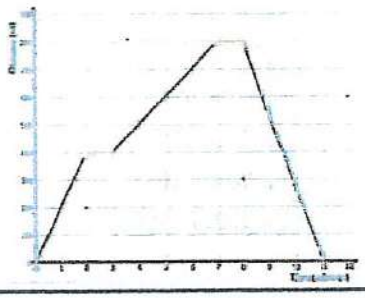
The distance travelled in one unit of time

Axes – distance/time graph



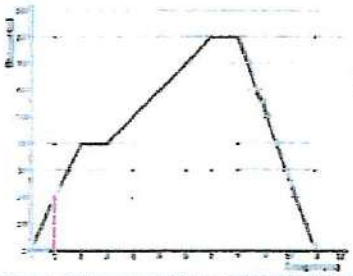
The y-axis always shows distance, and the x-axis always shows time.

Stationary – distance/time graph



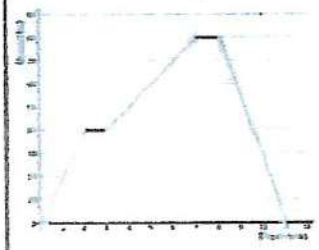
As time changes, distance does not.

Calculating speed – distance/time graph



Speed is the gradient of the line: how far we travel in 1 unit of time.

Constant speed – distance/time graph



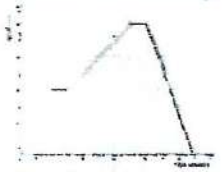
Shown with a straight line on the graph

Positive gradient – shows constant speed away from starting distance

Negative gradient – shows constant speed back towards starting distance

Speed/time graphs

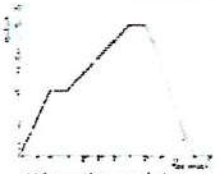
Accelerating



Where the graph has a positive gradient

The gradient of the line is the acceleration.

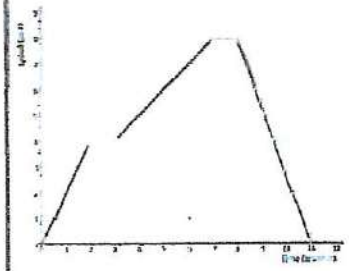
Decelerating



Where the graph has a negative gradient

The gradient of the line is the deceleration.

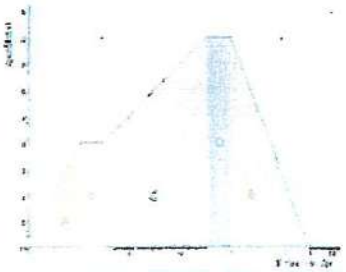
Constant speed – speed/time graph



Shown with a horizontal line.

As time changes, speed does not.

Distance – speed/time graph



The area under the graph.

m/s²

The unit of acceleration or deceleration

How much the speed changes in 1 unit of time.

Maths Knowledge Organiser GM2

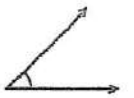
GM1 recap: Line

A line has infinite length and no width (it exists in one dimension, or 1D).
We use arrows to show its infinity in both directions.

Lines

Vertical | Horizontal | Oblique

Acute angle



Acute
$0° < \theta < 90°$

An angle more than 0° but less than 90°.

Obtuse angle

Obtuse
$90° < \theta < 180°$

An angle more than 90° but less than 180°.

Reflex angle

Reflex
$180° < \theta < 360°$

An angle more than 180° but less than 360°.

Right angle

Right
$90° = \theta$

An angle that is 90°.

Straight line

Straight
$180° = \theta$

An angle that is 180°.

Full turn

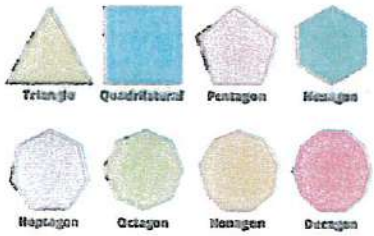
Full turn
$360° = \theta$

An angle that is 360°.

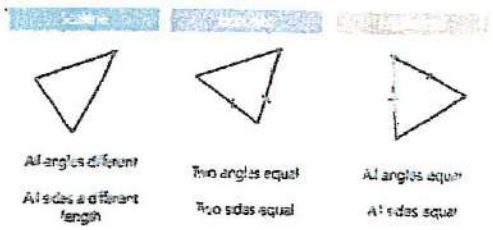
Polygon

Any two-dimensional shape with straight edges.

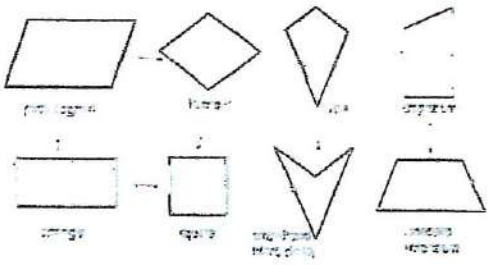
Polygon Names



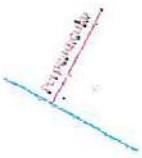
Triangles



Quadrilaterals

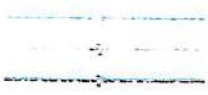


Perpendicular lines



Perpendicular lines meet at a right angle.

Parallel lines

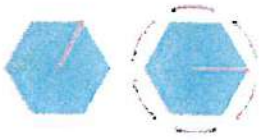


Lines that are always the same distance apart.

Reflective Symmetry

Where one half of a shape reflects exactly onto the other half.

Rotational Symmetry



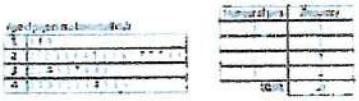
Where a shape rotates exactly onto itself more than once in a full turn.

Maths Knowledge Organiser SP2

Variable data

A quantity that can change in value.

Univariate data



Data with one variable

Bivariate data

Temperature ↑ ⇒ Sales of sunglasses ↑

Data with two variables.

Related variables

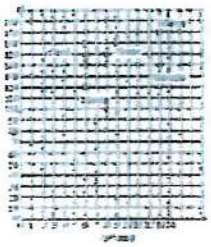
Age of car ↑ ⇒ Price of car

As one variable changes so does the other.

Trend

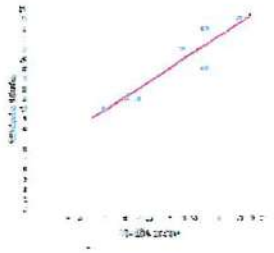
A general pattern in some data.

Scatter Graph



A graph of plotted points that show the relationship between two sets of data

Line of best fit



A line on a scatter graph that shows the direction of the trend of the graph.

Correlation

A mutual relationship between two variables stated as 'positive', 'negative' or 'none'.

Positive Correlation

As one variable increases the other variable increases.

No Correlation

No relationship between the two variables.

Negative Correlation

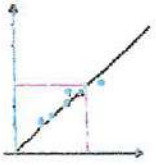
As one variable decreases the other variable decreases.

Relationship

'As age increases, shoe size increases.'

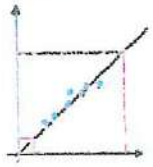
A statement written about the correlation in the context of the question.

Interpolation



Making a prediction by reading values from a line of best fit inside of the range of data known.

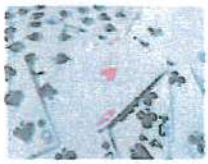
Extrapolation



Making a prediction by reading values from a line of best fit outside of the range of data known.

Maths Knowledge Organiser SP3

Probability



A way of describing how likely something is to happen.

Probability Scale

Impossible: cannot happen

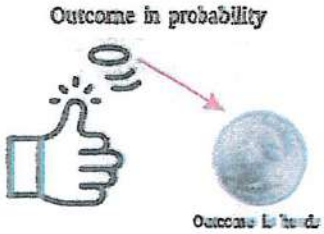
Unlikely: more likely to not happen than happen

Even chance: happening and not happening are equally likely

Likely: more likely to happen than not happen

Certain: will definitely happen

Outcome



A results we could get from a probability experiment

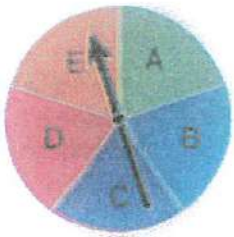
Event

One or more outcomes

Probability of an event

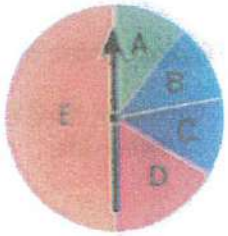
$$P(\text{event}) = \frac{\text{outcomes we want}}{\text{total outcomes}}$$

Fair



All outcomes are equally likely

Biased



Some outcomes are more likely than others

Mutually exclusive

Events which cannot happen at the same time

The spinner cannot land on a 1 and 7 at the same time.

Independent

If events are independent, they do not influence or affect each other.

On a journey, the first traffic light being red does not affect the colour of the second traffic light.

Systematic

Working in an organised way.

Relative frequency

As we carry out more trials, the relative frequency gets closer to what we might expect.

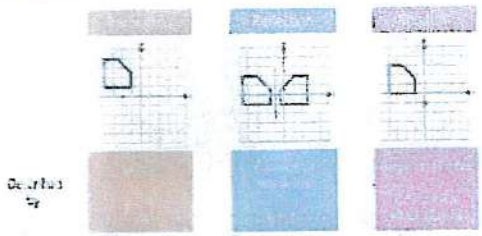
Probability from an experiment

Maths Knowledge Organiser GM4

Congruent

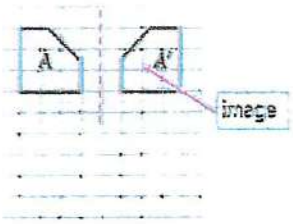
Identical in size and shape, but not necessarily orientation or direction.

Congruent Transformations



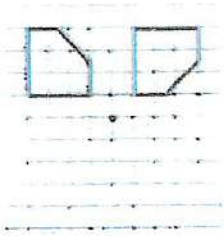
A mathematical change, using a translation, rotation, or reflection where the size of the shape does not change.

Image



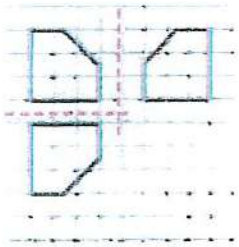
A shape after a transformation has happened.

Rotation



Rotations need an angle, direction and centre.

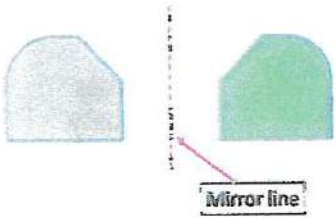
Reflection



"Flipping a shape over"

Reflections need a mirror line.

Mirror line



The line a shape is reflected in.

Translation

Translation involves shifting a shape left/right and up/down, with no turning or flipping.

Vector

$$\begin{pmatrix} -1 \\ -2 \end{pmatrix}$$

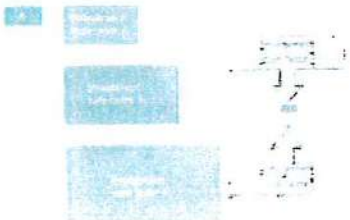
A mathematical object that tells you how far to move in what direction. It can be shown with an arrow or with column notation.

Similar

The original shape and the enlarged shape are called similar shapes.

For two shapes to be similar, they must have
- All angles the same
- All sides in the same ratio

Enlargement



We can enlarge the shape by multiplying all its side lengths by the same scale factor.

Y9 BIOLOGY:

1. Inheritance
2. Cells to Systems
3. Interdependence

For more Scienc scan here!

BL5: Inheritance

The genome is the entire DNA of an organism.

A chromosome is a very long molecule of DNA.

A gene is a region of a genome used by cells as instructions for making proteins.

Watson, Crick, Wilkins and Franklin were the scientists responsible for formulating the model of the structure of DNA.

Genetic information is passed down from parents to offspring.

Offspring or normally similar, but not identical, to their parents.

Variation is the differences between organisms of the same species.

Discontinuous variation is types of variation that will fall into different categories (e.g. blood group or flower colour)

Continuous variation is types of variation where there is a range from one extreme to another (e.g. length of a tail, width of a leaf)

Some variation can lead to organisms having traits that help them survive.

Natural selection is the process by which advantageous traits make an organism more likely to survive.

Evolution by natural selection is the gradual change of a population over generations.

If a species does not adapt when their environment changes, they may not survive and become endangered, or extinct.

BL6: Cells to Systems

Plant and animal cells (eukaryotic cells) have a cell membrane, cytoplasm and genetic material enclosed in a nucleus.

Bacterial cells (prokaryotic cells) are much smaller in comparison. They have cytoplasm and a cell membrane surrounded by a cell wall. The genetic material is not enclosed in a nucleus. It is a single DNA loop and there may be one or more small rings of DNA called plasmids.

Most animal cells have the following parts: a nucleus, cytoplasm, a cell membrane, mitochondria, ribosomes.

In addition to the parts found in animal cells, plant cells often have chloroplasts, a permanent vacuole filled with cell sap.

Plant and algal cells also have a cell wall made of cellulose, which strengthens the cell.

Cells may be specialised to carry out a particular function.

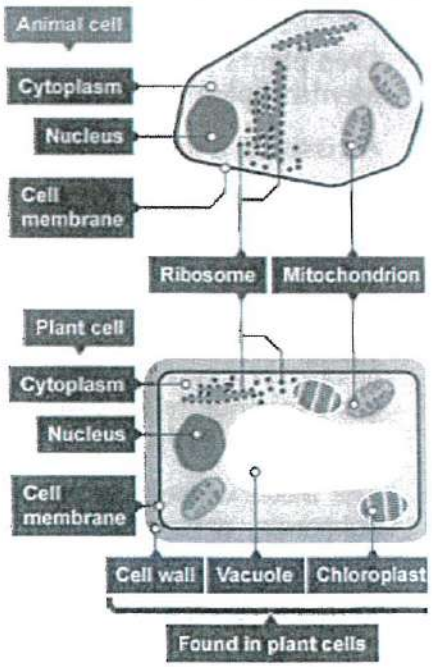
Examples of specialised animal cells include: sperm cells, nerve cells and muscle cells

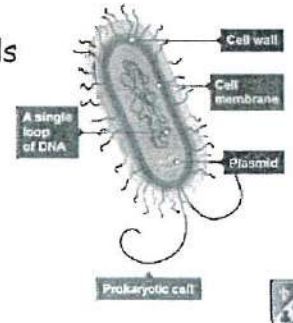
Examples of specialised plant cells include: root hair cells, xylem and phloem cells

As an organism develops, cells differentiate to form different types of cells.

Most types of animal cell differentiate at an early stage.

Many types of plant cells retain the ability to differentiate throughout life.





Y9 BIOLOGY:

1. Inheritance
2. Cells to Systems
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BL6: Cells to Systems continued...

In mature animals, cell division is mainly restricted to repair and replacement. As a cell differentiates it acquires different sub-cellular structures to enable it to carry out a certain function. It has become a specialised cell.

An electron microscope has much higher magnification and resolving power than a light microscope. This means that it can be used to study cells in much finer detail. This has enabled biologists to see and understand many more sub-cellular structures.

A stem cell is an undifferentiated cell of an organism which can give rise to many more cells of the same type, and from which certain other cells can arise from differentiation.

Stem cells from human embryos can be cloned and made to differentiate into most different types of human cells.

Stem cells from adult bone marrow can form many types of cells including blood cells.

Meristem tissue in plants can differentiate into any type of plant cell, throughout the life of the plant.

Treatment with stem cells may be able to help conditions such as diabetes and paralysis.

In therapeutic cloning an embryo is produced with the same genes as the patient.

Stem cells from the embryo are not rejected by the patient's body so they may be used for medical treatment.

The use of stem cells has potential risks such as transfer of viral infection, and some people have ethical or religious objections.

Stem cells from meristems in plants can be used to produce clones of plants quickly and economically.

Rare species can be cloned to protect from extinction.

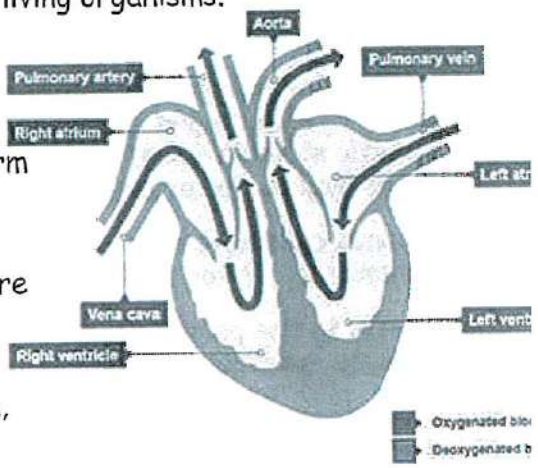
Crop plants with special features such as disease resistance can be cloned to produce large numbers of identical plants for farmers. Cells are the basic building blocks of all living organisms.

A tissue is a group of cells with a similar structure and function.

Organs are aggregations of tissues performing specific functions.

Organs are organised into organ systems, which work together to form organisms.

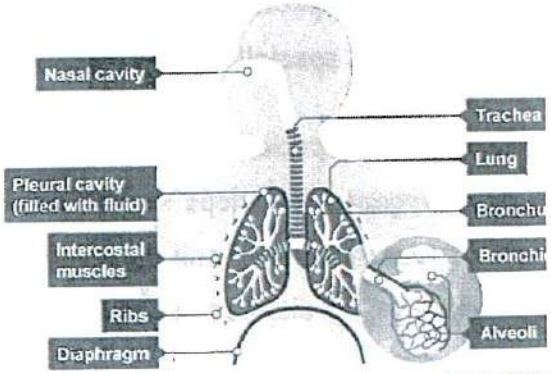
The heart is an organ that pumps blood around the body in a double circulatory system. The right ventricle pumps blood to the lungs where gas exchange takes place. The left ventricle pumps blood around the rest of the body.



The blood vessels associated with the heart are the aorta, vena cava, pulmonary artery, pulmonary vein and coronary arteries.

The lungs is contain the trachea, bronchi, alveoli and a capillary network surrounding the alveoli.

The natural resting heart rate is controlled by a group of cells located in the right atrium that act as a pacemaker. Artificial pacemakers are electrical devices used to correct irregularities in the heart rate.



The body contains three different types of blood vessel: arteries, veins, capillaries.

Cardiovascular disease can be treated with drugs, mechanical devices or transplant.

Y9 BIOLOGY:

1. Inheritance
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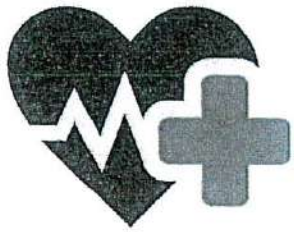
For more Scienc scan here!

BL6: Cells to Systems continued...



In coronary heart disease layers of fatty material build up inside the coronary arteries, narrowing them. This reduces the flow of blood through the coronary arteries, resulting in a lack of oxygen for the heart muscle.

Stents are used to keep the coronary arteries open. Statins are widely used to reduce blood cholesterol levels which slows down the rate of fatty material deposit.

In some people heart valves may become faulty, preventing the valve from opening fully, or the heart valve might develop a leak. Pupils should understand the consequences of faulty valves. Faulty heart valves can be replaced using biological or mechanical valves.

In the case of heart failure, a donor heart, or heart and lungs can be transplanted. Artificial hearts are occasionally used to keep patients alive whilst waiting for a heart transplant, or to allow the heart to rest as an aid to recovery.

Health is the state of physical and mental well-being.

Diseases, both communicable and non-communicable, are major causes of ill health. Other factors including diet, stress and life situations may have a profound effect on both physical and mental health.

Different types of disease may interact.

Defects in the immune system mean that an individual is more likely to suffer from infectious diseases.

Viruses living in cells can be the trigger for cancers.

Immune reactions initially caused by a pathogen can trigger allergies such as skin rashes and asthma.

Severe physical ill health can lead to depression and other mental illness.

Lifestyle factors including diet, alcohol and smoking affect the incidence of non-communicable diseases at local, national and global levels.

Risk factors are linked to an increased rate of a disease. They can be aspects of a person's lifestyle, substances in the person's body or environment.

A causal mechanism has been proven for some risk factors, but not in others.

Diet, smoking and exercise all effect cardiovascular disease.

Obesity is a risk factor for Type 2 diabetes.

Alcohol effects the liver and brain function.

Smoking is a risk factor for lung disease and lung cancer.

Smoking and alcohol both effect the development of unborn babies.

Carcinogens, including ionising radiation, are risk factors for cancer.

Many diseases are caused by the interaction of a number of factors.

Y9 BIOLOGY:

1. Inheritance
2. Cells to Systems
3. Interdependence

For more Scienc scan here!

:OL13: Interdependence

Interdependence refers to how organisms interact with each other and the environment in which they live.

A population refers to organisms of the same type living in the same place.

A species is a group of similar organisms that can reproduce to make fertile offspring

A community refers to populations of organisms living and interacting in the same place.

An ecosystem is made up of a biological community and the physical environment in which a community lives.

Producers make their own food.

All consumers depend on producers for food.

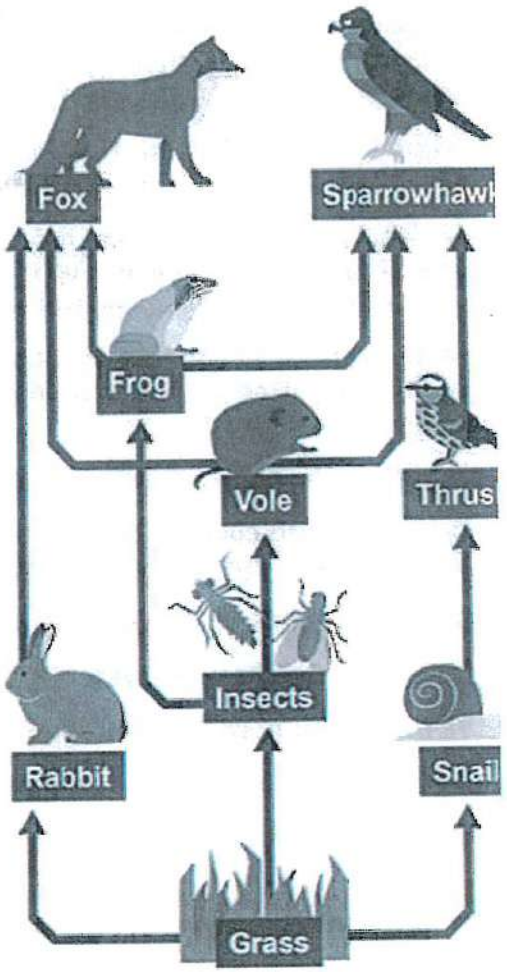
An arrow in a food chain/food web depicts the flow of biomass through the chain/web.

Decomposers break down dead organic matter.

Producers often depend on consumers to spread their pollen and seeds.

Food security means having enough affordable and nutritious food in an area or country.

Bioaccumulation is the build-up of toxins within a food chain, causing harm to organisms at the top of the chain.



Y9 CHEMISTRY:

1. Atoms and the Periodic Table
2. The Reactivity Series of Metals
3. Energy and the Particle Model

For more Scienc scan here!

OM10: Atoms and the Periodic Table

All substances are made of atoms.

An atom is the smallest part of an element that can exist.

Atoms of each element are represented by a chemical symbol, e.g. O represents an atom of oxygen, Na represents an atom of sodium.

There are about 100 different elements shown in the periodic table.

Compounds are formed from elements by chemical reactions.

Chemical reactions always involve the formation of one or more new substances and often involve a detectable energy change.

Compounds contain two or more elements chemically combined in fixed proportions and can be represented by formulae using the symbols of the atoms from which they were formed.

Compounds can only be separated into elements by chemical reactions.

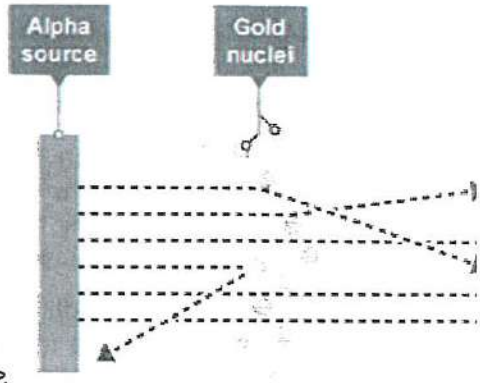
Chemical reactions can be represented by word equations or equations using symbols and formulae.

New experimental evidence may lead to a scientific model being changed or replaced.

Before the discovery of the electron, atoms were thought to be tiny spheres that could not be divided.

The discovery of the electron led to the plum pudding model of the atom. The plum pudding model suggested that the atom is a ball of positive charge with negative electrons embedded in it.

The results from the alpha particle scattering experiment led to the conclusion that the mass of an atom was concentrated at the centre (nucleus) and that the nucleus was charged. This nuclear model replaced the plum pudding model.



New evidence from the scattering experiment led to a change in the atomic model

Niels Bohr adapted the nuclear model by suggesting that electrons orbit the nucleus at specific distances. The theoretical calculations of Bohr agreed with experimental observations.

Later experiments led to the idea that the positive charge of any nucleus could be subdivided into a whole number of smaller particles, each particle having the same amount of positive charge. The name proton was given to these particles.

The experimental work of James Chadwick provided the evidence to show the existence of neutrons within the nucleus. This was about 20 years after the nucleus became an accepted scientific idea.

The relative electrical charges of the particles in atoms are shown in the table:

Name of particle	Relative charge
Proton	+1
Neutron	0
Electron	−1

In an atom, the number of electrons is equal to the number of protons in the nucleus.

Atoms have no overall electrical charge.

The basic structure of an atom is a positively charged nucleus composed of both protons and neutrons surrounded by negatively charged electrons.

Y9 CHEMISTRY:

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For more Scienc scan here!

3OM10: Atoms and the Periodic Table continued...

The number of protons in an atom of an element is its atomic number. All atoms of a particular element have the same number of protons. Atoms of different elements have different numbers of protons.

Atoms are very small, having a radius of about 0.1 nm (1 x 10-10 m).

The radius of a nucleus is less than 1/10 000 of that of the atom (about 1×10^{-14} m).

Atoms are very small, having a radius of about 1×10^{-10} metres.

Almost all of the mass of an atom is in the nucleus.

The relative masses of protons, neutrons and electrons are shown in the table:

Name of particle	Relative mass
Proton	1
Neutron	1
Electron	Very small

The sum of the protons and neutrons in an atom is its mass number.

Atoms of the same element can have different numbers of neutrons; these atoms are called isotopes of that element.

Atoms can be represented as shown in this example:

(Mass number) 23
(Atomic number) 11
Na

We can calculate the numbers of protons, neutrons and electrons in an atom or ion, when given its atomic number and mass number.

The relative atomic mass of an element is an average value that takes account of the abundance of the isotopes of the element.

The electrons in an atom occupy the lowest available energy levels (innermost available shells).

The electronic structure of an atom can be represented by numbers or by a diagram. For example, the electronic structure of sodium is 2,8,1 or showing two electrons in the lowest energy level, eight in the second energy level and one in the third energy level.

The electrons are arranged at different distances from the nucleus (different energy levels). The electron arrangements may change with the absorption of electromagnetic radiation (move further from the nucleus a higher energy level) or by the emission of electromagnetic radiation (move closer to the nucleus; a lower energy level). (Physics spec only)

The elements in the periodic table are arranged in order of atomic (proton) number and so that elements with similar properties are in columns, known as groups. The table is called a periodic table because similar properties occur at regular intervals.

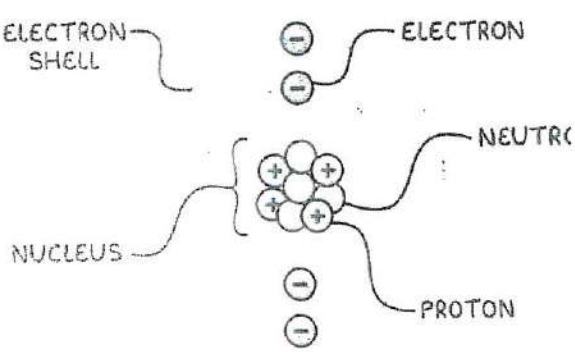
Elements in the same group in the periodic table have the same number of electrons in their outer shell (outer electrons) and this gives them similar chemical properties.

Before the discovery of protons, neutrons and electrons, scientists attempted to classify the elements by arranging them in order of their atomic weights.

The early periodic tables were incomplete, and some elements were placed in inappropriate groups if the strict order of atomic weights was followed.

Mendeleev overcame some of the problems by leaving gaps for elements that he thought had not been discovered and, in some places, changed the order based on atomic weights.

Elements with properties predicted by Mendeleev were discovered and filled the gaps. Knowledge of isotopes made it possible to explain why the order based on atomic weights was not always correct.



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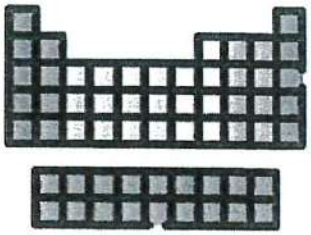
OM10: Atoms and the Periodic Table continued...



Elements that react to form positive ions are metals.

Elements that do not form positive ions are non-metals.

Atoms turn into positive ions if they lose one or more outer electron(s).

The majority of elements are metals. Metals are found to the left and towards the bottom of the periodic table. Non-metals are found towards the right and top of the periodic table.

The elements in Group 0 of the periodic table are called the noble gases. They are unreactive and do not easily form molecules because their atoms have stable arrangements of electrons. The noble gases have eight electrons in their outer shell, except for helium, which has only two electrons.

The boiling points of the noble gases increase with increasing relative atomic mass (going down the group).

The properties of the elements in Group 0 depend on the outer shell of electrons of the atom

The elements in Group 1 of the periodic table are known as the alkali metals and have characteristic properties because of the single electron in their outer shell.

Alkali metals react strongly with oxygen, chlorine and water.

In Group 1, the reactivity of the elements increases going down the group.

The elements in Group 7 of the periodic table are known as the halogens and have similar reactions because they all have seven electrons in their outer shell. The halogens are non-metals and consist of molecules made of pairs of atoms.

In Group 7, the further down the group an element is the higher its relative molecular mass, melting point and boiling point.

In Group 7, the reactivity of the element's decreases going down the group.

A more reactive halogen can displace a less reactive halogen from an aqueous solution of its salt.

The properties of the elements in Group 7 depend on the outer shell of electrons of the atom

R5: The Reactivity Series of Metals

The reactivity series ranks metals by their reactivity with substances.

Group 1 elements are examples of the most reactive elements.

Gold, silver and copper are examples of less reactive elements.

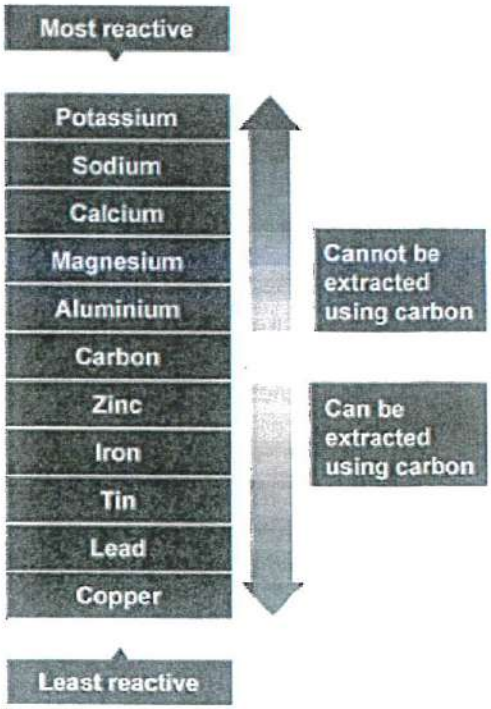
Due to Carbon's position in the reactivity series, it can be used to extract iron and copper from their oxides.

Ceramics are hard, brittle, and heat-resistant, but they don't conduct electricity.

Polymers are lightweight, can be flexible or rigid, and are good insulators.

Composites combine materials to be stronger and lighter, designed for specific uses.

Catalysts speed up reactions without being used up.

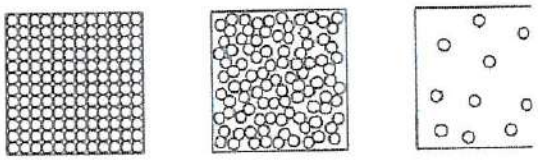


Y9 CHEMISTRY:

1. Atoms and the Periodic Table
2. The Reactivity Series of Metals
3. Energy and the Particle Model

For more Scienc scan here!

3OM11: Energy and the Particle Model



The three states of matter are solid, liquid and gas.

Melting and freezing take place at the melting point, boiling and condensing take place at the boiling point.

The three states of matter can be represented by a simple model. In this model, particles are represented by small solid spheres. Particle theory can help to explain melting, boiling, freezing and condensing.

The amount of energy needed to change state from solid to liquid and from liquid to gas depends on the strength of the forces between the particles of the substance.

Limitations of the simple model above include that in the model there are no forces, that all particles are represented as spheres and that the spheres are solid.

In chemical equations, the three states of matter are shown as (s), (l) and (g), with (aq) for aqueous solutions.

When substances change state (melt, freeze, boil, evaporate, condense or sublimate), mass is conserved.

Changes of state are physical changes which differ from chemical changes because the material recovers its original properties if the change is reversed.

The particle model can be used to explain: the different states of matter; differences in density.

Energy is stored inside a system by the particles (atoms and molecules) that make up the system. This is called internal energy.

Internal energy is the total kinetic energy and potential energy of all the particles (atoms and molecules) that make up a system.

Heating changes the energy stored within the system by increasing the energy of the particles that make up the system. This either raises the temperature of the system or produces a change of state.

If the temperature of the system increases, the increase in temperature depends on the mass of the substance heated, the type of material and the energy input to the system.

The specific heat capacity of a substance is the amount of energy required to raise the temperature of one kilogram of the substance by one degree Celsius.

If a change of state happens the energy needed for a substance to change state is called latent heat. When a change of state occurs, the energy supplied changes the energy stored (internal energy) but not the temperature.

If a change of state happens the specific latent heat of a substance is the amount of energy required to change the state of one kilogram of the substance with no change in temperature.

Specific latent heat of fusion = change of state from solid to liquid

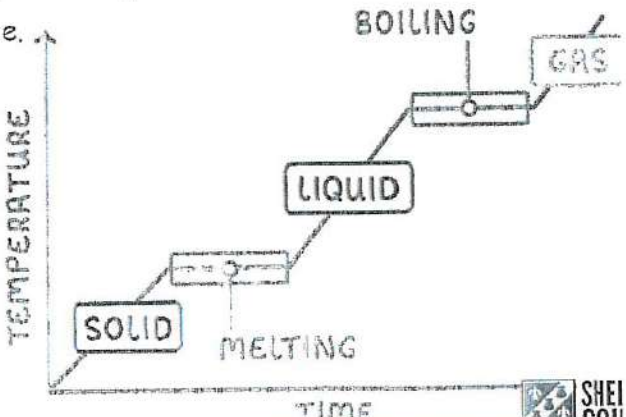
Specific latent heat of vaporisation = change of state from liquid to vapour

Heating and cooling graphs show when substances change state.

The molecules of a gas are in constant random motion.

The temperature of the gas is related to the average kinetic energy of the molecules.

Changing the temperature of a gas, held at constant volume, changes the pressure exerted by the gas.



Y9 PHYSICS:

1. Magnetism
2. Gas Pressure
3. Static Electricity
4. Light
5. Life on Earth

For more Scienc scan here!

)EOO8: Magnetism

A magnetic field is the area around a magnet in which another magnet experiences a force.

A magnetic field flows from north to south; this is represented using field lines.

The Earth has a magnetic field.

A compass will move to align its poles with the magnetic field of the Earth.

Magnets can be permanent or temporary.

A wire that is carrying an electric current has a magnetic field.

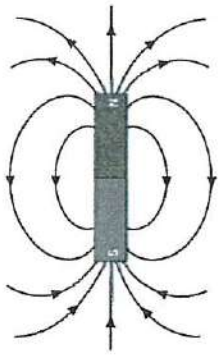
An electromagnet is made from a copper coil wrapped around an iron core.

An electromagnet is only magnetic when current is flowing.

Increasing the current increases the strength of the magnet.

Direct current is current that moving in one direction only.

A wire with flowing current will experience a force in a magnetic field; this is the motor effect.



)EOO9: Gas Pressure

Atmospheric pressure is 100,000 Pascals (Pa) or N/m^2 at sea level.

Pressure is dependent on depth within a fluid.

If upthrust is greater or equal to the weight of a substance, the substance will float.

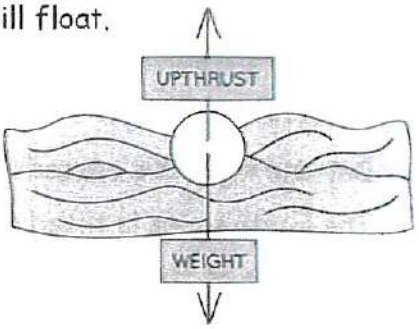
Substances will float on fluids if they have a lower density.

Pressure is exactly the same at any point of the same depth.

All objects moving through a fluid will experience drag.

Drag caused when objects fall through air is called air resistance.

An object can be made more streamline to decrease drag.



EOO10: Static Electricity

Atoms have positive and negative charges.

The negative charge of an atom is called an electron.

Friction between two insulating materials causes the electrons to be transferred.

When electrons are transferred, they build up in one place.

Electrostatic charge occurs because electrons are not free to move around an insulator.

If the electrons are transferred onto an insulating material that material becomes positively charged

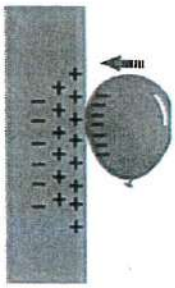
The insulating material which gains the electrons becomes negatively charged

Objects with electrostatic charge can exert a non-contact force known as the electrostatic force

Oppositely charged materials attract each other

Objects with the same charge repel each other

When electrostatic charge builds up charge will jump across the gap and cause a spark, known as a static shock



Y9 PHYSICS:

1. Magnetism
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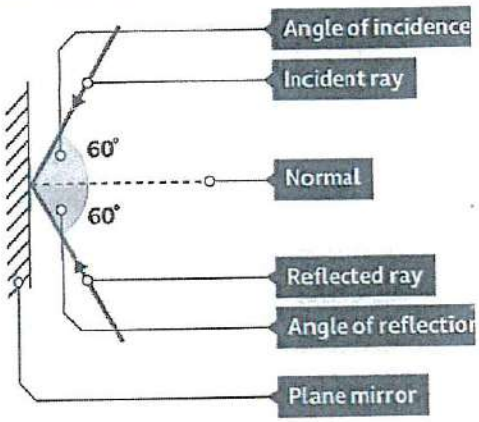
5. Life on Earth

For more Scienc scan here!

3OE14: Light



Luminous objects emit light

In a vacuum light travel at 300,000,000 m/s

Light waves do not require a medium, will propagate in a vacuum

Plane mirrors are examples of specular reflection

Normal lines are drawn perpendicular to the surface of a boundary.

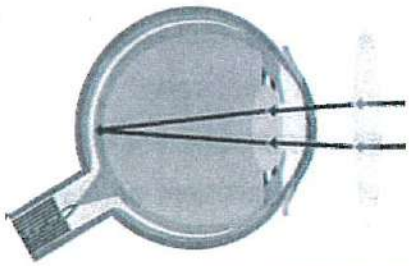
On plane mirrors the angle of incidence = the angle of reflection

Refraction happens at the boundary between mediums

White light can be dispersed by a prism due to the different wavelengths of the component colours.

Red coloured objects are red as they reflect red light (relationship extended to all the colours)

Diffuse reflection (scattering) happens when light hits a rough surface.



The Human eye contains a convex (transparent) lens.

Convex lenses focus beams of light.

Photo-sensitive materials can detect light

The retina is an example of a photo-sensitive material

3E5: Life on Earth

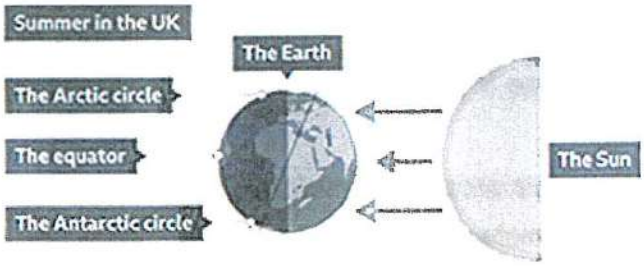
Day and night are caused by the Earth's rotation on its axis every 24 hours.

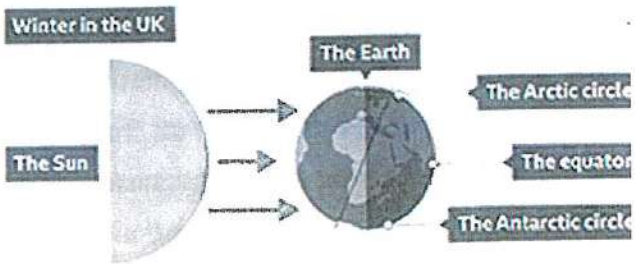
The Earth's axis is tilted at 23.5° which affects the length of days and seasons.

The angle of the Sun's rays affects the intensity of heat on Earth's surface.

It is Summer when the hemisphere is tilted towards the Sun, and we experience longer days and more direct sunlight.

It is Winter when the hemisphere is tilted away from the Sun, and we experience shorter days and less direct sunlight.





Year 9: SPRING 1 & 2 Geography Hazardous Earth

What is a natural hazard?

A natural hazard is an event that threatens or causes harm to people and property. They can be categorised into 3 types:

Tectonic Hazard: Hazards caused by movement of the Earth's plates (e.g., earthquakes, volcanoes).

Climatic Hazard: Hazards caused by weather or climate (e.g., floods, droughts, storms).

Biological Hazard: Hazards involving living organisms (e.g., diseases, infestations).

What is Earth's structure like?

The Earth is split into 4 layers:

Crust: Thin outer layer made of solid rock; broken into tectonic plates.

Mantle: Semi-molten layer beneath the crust; drives plate movement via convection currents.

Outer Core: Liquid metal layer (iron & nickel).

Inner Core: Solid metal centre of Earth; very hot due to pressure and radioactive decay.

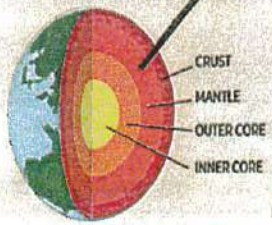
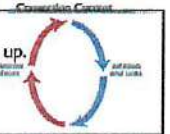
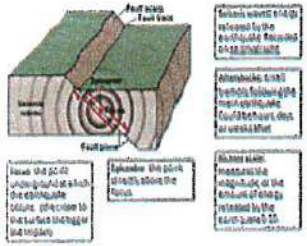


Plate Boundaries	Types of Crust	Direction of Movement	Tectonic Hazards
Constructive 	Oceanic & Oceanic	Away from each other	Small earthquakes Shield-volcanoes
Destructive 	Oceanic & Continental	Towards each other	Earthquakes Composite Volcanoes Tsunamis
Collision 	Continental & Continental	Towards each other (convergent)	Earthquakes (Fold mountains)
Conservative 	Continental & Continental	Alongside each other (transform)	Earthquakes

Why do tectonic plates move?
Magma is heated by the outer and inner core causing it to rise up.
The magma spreads out causing the tectonic plate to move.
The magma is then cooled and sinks.
The process of a convection current repeats itself again.



What is an earthquake?



Primary impacts- happen straight away
People killed by falling debris
Buildings collapsing
Roads are damaged
Infrastructure destroyed

Secondary impacts- after the earthquake
Homelessness
destroyed roads- can't pass through people cannot get help/ cannot go to work.
Families split up- mental illness.
Burst pipes- no clean water- diseases

Prediction:	Preparation:
Seismometer (measures seismic waves) Animal behaviour	Earthquake proof houses warning alerts on TV/mobiles/radio Emergency services prepared First aid kits ready.

Developed countries more likely to be able to predict and prepare than developing due to £££.

Natural Hazards

HIC Case Study
Japan Earthquake 2011

read quiz

The Big Picture

Key Terms

Immediate responses - The reaction of people as the disaster happens and in the immediate aftermath.

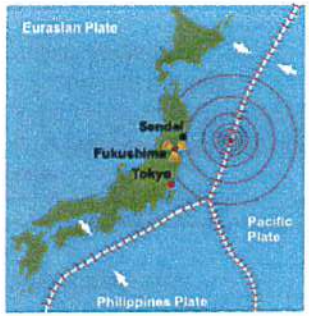
Long-term responses - Later reactions that occur in the weeks, months and years after the event.

Primary effects - The initial impact of a natural event on people and property, caused directly by it.

Secondary effects - The after-effects that occur as indirect impacts of a natural event, sometimes on a longer timescale.

Overview

- Friday, March 11, 2011
- 2.46 pm
- Japan's northeast Pacific coast
- High income country
- Magnitude 9.0
- Destructive margin – Eurasian and Pacific



Primary Effects

- 15,894 people died
- 26,152 people were injured.
- 130,927 people were displaced.
- 332,395 buildings were damaged or destroyed. 300 hospitals were damaged, and 11 destroyed.
- 2,126 roads, 56 bridges and 26 railways were destroyed or damaged.
- 4.4 million households were without power.

Secondary Effects

- Total damage estimated at US $235 billion.
- Waves up to 40 m in high devastated entire coastal areas and resulted in the loss of thousands of lives.
- Seven reactors at the Fukushima nuclear power station experienced a meltdown. Radiation was over eight times the normal.

Immediate Responses

- The Japan Meteorological Agency issued tsunami warnings
- Rescue workers and around 100,000 members of the Japan Self-Defence Force supported search and rescue operations.
- A 20 km evacuation zone was established around the Fukushima nuclear plant.
- Japan received international help from the US military, rescue teams from NZ, India, South Korea, China and Australia.

Long-term Responses

- The central government established the Reconstruction Policy Council to develop a national recovery and reconstruction.
- The government approved a budget of 23 trillion yen (approx £190 billion) to be spent over ten years.
- A coastal protection policy was established to construct seawalls and breakwaters.
- By Nov 2011, 96% of the electricity supply was restored and 98% of water supplies.

What happens when a volcano erupts?

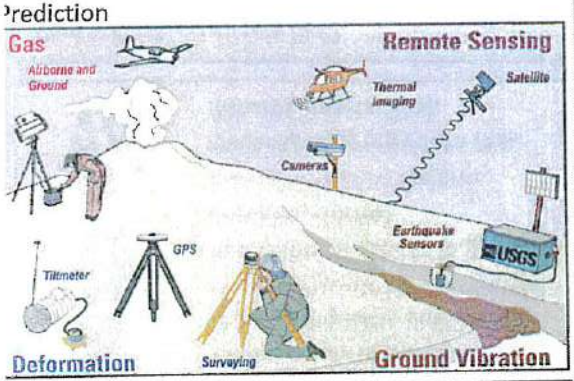
Shield Volcano: Gentle slopes, runny lava, frequent eruptions.
Composite Volcano: Steep sides, thick lava, explosive eruptions.

✅ Positives: Fertile soil, tourism, geothermal energy.
❌ Negatives: Lava flows, ash, destruction, health hazards.

Prediction:
Thermal imaging from satellites (the warmer the surface of the volcano the closer the magma is to the surface and the more likely its eruption), tiltmeter (measures the shape of the volcano, as the magma chamber fills the outside of the volcano bulges – this shows that an eruption is more likely),

Preparation:
Evacuation routes set up.
Warning alerts on TV/mobiles/radio.
Emergency services prepared
First aid kits ready.

Prediction



Why live by a volcano?

-Geothermal energy
-fertile soil
-Tourism= jobs
-Scenery

Case Study: Chances Peak, Montserrat
Date: 1995-97
LIC

Causes:

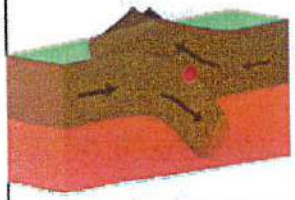
- Convergent plate boundary.
- The oceanic crust from the North American Plate is subducting beneath the continental Caribbean Plate.
- Composite volcano.

Effects:

- The population of the island **11,000 people**, were forced to leave their homes.
- **19 people** were killed by the eruptions.
- Many homes and buildings have been destroyed, including the only hospital, the airport, many roads and schools.
- **50% unemployed**, due to a drop in tourism for the first two years.

Responses:

- Evacuation to the north of Montserrat, neighbouring islands and the UK. (this saved thousands of lives)
- The capital city of Plymouth, was abandoned. (they moved to a safer location in the north)
- The British government gave money for compensation and redevelopment. (this helped them recover)



Case Study: Eyjafjallajökull, Iceland
Date: 15th April 2010
HIC

Causes:

- On a divergent plate boundary between North America and Eurasian plate it sits on the Mid-Atlantic ridge.
- Shield volcano

Effects:

- 200m of melted ice= destroyed parts of route 1
- Flash floods
- Houses destroyed- 700 people evacuated
- Ash cloud caused airspace to be closed in much of Europe- 95,000 flights cancelled, volcano refugees.
- Airlines= $2billion in total.
- Health impacts- respiratory problems.

Responses:

- People were told of the eruption by local text message warning systems, radio television and internet.
- Well trained National Emergency agency responded quickly to evacuate residents and build temporary bridges and unblocking rivers.
- People should take out volcano insurance for travel.
- Areas more heavily monitored by Iceland Met Office.

Y9 History Knowledge Organiser - The Rise of the Nazis

1918

1918- World War 1 ends

1919 - Treaty of Versailles and Hitler attends a DAP meeting for the first time

1921 - Hitler becomes the leader of the NSDAP

1923 - Hyperinflation means the value of money plummets and prices sky rocket

1923 - Hitler tries to take power in the Munich Putsch

1924 Hitler is sent to Landsberg Prison

1929 Wall Street Crash in the USA leads to a worldwide depression

1930-32 support for extreme left and right wing parties grows

July 1932 - The Nazis are the biggest party in the Reichstag with 37% of the vote

February 1933 - the German Reichstag is burnt down

January 1933 - Hitler becomes the Chancellor of Germany

1933

Adolf Hitler's early years

Adolf Hitler was born in **1889** in **Austria**. His early life shaped his ideas and later actions.

Key Events:

- **Childhood** – Born in **Austria**, he wanted to be an **artist** but was **rejected from art school**.
- **World War 1 (1914-1918)** – He fought for **Germany**, was **injured**, and won medals for bravery.
- **Blamed Germany's Problems on Others** – After the war, he was **angry about Germany losing** and blamed the **Treaty of Versailles**.
- **Joined the Nazi Party (1919)** – He became a leader and spread ideas about making Germany strong again.
- **Tried to Take Over (1923)** – He and the Nazis attempted a **coup (Beer Hall Putsch)** but **failed**, and he went to **prison**.
- **Wrote "Mein Kampf"** – In prison, he wrote a book about his **plans and beliefs**.

In the **1930s**, Hitler became more powerful, leading to **World War 2**.

President Ebert's problems

- **Economic Trouble:** The war had left Germany in debt, and the country was struggling to rebuild. Inflation made money less valuable.
- **Political Unrest:** Many Germans were unhappy with how the war ended. Some groups, like the communists and socialists, wanted more changes to how the government worked.
- **The Treaty of Versailles:** In 1919, Germany had to sign the Treaty of Versailles. This treaty blamed Germany for starting the war and forced it to pay huge reparations (money) to other countries. Many Germans felt this was unfair and a huge humiliation. This made Ebert's job harder because lots of people were angry with him for agreeing to the treaty.
- **The Spartacist Uprising:** In January 1919, a group of communists called the Spartacists tried to take control of Germany. Ebert had to use the army to stop them, but this made things even more difficult because many people didn't trust him.
- **Right-wing Threats:** On the other side, some right-wing groups (like the Freikorps) also didn't like Ebert's government. They wanted a more powerful, military-style government.

Hyperinflation

- **Why It Happened:** After World War I, Germany was in debt. The government didn't have enough money, so it started printing a lot of paper money to pay off the debts.
- **What Happened:** Because there was so much money in circulation, the value of the German mark (the currency) became lower and lower. People needed more and more money to buy everyday things like bread or milk. For example, a loaf of bread that cost 1 mark before the war could cost 100 million marks during hyperinflation.
- **Effects on People:** People's savings in banks became useless because their money wasn't worth anything. Many people were very poor and struggled to buy food.
- **Why It Was So Bad:** The German government was blamed for the hyperinflation, and it made many people angry. The middle class, like shopkeepers and workers, were hit the hardest because they had savings that lost value.
- **End of Hyperinflation:** The problem of hyperinflation was finally stopped when the government introduced a new currency called the **Rentenmark** in 1924. This new money was backed by land and property, which helped restore trust in the economy.

Nazi Party values

- **Nationalism:** The Nazis believed that Germany should be strong and proud. They thought that Germans (especially people with "Aryan" backgrounds) were superior to other groups.
- **Racism and Anti-Semitism:** The Nazis believed that certain races were better than others.
- **The Führer Principle:** The Nazis believed in having one strong leader. Hitler was the Führer (leader), and they thought that he should have absolute power over the country.
- **Militarism:** The Nazis wanted to make Germany's military stronger.
- **Anti-Communism:** The Nazis hated communism, which is a political system where the government controls everything. They believed that was a dangerous
- **Social Darwinism:** The Nazis believed in an idea called "Social Darwinism," which said that the strongest and fittest people should survive and thrive, while the weaker people should be left behind. This idea was used to justify treating certain people badly.

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Munich Putsch 1923

he Munich Putsch was an event that happened in 1923 in ermany. It was an attempt by Adolf Hitler and his group, ıe **Nazi Party**, to take control of the government. ere's what happened:

Why It Happened: Germany was in a very bad situation after World War I. People were poor, the country was in debt, and many Germans were angry about the Treaty of Versailles, which blamed Germany for starting the war. Hitler and the Nazis thought they could take advantage of this anger and get power by force.

The Plan: Hitler wanted to start a revolution in Germany. He thought that if he could take control of Munich, a big city in southern Germany, he could then march to Berlin and take over the government.

What Went Wrong: On November 8, 1923, Hitler and his supporters tried to start the revolution by storming a meeting in Munich where local leaders were gathered. However, the police and the army quickly stopped them. The Nazis did not have enough support, and the Putsch failed.

The Consequences: After the Munich Putsch failed, Hitler was arrested. He was put in prison for a short time. However, during his time in prison, Hitler wrote a book called **"Mein Kampf"**, where he explained his ideas about Germany and the future. This book became important to the Nazi Party later on.

Why It's Important: Even though the Munich Putsch failed, it helped Hitler become more famous. He learned that taking power by force was not the best way, so he decided to use elections to gain control of the government instead. This would eventually lead to him becoming Chancellor of Germany in 1933.

The Wall Street Crash and the Great Depression

- In 1929, the **Wall Street Crash** and led to a time called the **Great Depression.**

What Was the Wall Street Crash?

- The Wall Street Crash happened on October 29, 1929, in the United States. Wall Street is the name of the area in New York where the stock market is located.
- In 1929, many people were buying stocks with borrowed money, hoping they could sell them for a profit.
- But the prices of stocks were too high, and when they started to drop, many people panicked and tried to sell their stocks all at once.
- This caused prices to crash, and lots of people lost their money.
- **What Was the Great Depression?**
  The Wall Street Crash didn't just affect people in the US—it affected many countries around the world.
- The crash led **to the Great Depression**, a time when the world's economy was in big trouble.
- **How Did It Affect People?**
  Families were poor, and many people couldn't afford food, clothes, or even their homes. In some places, there were long lines for food and soup kitchens. .
- **What Happened After the Great Depression?**
  The Great Depression lasted for many years, but over time, countries like the United States started to recover.
- In the US, President Franklin D. Roosevelt introduced a plan called the **New Deal** to help people get jobs and fix the economy.

Why did Hitler come to power in 1933?

- **Appealing to all Germans**
- The Nazis increased their popularity by appearing to provide the solution to all of Germany's problems. They adopted policies that could be supported by many different groups of Germans.
- **Charismatic leadership**
- Hitler was a popular speaker. He was a popular and effective public speaker, at a time when politicians had to speak at public meetings on a regular basis.
- **Use of propaganda**
- Methods of campaigning that the Nazis used in the 1920s included radio, mass rallies, newspapers, Hitler's speeches and posters.
- **Organisation of the Party**
- The SA (stormtroopers) appeared to be a strong organisation which could protect Germany from its enemies - both within Germany and abroad.

Key Words:

Hyperinflation
Reichstag
Chancellor
Social Darwinism
Wall Street Crash
Great Depression
Germany
Hitler

Y9 History Knowledge Organiser -Life in Nazi Germany

1933

March 1933 The Enabling Law means Hitler can pass any laws he wishes.

1933 Hitler becomes leader

Sept 1934 – Hitler announces women's role in a speech.

Sept 1935 Nuremburg Laws defined German citizenship.

Dec 1936 Hitler Youth made compulsory.

Nov 1938 Kristallnacht – Jewish shops and synagogues were destroyed.

Jan 1942 Wannsee Conference approved plans for the 'Final Solution'.

May 1945 Hitler committed suicide

1945

The persecution of minorities in Nazi Germany

Hitler and the Nazis persecuted many minority groups in Germany. The main groups they targeted were:

- **Jewish people** – The Nazis blamed Jewish people for many of Germany's problems and made laws that treated them unfairly. Many Jews were forced to live in ghettos and sent to concentration camps, where millions were killed. *Approximately 6million jews were killed.*
- **Romani people (Gypsies)** – The Nazis saw them as "racially inferior" and persecuted them, sending many to concentration camps. *Around 200,000-500,000 were killed.*
- **Disabled people** – The Nazis believed people with disabilities were a "burden" on society. They killed thousands through a program called "euthanasia," where disabled people were murdered. *Approx200,000-250,000 were killed.*
- **LGBTQ+ people** – Gay people were also persecuted and sent to concentration camps where they were they were killed. *An estimated 5,000-15,000 gay men were sent to camps.*
- **Political opponents** – People who disagreed with Hitler, like communists, socialists, and trade unionists, were arrested and sent to camps. *Approximately 100,000-200,000 people were killed. Over 3 **million** Soviet prisoners of war were killed by the Nazis, either through execution, starvation, or brutal treatment in camps. It is estimated that about 1.8 to 2 **million** Polish and Slavic civilians were killed.*

Hitler's policies were meant to create a society with only "pure" Germans.

Life for Jewish People: Before and During Nazi Germany

Before the Nazis (before 1933):

- Jewish people lived in Germany just like everyone else.
- They were teachers, doctors, shop owners, students, and workers.
- Many felt proud to be German.
- They had rights, jobs, and could go to school and vote.

When the Nazis came to power (from 1933 onwards):

Things got worse quickly:

- Hitler and the Nazis blamed Jewish people for Germany's problems.
- The Nazis spread lies and hate about Jewish people.
- New laws were made to take away Jewish rights.

Key Changes:

- Jewish children were **banned from schools**.
- Jewish people lost their **jobs** and **businesses**.
- They were **not allowed to marry** non-Jewish Germans.
- **Shops, homes, and synagogues** (Jewish places of worship) were attacked — like on **Kristallnacht** in 1938.

During World War II (from 1939):

- Jewish people were **forced to wear yellow stars**.
- Many were taken from their homes and sent to **ghettos** or **concentration camps**.
- **Millions of Jewish people were killed** in the Holocaust.

Y9 History Knowledge Organiser -Life in Nazi Germany

.933

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lazi aims and policies towards the young

Young people were very important to Hitler and the Nazis. Hitler spoke of his Third Reich lasting for a thousand years and to achieve this he would have to ensure German children were thoroughly indoctrinated in Nazi ideology.

From the age of 10 boys and girls were encouraged to join the Nazis' youth organisation, the **Hitler Youth** (the girls' wing of which was called the **League of German Maidens**).

Membership from age 10 was made compulsory in 1936 and by 1939, 90 per cent of German boys aged 14 and over were members.

low the Nazis Controlled and Changed Education

Changing Subjects
History: Taught that Germany was great and blamed Jews and other countries for its problems.
Biology: Taught Nazi ideas about race, saying that Germans (Aryans) were superior.
Maths: Questions included Nazi beliefs, like calculating the cost of looking after disabled people.
Geography: Taught that Germany needed more land and should expand.

Removing Teachers
Jewish teachers were fired.
Teachers had to join a Nazi group and teach Nazi ideas or risk losing their jobs.
Children were taught to report teachers who didn't support the Nazis.

Separating Boys and Girls
Boys were taught about war, leadership, and being soldiers.
Girls were taught about cooking, cleaning, and raising children because the Nazis wanted them to become mothers.

5. Brainwashing Children
Schools praised Hitler, and children had to say "Heil Hitler" every day.
Nazi youth groups (like the Hitler Youth) replaced normal after-school activities.

Nazi views on women and the family

- During the 1920s there had been significant progress for women in Weimar Germany - equal voting rights, an increase in women taking professional roles and independent leisure activities.
- However, the Nazis were expected women to stay at home, look after the family and produce children in order to secure the future of the Aryan race.
- Hitler believed women's lives should revolve round the "3 Ks" stood for **"Kirche, Küche, Kinder"**, which means **"Church, Kitchen, Children."**

Marriage and family
- Hitler wanted a high birth rate so that the Aryan population would grow.
- He introducing the Law for the Encouragement of Marriage which gave newlywed couples a loan of 1,000 marks.
- They also gave an award called the Mother's Cross to women who had large numbers of children.

Appearance
- Women were expected to emulate traditional German peasant fashions - plain peasant costumes, hair in plaits or buns and flat shoes.
- They were not expected to wear make-up or trousers, dye their hair or smoke in public.
- They were discouraged from staying slim, because it was thought that thin women had trouble giving birth.

Key words:

Nazi
Hitler
Nuremburg Laws
Compulsory
Kristallnacht
Wannsee Conference
Aryan
Maidens
Kirche, Kuche, Kinder (church, kitchen, children

Y9 History Knowledge Organiser - Turning points of WW2

1939

May-June 1940 Dunkirk evacuation

8 May 1945 Victory in Europe day.

1945

1939 Hitler invades Poland

July to November 1940 The Battle of Britain

Dec 7 1941 Japan attacks the US naval base at Pearl Harbor

July 1942-Feb 1943 The Battle of Stalingrad.

6 June 1944 D-Day

May 1945 Hitler committed suicide

Blitzkrieg 1939-1941

What is Blitzkrieg?
Blitzkrieg is a German word that means "lightning war." It was a military strategy used by Nazi Germany during World War II. The idea was to attack quickly and forcefully, so the enemy couldn't defend themselves.

Problems with Blitzkrieg Later On:
When Germany attacked **Russia** in **1941** (Battle of Stalingrad 1942-1943), the **Blitzkrieg** strategy didn't work as well because the weather was cold, and the German soldiers weren't prepared for the long winters.
Britain also started to fight back in **the Battle of Britain** 1940), using their own planes and strong defences.

YES it was a turning point?
In the beginning, **Blitzkrieg** was very successful for Germany and gave them an early advantage in the war. Taking over countries like **Poland, France** and the **Netherlands.**
But as the war went on, it started to change. The countries that were attacked began to **fight back** and got stronger.

NO it wasn't a turning point?
Blitzkrieg was **successful** but as time went on, it couldn't help Germany win the war.
After the early victories, **Blitzkrieg** stopped being as effective because the Allies learned how to fight back and use new strategies.

Battle of Britian 1940

What Was the Battle of Britain?
It was a fight between the **German Air Force (Luftwaffe)** and the **British Royal Air Force (RAF)** over British skies.

Why Was It Important?
Germany wanted to take control of **Britain** by bombing British cities and destroying the RAF (using Blitzkrieg). They hoped to invade Britain.

What Happened After?
After their defeat in the Germany never invaded Britain, and the British could now help fight in other parts of the war.

Was it a Turning Point:
The Battle of Britain showed that **Germany** could be beaten, and it boosted the **morale** (confidence) of the **Allies**. It also helped the **USA** see that Germany could be defeated, encouraging them to support Britain and later join the war.

Dunkirk 1940

What Happened at Dunkirk?
German forces trapped **British** and **French** soldiers in the town of **Dunkirk** (in **France**). The soldiers were surrounded.

Why Was It Important?
The British organised a huge **rescue operation**. Over **330,000 soldiers** were safely taken back to **Britain** in small boats, even though they were under attack.

What Happened After?
Britain had the strength to keep fighting Germany. This helped Britain survive.

Why It Was
Dunkirk showed that even when things seemed bad, the **Allies** could still fight back. It gave Britain hope and showed that **Germany** could be beaten.

Was It a Turning Point?
Even though it was a **defeat** for the Allies (because they had to retreat), the **rescue** was a huge success. It gave Britain many soldiers to continue fighting.

Y9 History Knowledge Organiser – Turning points of WW2

.939

May-June 1940 Dunkirk evacuation

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Pearl Harbor 1941

What Happened at Pearl Harbor?
On **December 7, 1941**, Japan attacked the **Pearl Harbor** naval base in **Hawaii** (USA). This surprise attack destroyed many ships and planes, and over 2,400 people were killed.

Why Was It Important?
Before the attack, the **USA** wasn't involved in WW2. But after the attack, the **USA** declared war on **Japan (which was an axis country: on Germany's side)**

What Happened After?
After the **USA** joined the **Allied powers**, they played a big role in winning the war. Helping win important battles, like in **Europe** and the **Pacific**.

Was It a Turning Point?
The attack on Pearl Harbor was a turning point because it brought the **USA** into the war, which helped the **Allies** (countries fighting against Germany and Japan) get stronger.

Stalingrad 1942-1943

What Happened at Stalingrad?
The **German Army** tried to capture the city of **Stalingrad** because they have vital oil supplies.

Why Was It Important?
The battle was one of the **deadliest** of the war, and it lasted for months. The Germans were surrounded and trapped by the Soviet Army, and they had to **surrender**.

What Happened After?
After Stalingrad, the **Soviet Union** started to push the Germans **back**. This was the start of a **major counterattack** that eventually led to Germany's defeat.

Why It Was a Turning Point:
The German army lost a lot of soldiers and equipment, which weakened their power in the war. It also marked the beginning of the **end** for Germany in the war.

D-Day 1944

What Was D-Day?
D-Day took place on **June 6, 1944**. It was the day when the **Allied forces** (like Britain, the USA, and Canada) launched a huge invasion on the coast of **France** to fight against **Germany**.

Why Was It Important?
On D-Day, over **156,000 soldiers** landed on five beaches in Normandy, **France**, to start freeing Western Europe from **German control**. It was a huge and risky attack.

What Happened After?
After D-Day, the **Allied forces** kept moving through France and then into Germany. This made it harder for Germany to win the war.

Was It a Turning Point?
It was the beginning of the **Allies** pushing **Germany** out of Western Europe. It helped open a new front in the war.

Why It Was a Turning Point:
D-Day was important because it marked the **start of the end** for Germany. After the invasion, the Allies kept moving forward, and **Germany** started losing more and more ground.

Key words/ Spellings: Blitzkrieg, D-Day , Invasion, Allies, Axis, Pearl Harbor, Surrender, Stalingrad, Retreat, Victory, Morale, Bombing, Resistance and Conquer.

History Year 9 -Key Knowledge – Ireland, Peace Treaty and Nazi Germany

Easter rising of 1916

Causes (Why did it happen?)

Ireland wanted independence from Britain.
Some Irish people were angry that **Home Rule (self-government) was delayed** because of WW1.
A group called the **Irish Republican Brotherhood (IRB)** wanted to fight for freedom.

Events (What happened?)

On **Easter Monday**, rebels took over **important buildings** in Dublin, like the **General Post Office (GPO)**.
Patrick Pearse and **James Connolly** led the rising.
The rebels **declared Ireland independent**, but Britain sent soldiers to stop them.
After **six days of fighting**, the rebels surrendered.

Consequences (What happened after?)

Leaders were executed, which made people angry.
More people started **supporting Irish independence**.
In 1921, Ireland won **partial independence** (Irish Free State).

Treaty of Versailles

The Treaty of Versailles was a peace agreement that ended World War 1. It was signed in 1919 at the Palace of Versailles, France. The treaty mainly punished Germany.

Key Terms of the Treaty

- Blame – Germany had to take full blame for starting the war (War Guilt Clause).
- Money – Germany had to pay £6.6 billion in reparations (money for war damage).
- Land – Germany lost land in Europe and its overseas colonies.
- Military – Germany's army was limited to 100,000 soldiers, and it could have no air force or submarines.

Hyperinflation

- **Why It Happened:** After World War I, Germany was in debt. The government didn't have enough money, so it started printing a lot of paper money to pay off the debts.
- **What Happened:** Because there was so much money in circulation, the value of the German mark (the currency) became lower and lower. People needed more and more money to buy everyday things like bread or milk. For example, a loaf of bread that cost 1 mark before the war could cost 100 million marks during hyperinflation.
- **Effects on People:** People's savings in banks became useless because their money wasn't worth anything. Many people were very poor and struggled to buy food.
- **Why It Was So Bad:** The German government was blamed for the hyperinflation, and it made many people angry. The middle class, like shopkeepers and workers, were hit the hardest because they had savings that lost value.
- **End of Hyperinflation:** The problem of hyperinflation was finally stopped when the government introduced a new currency called the **Rentenmark** in 1924. This new money was backed by land and property, which helped restore trust in the economy.

Nazi aims and policies towards the young

- Young people were very important to Hitler and the Nazis. Hitler spoke of his Third Reich lasting for a thousand years and to achieve this he would have to ensure German children were thoroughly indoctrinated in Nazi ideology.
- From the age of 10 boys and girls were encouraged to join the Nazis' youth organisation, the **Hitler Youth** (the girls' wing of which was called the **League of German Maidens**).
- Membership from age 10 was made compulsory in 1936 and by 1939, 90 per cent of German boys aged 14 and over were members.

Nazi views on women and the family

- During the 1920s there had been significant progress for women in Weimar Germany - equal voting rights, an increase in women taking professional roles and independent leisure activities.
- However, the Nazis were expected women to stay at home, look after the family and produce children in order to secure the future of the Aryan race.
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History Year 9 -Key Knowledge – Turning Points of Second World War

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KS3 Year 9 History Skills Knowledge Organiser

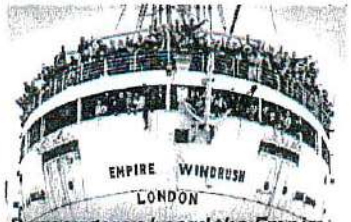
What is provenance?

Provenance means understanding the background of a source. We can break that down into 'NOP'

N - Nature: What type of source is it? *E.g. Is it a diary, a photo, a painting, a speech etc*

O - Origin: Where, when and by **who** was it created?

P - Purpose: Why was it made? *Was it to give facts? Or to share a personal story? To persuade people?* Try to explain this as much as you can by linking your ideas to the specific source.



Passengers aboard the Empire Windrush. From a newspaper in 1947.

Nature: *Photograph in a newspaper*
Origin: *1947*
Purpose: *To record an important event from the time - possibly to share with the public in a newspaper.*

What can you infer about the people who migrated to Britian on the Windrush?
I can infer *that the people were excited to start a new life in Britian.*
The detail in the source that tells me this is *they are smiling and cheering with their arms in the air as they arrive into Britain.*

How do I make an inference?

An inference is when you say what you can learn. 'work out' or suggest from a source.

You need to carefully look at/read the source and annotate it. Look carefully at the question -what is it asking you to make an inference about?

Make an inference and then link it to the specific part of the source.

How do I know if a source is useful?

All primary sources are useful to some extent - but some are more useful than others.

For example - a source is useful if we can learn something from it, if we can trust where it comes from and if it links to something we already know (which can mean that it's accurate).

However, a source might be less useful if we think it's been exaggerated, if some information has been left out or if it's one sided etc

EXAMPLE: How useful is the source of the Windrush ship for learning about migrants coming to Britain?

- *The source is useful because I can learn people were_excited to come to Britain - I can see them waving their arms and cheering.*
- *The source is useful because it's a photograph of the event showing it must have been an important event as it was in a newspaper.*
- *The source is useful because it links to my knowledge that thousands of people came to Britain on the Windrush from countries such as Jamaica.*
- *The source is slightly less useful because a photo is just one snapshot in time - they might have just been smiling for the photos but in reality might have had different feelings about arriving in Britain.*

What is an interpretation?

An interpretation is a historian's view or opinion of the past. For example, if you are studying the reasons why William won the Battle of Hastings, one historian might think the main reason he won was because of his planning and battle tactics, but another historian might think it was because of Harold Godwinson's mistakes in battle.

It is up to you to carefully read interpretation and spot the differences!

You can do this by choosing key quotations that show the difference.

Why do historians have different views?

Historians study the past by using primary sources. So different historians will have probably used different primary sources, and will have thought that different ones are more useful.

We can use the phrase: **'The views are different because the historians have given weight to different primary sources.'**

How to PEEL

In History, when we explain our ideas we need to write PEEL paragraphs.

P - POINT - Use words from the question to start your paragraph and say what the paragraph is about.
E - EXAMPLE - For example,.... Show off key facts, key words, dates etc
E - EXPLAIN - This meant, this led to, Therefore...
L - LINK your ideas back to the question and use key words from the question again to make sure you do this.

Timeline – Ireland and the Peace Treaties

1845 - The Great Irish Potato Famine.

1890 Birth of Irish nationalist Michael. Collins

1916 Easter rising

1918 WWI ends

1919 IRA set up

1919 Treaty of Versailles

1921 Treaty singed ending War of Independence in Ireland

1922 Irish free state set up

1949 Irish Republic set up

Timeline –Hitler's Rise to Power

1918- World War 1 ends Ebert becomes the new leader of Germany

1919 - Treaty of Versailles

1921 - Hitler becomes the leader of the NSDAP (Nazis)

1923 - Hyperinflation means the value of money plummets and prices sky rocket

1923 - Hitler tries to take power in the Munich Putsch

1924 Hitler is sent to Landsberg Prison

1929 Wall Street Crash in the USA leads to a worldwide depression

July 1932 - The Nazis are the biggest party in the Reichstag with 37% of the vote

1930-32 support for extreme left and right wing parties grows

February 1933 - the German Reichstag is burnt down

January 1933 - Hitler becomes the Chancellor of Germany

Timeline – Second World War

1939 Hitler invades Poland

May-June 1940 Dunkirk evacuation

July to November 1940 The Battle of Britain

Dec 7 1941 Japan attacks the US naval base at Pearl Harbour

July 1942-Feb 1943 The Battle of Stalingrad.

6 June 1944 D-Day

8 May 1945 Victory in Europe day. VE Day

May 1945 Hitler committed suicide

Year 9 Term 2 Critical Knowledge Organiser

Frequency adverbs
Always - siempre
Never - nunca
Sometimes- a veces
Often - a menudo
Rarely - raramente
Normally - normalmente
Casi nunca / siempre - almost never/always

On my phone
Listen to music- escuchar música
Dowload music- descargar música
Chat online- chatear en linea
Do shopping- hacer la compra
Watch videos - ver videos
Send msg- mandar mensajes
Play videogames - jugar videojuegos
Upload fotos - subir fotos
Do homework- hacer los deberes
Make videocalls-llamar por videollamada

Conjunctions
And - y
But - pero
Or - o
Neither- ni
Because - porque
However - sin embargo
Also - también
Furthermore - además
Then - luego
After - después
Although - aunque
By contrast - por el contrario

On TV
A movie- una pelí/ película
adventure - de Aventura
romantic - de amor/romántica
horror - terror
action - acción
cartoons - dibujos animados
documentary - documental
soap - telenovela
serie - serie
game show- concurso
comedy- comedia
sports program- programa de deporte

At home
I watch TV - veo la television
I read magazines - leo revistas
I relax - descanso
I cook - cocino
I was the dishes- friego los platos
I lay the table- pongo la mesa
I do the ironing- plancho la ropa
I hoover- paso la aspiradora
I tidy my room- arreglo mi dormitorio
I take the rubbish out- saco la basura

Time phrases
In the morning - por la manana
In the afternoon- por la tarde
In the evening- por la noche
After school - después del insti
At the weekend - los fines de semana
Last night- anoche
Yesterday-ayer
Tomorrow-mañana
This weekend- este fin de semana

Daily routine
I wake up-me despierto
I get up-me levanto
I have a shower- me ducho
I brush my teeth- me lavo los dientes
I brush my hair- me peino
I get dressed- me visto
I go back home- vuelvo a casa
Hago los deberes- I do homework
I go to bed- me acuesto

Key verb forms

Past	Present	Future
Fui - I went	Voy- I go	Voy a ir - I'm going to go
Fuimos - we went	Cfui - I went	Vamos a ir- we are going to go
Fue - it was	Es - it is	Va a ser - it's going to be
Vi - I watched	Veo- I watch	Voy a ver- I'm going to watch
Hice - I did	Hago - I do	Voy a hacer - I'm going to do
Escuché - I listenend	Escucho - I listen	Voy a escuchar- I'm going to listen
Chateé- I chated	Chateo-I chat	Voy a chatear - I'm going to chat

Express opinions
I love-me encanta(n)
I'm crazy about- me chifla(n)
I like -me mola(n)
I prefer- prefiero
I don't like-no me gusta(n)
I can't stand - no soporto
I cannot stand (H) - no puedo soportar
I hate- odio

Porque es/son - because it is

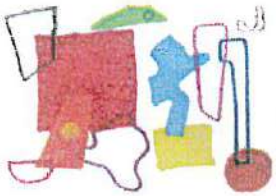
Fun-divertido/a/s
Boring-aburrido/a/s
Interesting-interesante/s
Entertaining-entretenido/a/s
Exciting-emocionante/s
Tiring -agotador/es
Funny - gracioso/a/s
Captivating - cautivador/a/es/s

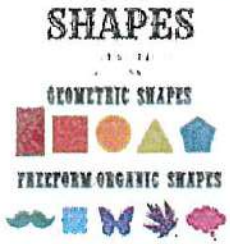
The time
Es la una/ son las dos..

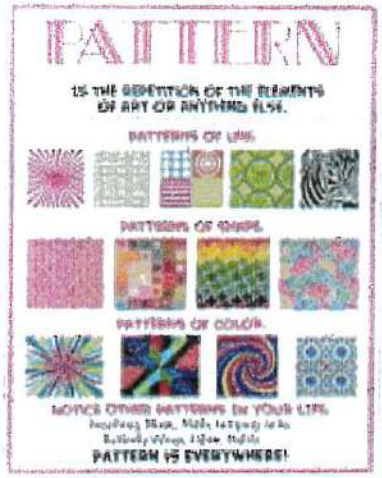
Year 9 - Art

Formal Elements
Critical Knowledge Organiser

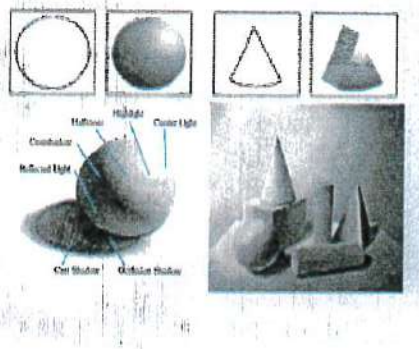
Shape





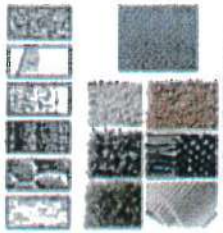


Form

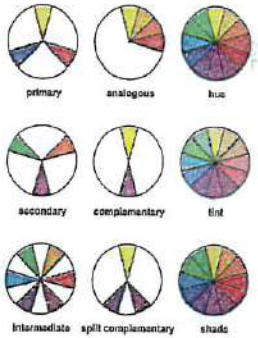


Texture

- Real
  - How something feels
- OR
- Implied
  - Looks like it feels
- Examples: rough, smooth, sandy, fuzzy, slick

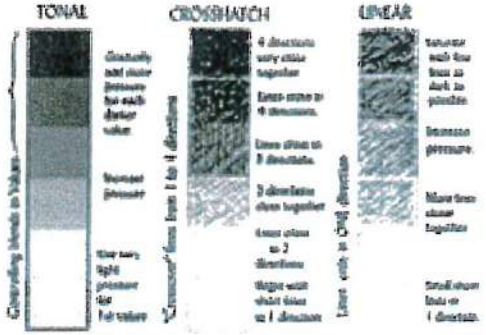


Colour

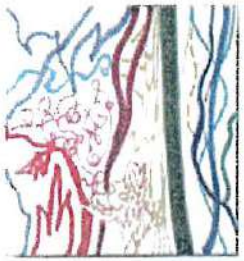


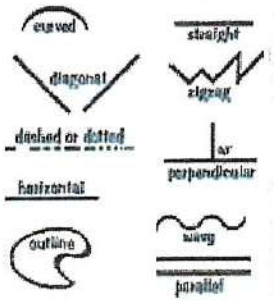
Primary colour		Primary colour		Secondary colour
red	+	yellow	=	orange
yellow	+	blue	=	green
blue	+	red	=	purple

Tone

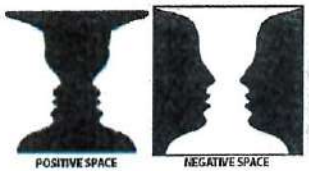


Line





Space/ Composition



Positive & Negative space.
Negative space is, quite simply, the space that surrounds an object in an image. Positive space is the space filled by the main item in the artwork

How will I be assessed?
application of the PE
design & presentation
Mastery of skill
independent exploration
creativity

Shelfield Art Department

Formal Elements Definitions

Tone

This refers to the lightness or darkness of something. This could be a shade or how dark or light a colour appears. Tones are created by the way light falls on a 3D object. The parts of the object on which the light is strongest are called highlights and the darker areas are called shadows

Form

A form can be three-dimensional, like a sculpture. Form can also be when a shape has had tone added to give the impression that it is three-dimensional.

Shape

Shape is an image that is created when the ends of a line join. Shape is a flat, enclosed area of an artwork created through lines, textures, colours or an area enclosed by other shapes for example triangles circles and squares.

Composition/ Space

Space is the boundless, three-dimensional extent in which objects and events occur and have relative position and direction.
In art we think about space and composition, this is about how a piece of art is put together.
Choosing how things look, or where to put them.
HOW THE PIECE OF ART IS PUT TOGETHER

Line

It is a path of a moving point, such as pen, pencil or brush. Lines vary. They can be bold and heavy or light and delicate. They can be straight or curvy. Long or short.

Colour

Colour is what we perceive when light reflects off a surface. It is a sensory experience as a result of vision. There are three features of colour: hue, saturation and lightness.

pattern

Pattern is a decorative design, usually made up of repeated shapes or images.

Texture

Texture is the sight or feel of a surface. A texture could be rough, smooth, bumpy, sharp, fluffy. We can add texture to a drawing through different types of line and mark making.

Shelfield Art Department

Arts Award Part A
Critical Knowledge Organiser

Year 9 - Art

Part A

Explore the arts as a participant

The young people are invited to choose an art activity they would like to develop - either something they already know, or something totally new. OmniArts will help facilitate a workshop to allow the young person to develop.

Keywords/ Terms

Explore
Learn
Participant
Develop
Skills
Improvements
Arts Activity
Stages
Enjoyment
Take Part
Creativity

How will I be assessed?
application of IT
design & presentation
mastery of skill
creativity

HOW TO COMPLETE PART A

Can you choose appropriate arts activities to take part in and therefore develop and improve your skills?

Can you challenge yourself to learn NEW skills?

Describing what you have taken part in...

- You can see from the photographs that I have.....
- These photos show how I am developing...
- I have enjoyed..... Because....However I found.... More difficult/ challenging
- The photos show me improving...
- I have had the opportunity to develop my.....skills and understanding by.....

Explaining the processes and skills you have undertaken...

- I have been able to develop both my practical skills... And my understanding of....
- Here you can see I am focusing on the formal elements... These are important within the work because...
- Within my photographs you can see.....I was also able to improve my understanding of what creativity is. This can be seen in.....

Evaluating your learning and the art you have created...

- I have improved my ability to.... I did this by...
- I enjoyed.... The most because...
- I enjoyed.... The least because...., although I was still able to develop....skills
- I have developed my understanding of...
- I now have a better understanding of....
- When I create art work again I would like to..../ I will.... / I can.... Because....
- To develop my art skills further I would like to.... Because...

arts award

Shelfield Art Department

Arts Award Part B
Critical Knowledge Organiser

HOW TO COMPLETE PART B

Can you select an arts event to experience?
Can you effectively review that arts experience and share your views with others?

Part B

Explore the arts as the audience

The young people choose an art event they would like to attend and review - from theatre to an art exhibit. OmniArts will help facilitate attending, and the young people will be invited to share their review with the rest of the group.

EXAMPLES

Describing what you experienced...
- During the Art Gallery trip/ exhibition/ viewing I was able to experience...
- I saw different types of art works such as...
- I found... most interesting because...
- I found ... least interesting or inspiring because..

Explaining what you learnt from the experience...
- Through the gallery visit I am now more aware of... as a type of art because...
- It is important to experience the arts first hand because...
- I now understand...
- I would now like to see.... because....
- This experience has made me want to...

Reviewing your Peers Presentation/ discussion of your presentation...
- From your presentation I can see that you have...
- You have shown good understanding of...
- I like... on your presentation because it shows...
- I think you could have improved your presentation by...
- Your own opinions of your arts experience is clear/ could be clearer because...
- You have shown a clear review of the experience because..
- You could have shown a clearer review of the experience by....

Keywords/ Terms

Review
Experience
Share
Explore
Art Gallery
Exhibition
Sharing
Reviewing
Interesting
Inspiring
Opinion

How will I be assessed?
using inspiration, design & presentation, analytical skills, contextual references

arts award

Shelfield Art Department

Arts Award- Part C
Critical Knowledge Organiser

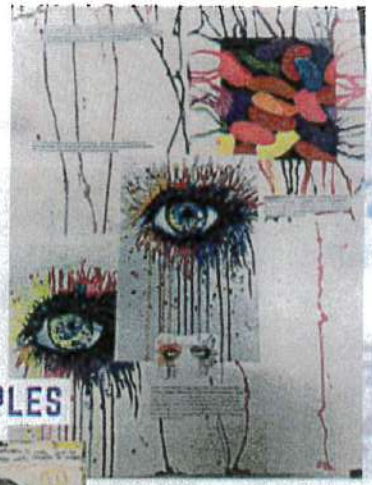
Part C

Arts inspiration

The young people choose an artist who inspires them. They research their life, and present their findings in a summary in any format that others can understand. OmniArts will help with making connections where required.

HOW TO COMPLETE PART C

EXAMPLES



Can you select an appropriate artist to research who inspires you?
Can you explore their style using appropriate materials and techniques?
Can you present your research creatively?

Describing how they inspired you...

- I found the work of... interesting because
- I have enjoyed exploring the work of....because
- The style of the artist...is....
- I have explored the artist.... their work is interesting because...

Explaining what you like about their work...

- I have found the style of the artist... exciting to explore because...
- The artists' work is creative and inspiring because...
- I am drawn to their style of work because.... I have tried to practically explore their style to by...
- I have enjoyed looking at the Artist....in more detail because...

Reviewing what you learnt about them...

- From doing my research I was able to find out...
- Exploring the Artists history has meant I know understand...
- I have engaged with the Artist... by exploring their background and biography I now know...
- After conducting my research I think.... because....
- In my opinion.... is a creative artist because... I particularly like...

Keywords/ Terms

Review
Inspiring
Artist
Research
Style
Findings
Presentation
Explore
Creatively
Engaging
Summary

How will I be assessed?
using inspiration, design & presentation, analytical skills, contextual references, creativity

arts award

Shelfield Art Department

Arts Award- Part D
Critical Knowledge Organiser

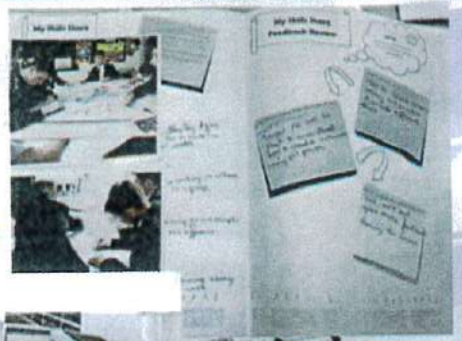
HOW TO COMPLETE PART D

Can you develop your skills as an art leader?
Can you organise your knowledge and understanding of a topic to teach others?

Part D

Arts skills share

The young people choose a skill they have, and plan a session in which they can pass on that skill to the rest of the group. OmniArts will help guide the young person in planning their session, and facilitate the opportunity for them to deliver it.



Keywords/ Terms

Skills
Share
Planning
Presentation
Resources
Session
Facilitate
Opportunity
Teaching
Reviewing
Designing

EXAMPLES

Describing your arts skill share activity...

- The arts skill that I would like to share is...because
- I am creating a skills share activity that will teach others.....this is because...
- Sharing different skills with others is a good opportunity because....

Explaining what key things you will need to consider when designing your skills share...

- I will consider how I am going to design resources and how I will explain the techniques by...because...
- I am going to make sure it is engaging for others by...
- I will know I have been successful if...

Explaining what you have learnt...

- By sharing my skill with others I now understand...because...
- I have now realised that I could have...
- My planning for the sharing was.... I could have improved/changed.... to make.... more successful

Reviewing your arts skills share..

- If I were to do a skills share again I would.... because...
- I would focus more on... and less on... because...
- I found the sharing experience positive because...
- I feel that sharing skills with others was... because...

How will I be assessed?
using inspiration, design & presentation, analytical skills, contextual references, creativity, mastery of skill

arts award

Sheffield Art Department

Biro & Fineliner Drawing
Critical Knowledge Organiser

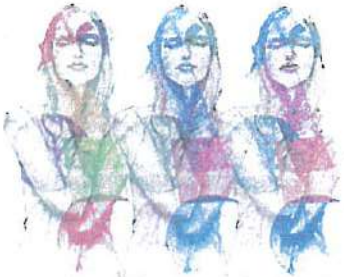
Year 9 - Art

Biros are good for drawing fine lines. They respond to changing pressure by leaving marks that range from very fine and faint to bold and solid.

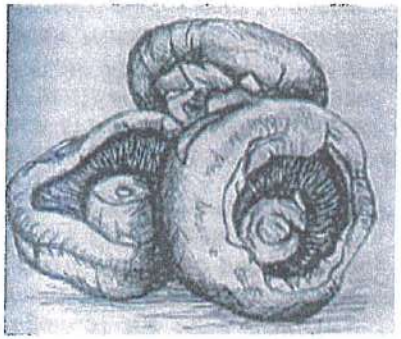
Biros can be very expressive and are useful for exploring **cross-hatching** or other ways of building up textured tonal effects.
It is worth experimenting with different colours of biro to create different tonal effects.

MARK POWELL

JACK DILLHUNT



LER HUANG

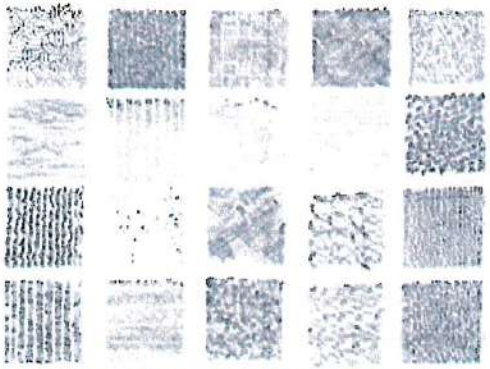


Fine liners can be used to create bold, definite lines that have an even thickness. Felt tips give a thicker line. Both types of pen can be used for stark black and white images or to create bold, richly coloured drawings.
Tone and colour can be built up using **hatching**, cross-hatching or by dotting your surface with the end of your pen.

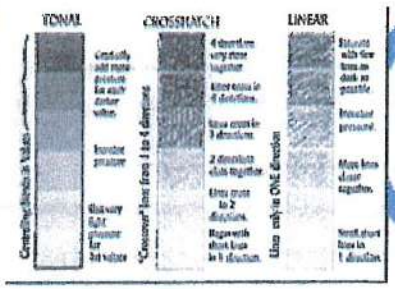
TOP TIPS

- Build in layers
- Don't try to erase
- Use cross hatching
- Explore different mark making techniques
- Take your time!

How will I be assessed?
application of the JE
design & presentation
Mastery of skill
independent exploration
creativity



MARK MAKING IDEAS



BIRO & FINELINER DRAWING

Shelfield Art Department

Year 9 Music Knowledge Organiser

EDM Term 2A

Keywords:

Synthesizer – A keyboard like instrument
Hook – A repeated catchy melody/tune
Structure – How the song is built and put in order
The Build – A section of the music which builds up and creates tension
The Drop – A section of the music where instruments drop out and join back in again at the same time
Riser – An instrument that creates an ascending sound
Time signature – How many beats fit into a bar of music, EDM usually uses a 4/4 time signature.

EDM (Electronic Dance Music) is a type of music made using electronic devices like computers and synthesizers. It's often played at parties, clubs, and festivals because of its catchy beats and energetic rhythms. The music usually has a strong beat, and it can include different styles like house, techno, and dubstep. EDM artists create their tracks by mixing sounds, loops, and effects, and their songs are designed to make people want to dance!

Some popular EDM artists:
Avicii, Daft Punk, David Guetta, Calvin Harris, Marshmello

EDM music has two distinctive sections. The first is the build, in which instruments layer up one by one, creating a building feeling of tension and excitement. A riser is used to help do this.
The second section is called the "Drop" where there is usually a short space of silence before all other instruments start playing again at the same time. This creates the feeling of the beat "dropping"

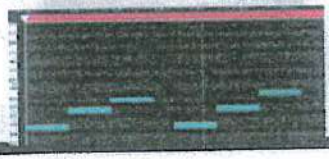
MIDI Term 2B

Keywords:

MIDI – Stands for Musical Instrument Digital Interface
DAW – Stands for Digital Audio Workstation
MIDI Editor – A virtual piano grid
Software instrument – A virtual instrument that simulates real sounds
Automation – A tool that is used to automatically adjust the volume of software instruments.

MIDI (Musical Instrument Digital Interface) is a way for electronic devices, like computers, keyboards, and music software, to communicate with each other. It doesn't carry actual sounds but instead sends digital messages that tell the device what notes to play, how loud to play them, and for how long. This makes it easy to create and edit music on a computer, even without real instruments. MIDI is used by musicians and producers to make all kinds of music!
We will be using Bandlab, which is a DAW that is used to create and produce music online! To create music with software instruments we must open the **MIDI editor**, and then double click the computer mouse in a space in the grid to input a note. You can also double click a note to delete a note.

The main advantages of using software instruments are:
1 - It is easier to input midi data in and pick any virtual instrument to use without learning how to play and record the actual instrument.
2 - there is a huge amount of variety and options to choose from. Simply change by clicking the instrument and changing the sound from the library.



Year 9 Drama knowledge Organiser

Practitioners: Konstantin Stanislavski

Who is Konstantin Stanislavski and what is he famous for?

Stanislavski is a Russian Theatre practitioner and actor and became famous for Naturalistic theatre.

What is Naturalistic theatre?

A theatre style that aims for life-like or a realistic representation of everyday life.

Key techniques and methods:

- **Linear storylines**
  (the performance structure that has a start, middle and end in that order)
- **Realistic Characters and emotions**
  (Stanislavski wanted the audience to become immersed with the characters on stage, almost as if the audience were the characters.)
- **Emotional Journey**
  (where the audience experience a journey of r different emotions and issues as they watch the play)

Job Roles:

Director

A director is responsible for the overall creative vision of a production, interpreting a script and communicating to the other roles to ensure that the vision pf the performance is created.

Actors

The role of an actor is to bring characters to life through performance. Actors use their voices, bodies, and emotions to tell stories and evoke feelings in audiences.

Costume Designer

A costume designer is responsible for creating the clothing and accessories worn by characters, ensuring that costumes enhance storytelling and reflect character development.

Set Designer

A Set Designer creates the look of the stage through designing a set for a theatre production. This role is a combination of creativity and practicality as Set Designers must create not only the design but also make sure it can practically come to life within budget.

Sound and Lighting Designer

Although these roles can be separate a Sound and Lighting designer are responsible for both Auditory and visual aspects of the performance. They are in charge of creating an atmosphere suitable for the performance through lighting the stage and providing sound and music at key moments.

Year 9 Drama knowledge Organiser

I Don't Like Mondays:

Who is Brenda Ann Spencer and what did she do?

On January 29th 1979, at just 16 years of age, Brenda Spencer sat in her home and fired shots from the window using a 22 caliber rifle her father had brought her for Christmas. She fired at children waiting to go into Cleaveland Elementary School- killing the Head teacher and a police officer who attended the scene

What was her home life like?

After her parents separated, she lived with her father, Wallace Spencer, in virtual poverty; they slept on a single mattress in the living room. Police later found half empty alcohol bottles throughout the house.

Key Techniques we explored:

Slow Motion
Reducing the speed at which a drama is enacted to highlight a specific scene or key moment, bringing it into focus. Slow motion can also be used to create dramatic tension by slowing down the action to an important event.

Direct Address
When a character speaks directly to the audience and connects with us telling us information we may not already know about the characters and situation.

Tableau
A Tableau is a representation of a dramatic scene, where a person or group walk in at specific times, posing silently without moving. The scene gradually builds up one person at a time revealing the final image. (Like a jigsaw puzzle)

Flashforward
A moment or scene where character jump forward in time to show a key moment

There are 3 parts to a Flashback/ Flashforward
Part 1- (Present time)
Freeze
Part 2- (Past or Future depending)
Freeze
Part 3- (Present)

Flashback
A moment or scene where the characters jump back in time to show a key moment

Practitioners: Bertolt Brecht

Who is Bertolt Brecht and what is he famous for?

Brecht is a German playwright and theatre practitioner and became famous for Non-naturalistic theatre.

What is Non-naturalistic theatre?

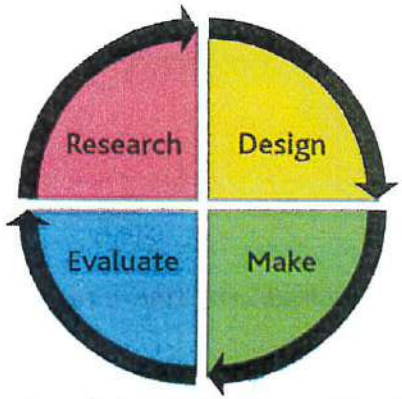
A theatre style that does not aim for life-like or a realistic representation of everyday life.

Key techniques and methods:

- **Breaking the Fourth wall**
  (Where the actors directly acknowledge the audience)
- **Spass**
  (Allowed audience to think and break tension in serious moments, Spass means 'fun' in German!)
- **Non-linear storylines**
  (the structure doesn't follow the typical start, middle, end it can be moved or jumps forwards and backwards in time.)
- **Multirole**
  (where a actor plays more than one character)
- Multi purpose props
  (where props are used for other things rather than its conventional purpose)

Year 9 Knowledge Organiser

The Design Process



Stage	What does this mean?	
Research	Understand the problem, gather inspiration and explore existing solutions.	
	User Needs	Who is the product for? What do they need?
	Product Analysis	Looking at existing products to see what works well and what doesn't.
	Design Brief	A short statement that outlines the task.
	Specification	A list of requirements the product must meet.
Design	Develop creative ideas and plan how the product will be made.	
	Idea Generation	Sketching and brainstorming multiple ideas.
	Annotation	Adding notes to explain your ideas.
	Technical Drawing	Accurate drawings with measurements.
	Materials Selection	Choosing the right materials for the job.
Make	Use tools and materials to create the product.	
	Planning	Step-by-step plan of how to make the product.
	Tools & Equipment	Knowing how to use tools safely and correctly.
	Quality Control	Checking your work as you go to ensure accuracy.
Evaluate	Reflect on the success of the product and the process.	
	Testing	Does the product work as intended?
	Feedback	What do others think of the product?
	Improvements	What could be done better next time?

Research

Area	Focus	Examples
Product Design	Investigate user needs, materials, and existing products.	Looking at existing valet stands; Looking at scales of production
Food	Explore nutrition, dietary needs, and food origins.	Investigating festival and street food.
Textiles	Study fibres, fabrics, textile artists and fashion trends.	Investigating different aspects of traditional and modern Japanese culture

Design

Area	Focus	Examples
Product Design	Sketch ideas, use CAD, plan dimensions.	CAD Drawing
Food	Plan recipes, consider presentation and nutrition.	Producing a simple time plan for a dish,
Textiles	Create patterns, choose colours and textures.	Developing surface patterns based on Japanese culture

Make

Area	Focus	Examples
Product Design	Use tools to shape and join materials.	Accurate marking out; Wood joints; Finishing techniques; Jigs
Food	Follow recipes, use kitchen equipment safely.	Enrobing; Breadmaking; Crimping; Shaping
Textiles	Use sewing techniques and equipment.	Fabric painting, Sachiko,French seams, embroidery, heat press printing

Evaluation

Area	Focus	Examples
Product Design	Test product function and durability.	Evaluating with a focus group. Evaluating using ACCESS FMM
Food	Taste, texture, appearance, and nutrition.	Does the product look appealing? Could it be eaten as street food?
Textiles	Fit, finish, and user feedback.	Is the product well sewn? Does the pouch function as a container?

Food Technology - Micronutrients

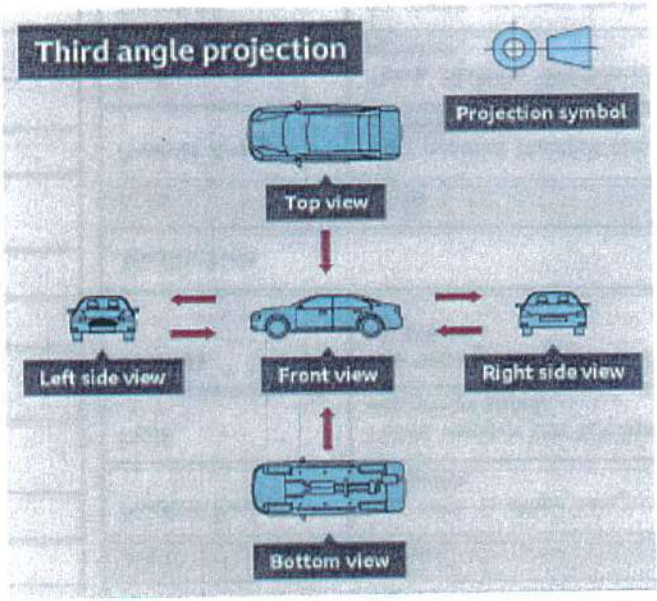
MICRONUTRIENT	FUNCTION	SOURCES
Vitamin a	• Helps eyesight • Healthy skin	Green and leafy veg, dairy products
Vitamin B	- Energy release from foods - Healthy skin	Bread, milk, eggs
Vitamin C	- Healthy skin - Helps absorb iron - Cell protection	Oranges, citrus fruits, vegetables
Vitamin D	- Helps absorb calcium - Stronger teeth and bones	Dairy products, oily fish
Vitamin K	• Helps blood to clot properly	Bacon, leafy and green veg

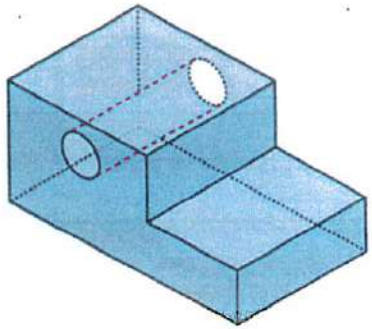
Textiles- Properties of natural fibres

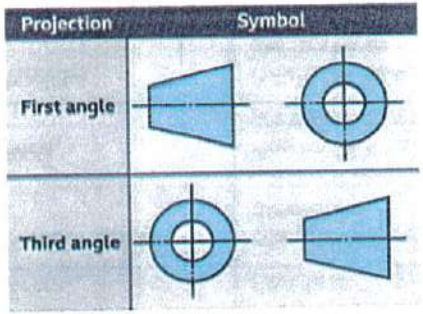
Natural fibres are all derived from vegetation, cellulose-based materials, as well as products that are made from animals.

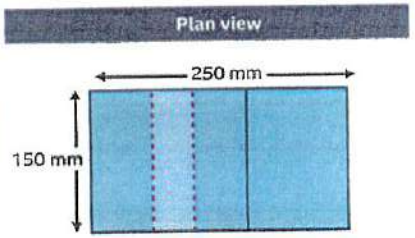
Natural fibre	Properties
Cotton	Cool, cheap, strong, renewable, comfortable to wear, can withstand high temperatures
Bamboo	Cheap, renewable, soft, absorbent, comfortable
Linen	Renewable, strong, creases easily
Wool	Soft, hardwearing, renewable
Silk	Expensive, drapes (hangs) well, renewable, good insulation properties (cool in summer, warm in winter)

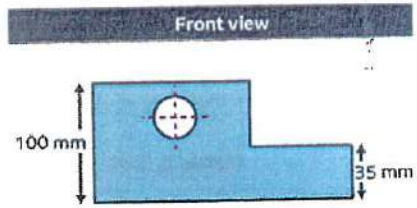
Product Design - 2D and 3D Drawing

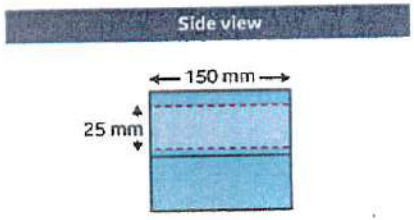


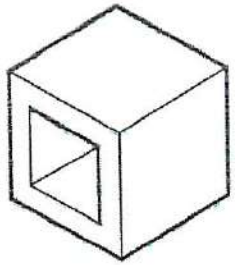


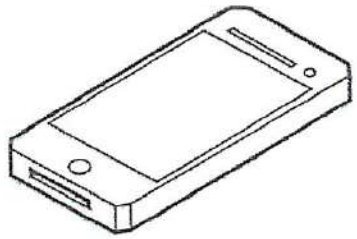












Extended writing:
Because - to explain why your statement is true.
But - to introduce a different or contrasting statement.
So - to show the consequence of your statement.

Year 9: Physical Education (PE) Methods of Training and Principles of Training (1)

Cardiovascular Fitness

The ability to exercise the entire body for long periods of time

Marathon
Long Distance Cycling
Long Distance Swimming

Continuous Training:

- Involves steady-state exercise at a moderate intensity for an extended period (at least 20 minutes).
- Examples include jogging, swimming, or cycling at a consistent pace.

Interval Training:

- Alternates between periods of high-intensity exercise and periods of rest or low-intensity recovery.
- Can be adapted to improve various components of fitness, including speed, strength, and muscular endurance.
- Examples include sprinting with recovery jogs or repeated sets of exercises with rest periods.

Fartlek Training:

- Also known as "speed play," combines elements of continuous and interval training.
- Involves varying the pace and intensity of exercise over different distances and terrains.
- Suitable for games players who need to maintain a high intensity for short bursts followed by recovery periods

Muscular Strength

The amount of force a muscle can exert against a resistance.

Weightlifter
Shot Putter
Wrestler

Weight Training:

- Uses resistance to strengthen muscles and improve muscular endurance.
- Can be adapted to focus on different muscle groups and fitness components.
- Involves lifting weights for a specific number of repetitions and sets.

Circuit Training:

- Involves a series of exercises performed one after another with minimal rest in between.
- Can be adapted to improve a wide range of fitness components.
- Each exercise is performed at a different station, and participants rotate through the stations

Flexibility

The range of motion available at a joint.

Gymnast
Dancer
Divers

Static Stretching:

Description: This involves holding a stretched position for a period of time, typically 10-30 seconds.

Examples: Standing hamstring stretch, shoulder stretch, triceps stretch.

Dynamic Stretching:

Description: Involves controlled, flowing movements that take a joint through its full range of motion.

Examples: Leg swings, arm circles, torso twists.

Passive stretching relies on an external force to stretch a muscle, rather than the individual's own muscular effort.

Principles of Training

FITT Principle

- **Frequency:** How often you exercise (e.g., number of times per week).
- **Intensity:** How hard you exercise (e.g., using heart rate, perceived exertion, or weight lifted).
- **Time:** How long you exercise for (e.g., duration of a single workout).
- **Type:** The kind of exercise you do (e.g., cardio, strength training, flexibility).

Specificity - training must be **relevant** to the individual and their sport. This can be achieved by tailoring training specifically for the sport or even the position that the individual plays, the muscle groups that they use the most or the dominant energy system of the athlete

Progressive overload - training frequency, intensity, time or type (FITT - see below) must be **increased** over the training period to ensure that the body is pushed beyond its normal rhythm.

Individual needs - all athletes are different. Training must be related to the athlete's age and *gender*, their injury status and fitness level. Any training that fails to be relevant to the individual will fail to motivate the athlete and will prove to be unsuccessful in the long term.

Rest and recovery - physical adaptations occur during the recovery and non-active period of the training cycle. Therefore athletes and trainers must achieve the right amount of rest between sessions, good sleep patterns and the right nutrition, including the use of *protein*, to help repair the damage caused by intense training.

Reversibility - systems reverse or de-adapt if training stops or is significantly reduced or injury prevents training from taking place. It is essential to avoid breaks in training and to maintain the *motivation* of the athlete.

Overtraining - if an athlete does not have sufficient rest periods then they are at risk of overtraining. This is when the body does not have time to adapt to the training and as a result the fitness of the athlete declines and they are more at risk of becoming ill or injured.

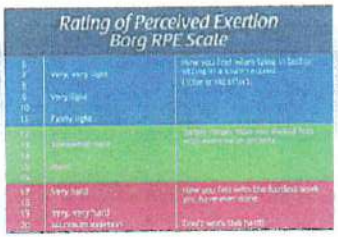
Year 9: Physical Education (PE) Methods of Training and Principles of Training (2)

Muscular Endurance *The ability of a muscle to perform repeated contractions over a period of time.* Rower Rugby Player Swimmer	**Circuit Training:** • Involves a series of exercises performed one after another with minimal rest in between. • Can be adapted to improve a wide range of fitness components. • Each exercise is performed at a different station, and participants rotate through the stations.	
Agility *The ability to change direction quickly and efficiently.* Footballer Basketballer Netballer	**SAQ (Speed, Agility, and Quickness)** training focuses on enhancing an athlete's ability to move quickly and change direction efficiently. It involves short, intense drills that improve explosive movements, reaction time, and overall athletic performance. SAQ training is not just about speed; it also incorporates agility, which involves the ability to change direction with control, and quickness, which is the ability to react and move rapidly.	
Power *The ability to exert maximum force quickly (strength x speed).* Javelin Thrower Golfer Cricketer	**Plyometric Training:** • Involves exercises that use the stretch-shortening cycle to develop explosive power. • Examples include jump squats, box jumps, and depth jumps. • Used to improve power and speed for activities like sprinting and jumping.	
Speed *The ability to move quickly* 100m Sprinter Tennis Player Long Jumper	**Interval Training:** • Alternates between periods of high-intensity exercise and periods of rest or low-intensity recovery. • Can be adapted to improve various components of fitness, including speed, strength, and muscular endurance. • Examples include sprinting with recovery jogs or repeated sets of exercises with rest periods.	**Fartlek Training:** • Also known as "speed play," combines elements of continuous and interval training. • Involves varying the pace and intensity of exercise over different distances and terrains. • Suitable for games players who need to maintain a high intensity for short bursts followed by recovery periods

Additional Information

Borg Scale

The Borg RPE scale rates exertion from a scale of 6 (no exertion) to 20 (maximum effort). A rating between 12 to 14 typically reflects a moderate or somewhat hard level of intensity



Training Zones

Training zones are specific intensity levels used in workouts. 60% to 80% is classified as aerobic and 80%+ is classified as anaerobic

Ormiston Shelfield Community Academy

Year 9 – ICT

What is HTML:

HTML stands for 'Hypertext Mark-up Language' and it is the language of the web. Almost all webpages are written in HTML.

- HTML is made up of "Tags" (often in pairs).
- HTML tags are used to tell the browser how some text (or an image) is to be arranged on the webpage, giving the page content some structure.
- Different tags do different jobs, for example, this is the HTML tag that tells the browser to display some text as a heading:

This is the text to be displayed on the webpage

<h1>This is the Title</h1>

These tags tell the browser to display the text as a heading (big and bold)

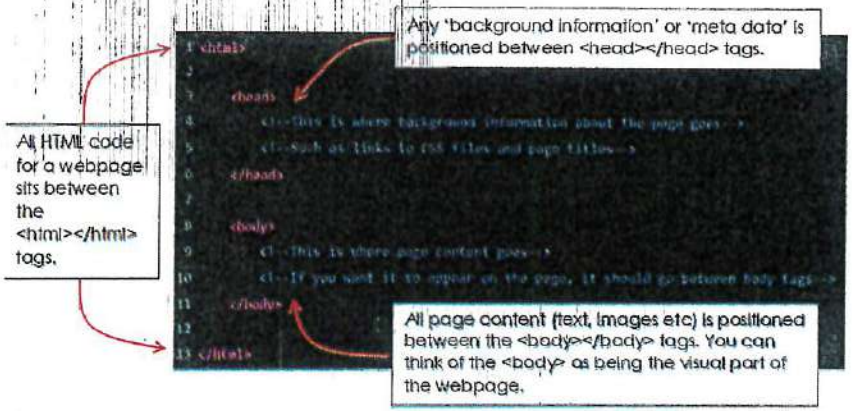
For pairs of tags, the closing tag will always contain a forward slash.
For example, < tag_name > < / tag_name >

Headings, Breaks and Background Colours:

- Heading <h1> tags, will restyle the text it surrounds so that it is big and bold.
- Horizontal Rule <hr> tags add a line across the page.
- Break <br> tags create a new line (like hitting enter on a keyboard when typing).
- Adding the <body> tag's 'bgcolor' attribute, along with a colour name or code as its value, will change the background colour of the webpage.

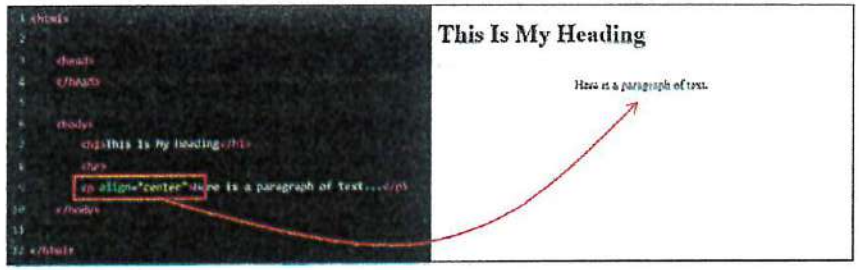
Starter Code:

All pages written in HTML will begin with some basic starter code. These include 3 important pairs of tags (html, head and body):



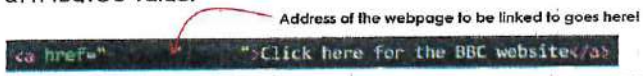
Paragraph Tags:

Paragraph tags have a property that allows text to bed aligned.
In the example below, you can see how the property 'align' has been given the value 'center' (notice American spelling) to centre align the text. It will also accept the alignment values 'left', 'right' and 'justify'.



Hyperlinks:

When we create a text-based hyperlink, we surround the text with anchor tags. In the opening anchor tag, we need to add the address of the webpage that we would like the text to open, when it is clicked. This is done using the 'href' attribute along with an address for the attribute's value.



HTML Tags:

HTML tags are used to do almost everything when creating a website. This includes:

- Page layout
- Text formatting
- Multimedia formatting
- Hyperlinks

Below is a table which includes some main tags and what they are used for:

Tag	Description
to	Used for styling text as different levels of headings.
	Used for adding paragraphs of test to a webpage.
<title> </title>	This is for setting the title of the webpage.
	Makes text bold
<u> </u>	Underlines text
	Formats text to italics
  </br>	Stands for break. All text after it is on a new line.
<table> <tr> <td> </td> </tr> </table>	Used to create a table on the webpage. 'tr' stands for table row and creates a new row. 'td' starts a cell to enter data into it.

Images:

Images can be added to an HTML page using the <img> tag. The image tag has the attribute 'src' (meaning image source), which will take the address of an image as its value.

The image below shows an example of the image tag in action.

```
<img src="img_girl.jpg" alt="Girl in a jacket" width="500" height="600">
```

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Year 9 – ICT

Analysing Threats to Digital Systems:

Malware:

This software that is designed to act maliciously while it is on your device. The malicious intent can include:

- Data theft
- Disabling hardware to stop your device working
- Pop up adverts that are forced
- Ransoming the device owner

There are several different types of malware that all at in unique ways in method of attack:

- Virus – is where an infected file will self-replicate repeatedly across the entire file structure of a device. The virus will spread from file to file until it has infected complete programs and even the entire device. Viruses only start infecting because the user of the device has opened a file that has been originally infected.
- Worm – these work in a similar way to a virus because they replicate themselves repeatedly, but they are different because they do not attach themselves to files and programs. Worms also spread through a network by moving from computer to computer and use the resources of the system. This means they can slow a network down and make it slow to respond.
- Spyware – where a piece of software will monitor what you are doing gathers you information silently in the background without you knowing. This is done through monitoring internet usage and the buttons you press on your device.

Social engineering:

This is where a person will trick other people into being scammed through the device that they are using. This can happen several different ways:

- Phishing attack – when you receive an email that appears legitimate, when really it is fake and is from someone attempting to steal your private data.
- Shoulder surfing – when you watch someone closely as they enter their private information into their device like a username and password for an online account.

Policy, procedures, and actions:

Keeping data secure:

- Making regular backups of files (backup copies should be stored in fireproof safes or in another building).
- Protecting yourself against viruses by running anti-virus software.
- Using a system of passwords so that access to data is restricted.
- Safe storage of important files stored on removable disks, e.g., locked away in a fireproof and waterproof safe.
- Allowing only authorised staff into certain computer areas, e.g., by controlling entry to these areas by means of ID cards or magnetic swipe cards.
- Always logging off or turning terminals off and if possible, locking them.
- Avoiding accidental deletion of files by write-protecting disks.
- Using data encryption techniques to code data so that it makes no apparent sense.

User access restriction and data level protection:

To help reduce the threat to digital systems, organisations place restrictions on who can access their systems. User access restriction means that only authorised personal of an organisation can log in to their computer systems. People outside of the organisation are usually given a guest account that has very limited access. This helps maintain a secure system.

To protect data against malware it is good practice to have anti-virus and an active firewall installed.

- Anti-virus protects a computer by scanning files and detecting and removing viruses, spyware, and other types of malware.
- A firewall oversees checking incoming connections to a computer network. A firewall will check if the incoming connection can be trusted. Any connection that risks passing on malware will be blocked before it connects.

Investigating the impact of security breaches

Digital systems are hit by security breaches for several reasons. These include: financial gain, data theft, revenge on former employers, for fun / challenge of successfully hacking a target. Overall, making money out of these breaches is the main reason they occur.

Industrial espionage – this is where an organisation will digitally attack another organisation. It is usually a rival of their business that they compete with. The main reason why industrial espionage happens is to slow down business of a rival, but it can also lead to stealing future plans, sales information and financial documents.

Internal threats:

An internal threat is where the security breach occurs within the organisation. There are many reasons as to why a breach could be considered as internal:

- Unintentional disclosure of data
- Users overriding security controls
- Visiting untrustworthy websites
- Use of portable storage devices
- Intentional stealing or leaking of information
- Downloads from the internet
- Leaving computers open and unlocked
- Having sensitive information written down and left on display for others to see
- Paper based data and documentation left in open filling systems

External threats:

An external threat refers to the risk of somebody from outside of an organisation who attempts to breach the security. This can happen through several different methods:

- Malware (malicious software)
- Hacking by individuals, groups, terrorist organisations or governments
- Social engineering techniques

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Year 9 – ICT

Investigating User Interface Design:

There are lots of different types of interfaces which are used on a wide range of different devices. The main types are; Graphical User Interface (GUIs), Text-based, Menus, Forms, Speech, Sensor and Gestures. The type of interface you use will depend on what you are doing with the device and the type of device being used. For example; GUIs are best used on smartphones where we need to visually see what we are doing with the use of graphics. A speech-based interface can only work when you have a device with a microphone and speaker.

User Interface	A user interface is what a person uses to interact with an electronic device / machine.
GUI	This stands for Graphical User Interface. It is the most common type of user interface as it features a combination of text, pictures, icons and graphics. Your phone will most likely use a GUI.
Text Based	This type of interface uses text only. It is also known as a 'Command Line Interface'. You must have a keyboard to be able to use it and when typing it will only accept commands and keywords. It is used by programmers and IT technicians.
Menus	You will operate your device through a series of menus. On each menu you will pick a choose which will then move you on until you eventually complete your task or can't go any further. They are typically found and being used on ATM cash machines.
Forms	This is where the layout has been set out specifically for a person to follow and enter the data and information that is being asked for. Used when signing up to a social media account.
Speech	Relies on the use of voice to interact. They are used on smart speakers and with AI assistants (Siri, Alexa). You can talk fairly natural to it by asking questions and it will respond
Sensors	These work through the use of scanning and detecting. They will trigger an instruction to happen when something particular is scanned/detected. For example, a car alarm will trigger if movement is detected inside the vehicle while it is locked.

Hardware & Software Within User Interface Design:

Hardware - These are the physical parts that make up a computer or any other electronic device. You can physically touch, pick up and move hardware. Inside a computer case, you will find hardware such as; CPU, RAM, Motherboard, HDD.

The hardware being used can affect how the user interface works. For example, how powerful the hardware is will determine the complexity of the interface If the device features buttons it will affect user input.

Software - A collection of code, programs and applications that are required in order for the hardware to work and to tell it what to do. It allows you to do things such as play games, browse the internet, use social media and listen to music.

The type of code used to create an application will only work on certain operating systems and devices. Does the software take full use of the devices features.

Understanding Accessibility Requirements:

Accessibility is the name for design and features that assist people with disabilities and factors that limit them from normal use of a device. Making your device and user interface accessible is inclusive and allows you to include a wider audience of people into your products and services. People who require accessibility features have different types of needs based on their disability.

	Description
Visual	This is where a person has issues with their sight. It may be difficult for them to see things clearly or could be partially / fully blind. They could also be colour blind, which limits how they see the colour of different objects.
Auditory	Where a person has difficulty with hearing sound. They may be partially / fully deaf on one / both ears.
Speech	This is where people might take longer with being able to verbally communicate. There's also a possibility that may not be able to say or pronounce words clearly.
Motor	This is where a user may not be able to move their body normally, they could have restricted or no movement in their limbs.
Cognitive	When a person has limitations in their intellectual and mental functioning. It may take them longer to learn how to do things or figure out how things work.

User Interface Design Principles:

Intuitive Design - A user interface that has an intuitive design is one which doesn't require the user to do much learning or figuring out how it works. Just by looking at something that has an intuitive design, you already know how to use it. A light switch or door handle are examples of intuitive design.

Navigation - This is incredibly important towards how well a user interface works. Navigation is all about how the user is able to go from one screen to the next and how they all link for a smooth experience as possible. Poor UI navigation may mean that users don't experience your product correctly which results in them not using your product at all.

Shortcuts - These allow a user to quickly complete tasks by pressing a combination of buttons / keys on a keyboard. They are really helpful for speeding up certain processes and requiring less input from the user. Examples include; On Windows computers, pressing CRL+C to copy highlighted text, pressing CRL+S to save your document.

Ormiston Shelfield Community Academy

Year 9 – ICT

Editing clips:

MoviePlus allows you to edit content added to the timeline by trimming or extending the amount of time it plays. You can also use pan and zoom features to change the perspective of the content while it is being viewed.

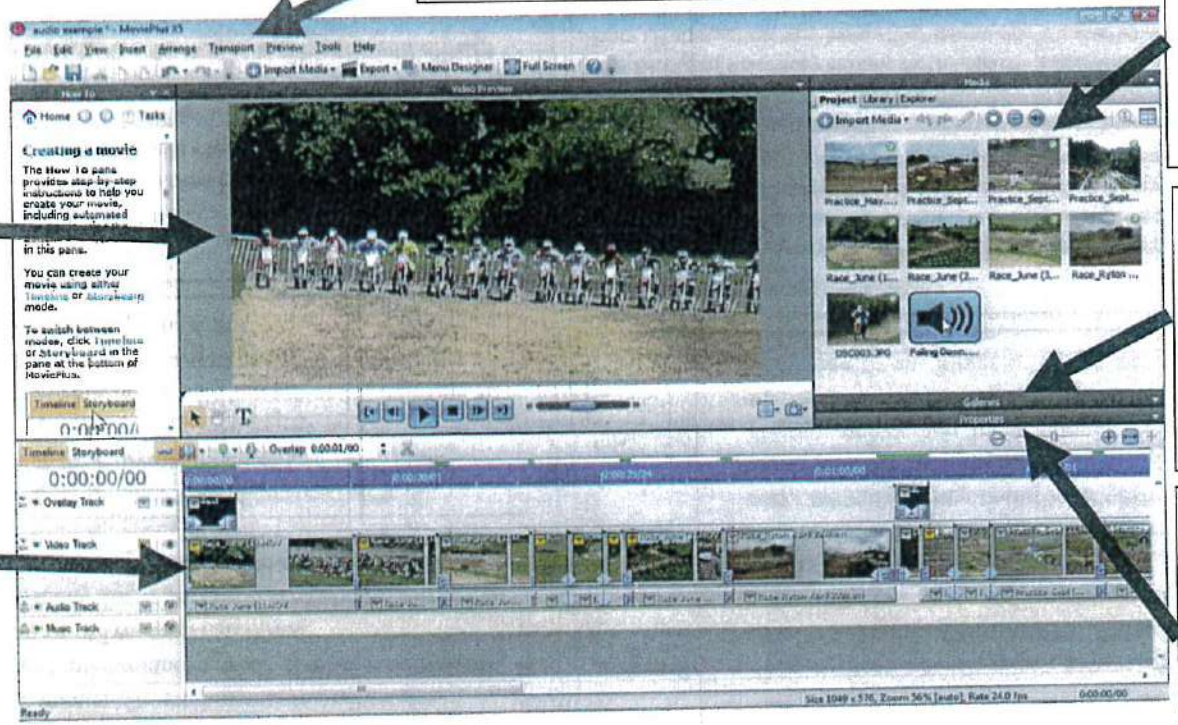
Adding text:

MoviePlus has a useful feature where it is possible to add text to the media playing in the video being created. It acts as an overlay meaning it sits on top of the video being played, this allows it to be seen and read by the viewer. To add text, you must press the T' text button found just above the timeline on the interface. You can change font style, size, and text format.

Sound:

This allows it to add to the visual element of what is being viewed. Sound can be added to the project media area of the interface. It is then placed and used on the audio or music section on the timeline.
Audio would include sound effects and voiceover you may want to add to a video while the music section is where you would place any songs to play during the video. It's possible to edit how loud the audio plays using the timeline.

Serif MoviePlus X5:



Render and export:

Once the video being created is completed. It's time to render and export it. There are a range of export options available and the choice made depends on where you would like the video to be played. It is possible to have the video be exported for use on a CD or as a digital MP4 file. Depending on the chosen quality of resolution and audio sample rate will determine the render time and file size. Greater quality results in increased render time and a larger file size.

Transitions and effects:

MoviePlus allows you to add a number of effects and video transitions in order to make the video being created more eye catching and appealing. A transition is used to switch between two pieces of content; they are found in the galley section of the interface. You must place one at the end of one piece of content and then place the same transition at the beginning of the start of the next one to make it work effectively. There are effects available to use which alter the appearance of the video and apply filters to it. This gives your content a stylised look to it.

Adding media:

To create a video in movie plus, you must add media to the project. This is then used as content for the video being created. To add media, you must click on the import media button found in the media section of the interface. Media can include video clips, images, and audio files.