Quest for Knowledge Booklet

Year 9

Cycle One

2025-2026

Honiton Community College

Personal details

Name:	
Tutor Group:	Tutor:
House:	
Head of Year:	

Key log in information

My school email:	@honiton.college
My school password:	
Classcharts code:	

Sparx - Maths	sparxmaths.uk
Username:	
Password	

Sparx - Science	sparxscience.com
Username:	
Password	

Spark Reader	sparkreader.com
Username:	
Password	

Other	
Username:	
Password	

Week A	Monday	Tuesday	Wednesday	Thursday	Friday
P1					
P2					
P3					
P4					
P5					
After school					

Week B	Monday	Tuesday	Wednesday	Thursday	Friday
P1					
P2					
P3					
P4					
P5					
After school					

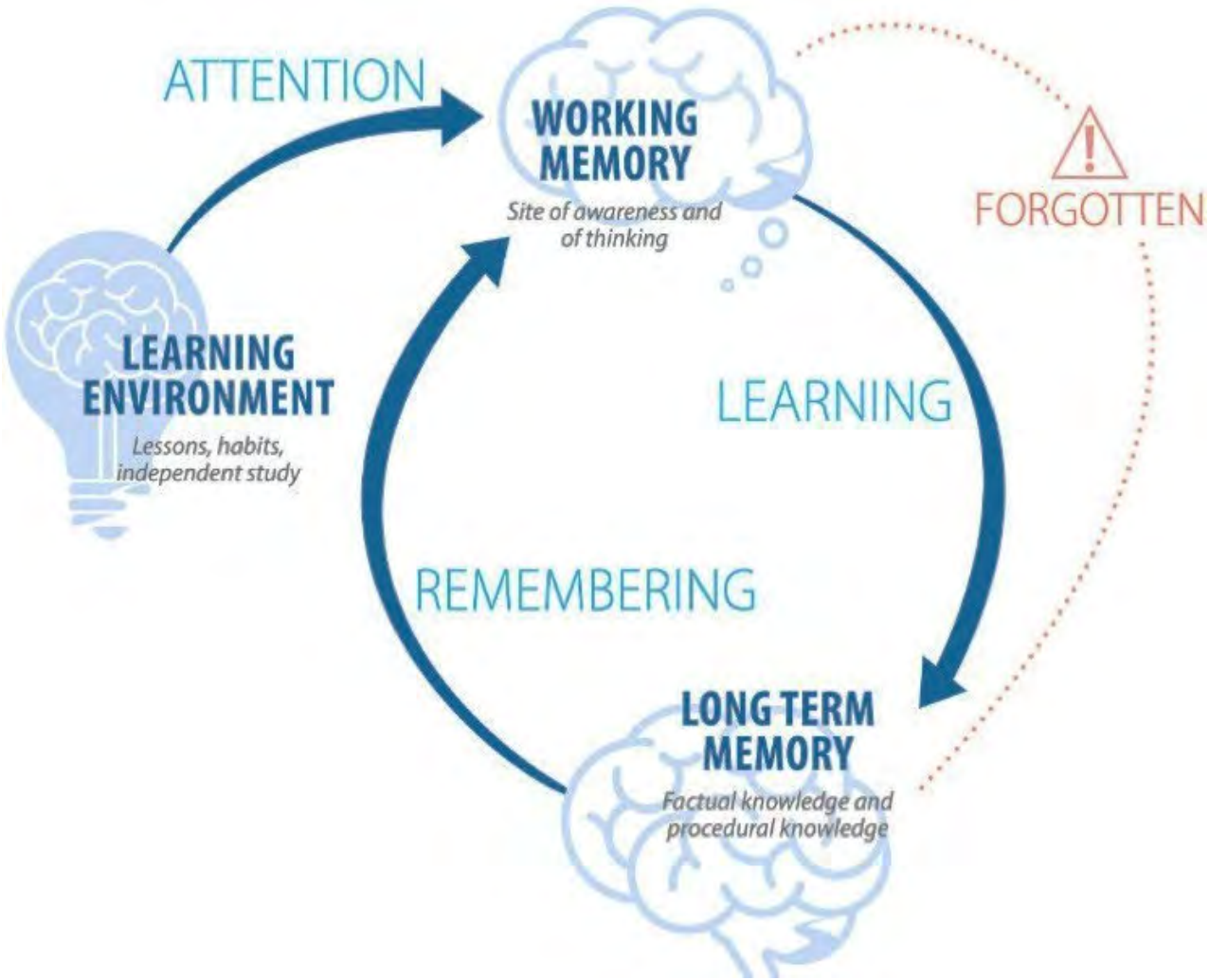
How do we learn?

In your lessons at HCC, teachers plan every minute to ensure the **teaching habits** and strategies they use create a productive learning **environment** and focus your **attention** on the most important content. The information you receive in class is held and dealt with by your **Working Memory** (sometimes called your **short term memory**). Your working memory capacity is limited, meaning you can only deal with a few pieces of new information at a time before you get overloaded - this is called your **Cognitive Load.**

Once in your working memory, new information can be dealt with and transferred to your **Long Term Memory** - this is what learning actually is. Once in your long term memory, the information is organised into schema - you organise new memories and link them to your previous experiences. The information in these **schema** can then be recalled to help you understand new information and importantly, this does not use up the limited slots in your working memory. If information is not effectively **learned** or **encoded** from your working to your long term memory, it will be forgotten.

Retrieval practice will help to make sure your schema are well developed and that you are able to link all the knowledge you will need for your lessons. Retrieval practice is exactly what the name suggests - practising retrieval, and then applying, all of that information stored in your long term memory. Again, if you don't regularly practise remembering this information, it can become **forgotten**.

The model below summarises this process showing how new information moves from your environment (what is in happening in your classroom), eventually forming new and valuable memories.



Your Quest for Knowledge Booklet

This booklet contains key **knowledge** for all your subjects. Each) knowledge booklet (**KB**) has the key facts and most powerful information that needs to be **memorised** to help you master your subjects and be successful in lessons. Your teachers have carefully selected the information included to ensure you construct the most effective schema, meaning you can recall the information you need in class to master your subjects.

How Can My Quest for Knowledge Booklet Help Me Remember Information?

Your Quest for Knowledge Booklet is designed to help you remember important facts and concepts by:

1. **Breaking Down Information**: It presents topics in clear, bite-sized chunks that are easier to learn and recall.
2. **Highlighting Key Content:** It shows you exactly what you need to know – focused and to the point.
3. **Supporting Regular Review**: Using it often helps move information into your long-term memory.
4. **Making Revision Easier:** Everything you need is in one place – perfect for quick revision sessions.
5. **Helping You Spot Gaps:** Use it to test yourself and identify areas you still need to work on.
6. **Encouraging Active Recall:** Try remembering information from the booklet without looking – this boosts memory better than just reading.

How Can I Use My Quest for Knowledge Booklet in Class?

Your Quest for Knowledge Booklet is a powerful tool! Here's how it can help you succeed in class:

- **Quick Revision**: Use it to quickly remind yourself of key facts before a lesson starts.
- **Stay Focused**: Check it during class if you forget something—it helps you keep up without falling behind.
- **Join In**: Use what you've memorised to take part in class discussions and answer questions with confidence.
- **Better Notes**: Spot what's important faster, so your notes make more sense later.
- **Spot Gaps**: If you don't understand something on your organiser, that's your clue to ask for help!

How can I use my Quest for Knowledge Booklet at home

Your knowledge booklet is a great resource for use at any time at home or in school. Being able to **recall** the information it contains from your long term memory will help you have a really **high success rate** in lessons. One of the most effective ways of forming strong long term memories is by quizzing yourself. In fact, research shows that pupils remember 50% more when they test themselves after learning something new. Simply reading through your knowledge organiser is helpful, but there are also far more effective ways to memorise the important content.

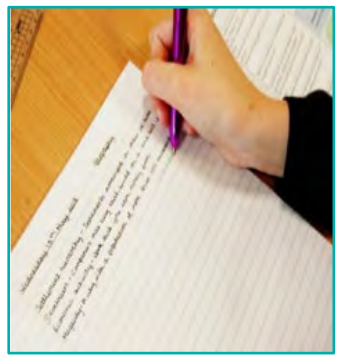
How can I self-quiz?

» **Cover-Write-Check:** Your teacher may direct you to read a specific section or week of your KB. Once you've read the information, **cover** it up and **write** out as much as you can from memory. Next, **check** the **(KB)** to see if you're right, then **correct** any mistakes in your purple pen. Repeat this process two more times - even if you got 100% correct.

Cover

Write

Check & Correct



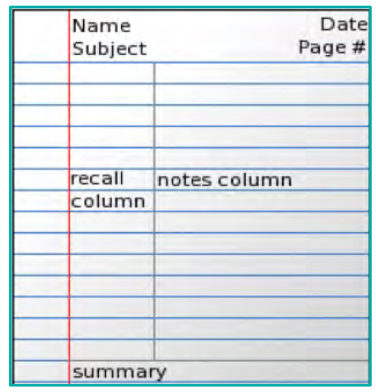
» **Create flashcards:** These could be double-sided with a question on one side and the answer on the other. Alternatively, try a keyword on one side and a definition or diagram on the reverse. These can then be used for self-quizzing. The best way to use flashcards is called the Leitner System - find out more about it here: **https://www.youtube.com/watch?v=C20EvKtdJwQ**

» **Draw a mind-map:** jot down everything that you remember from the **KB** and make links between the ideas. Check for accuracy and repeat.

➢ **Make up mnemonics:** (eg. MRS GREN) to help you remember key facts. Write these out from memory.

➢ **Make Cornell notes:** This system of note taking makes revision and retrieval practice really easy due to the layout of the notes. Set up a page with the four sections shown in the diagram:

- ➢ **Subject** - write the title of your topic;
- ➢ **Recall** - this could be questions or keywords;
- ➢ **Notes** - write descriptions, explanations and examples from the content you studies here; and
- ➢ **Summary** - in one sentence, give an overview of everything in the notes.



Once your notes page is complete, you could cover the notes and recall section and see how much of the content you can write down - then check and correct. Alternatively, cover up the notes section and try to answer the questions you wrote in the recall section. Find out more about how to prepare and use Cornell notes here **https://www.youtube.com/watch?v=WtW9IyE04OQ.**

Homework

Homework helps you practice what you've learned in class so it sticks in your mind. It gives you a chance to go over things at your own pace and get better at solving problems. Doing homework also helps build important life skills like responsibility, time management, and independence.

Plus, when you come to class with your homework done, you're more prepared to ask questions, take part in discussions, and succeed in tests and assignments.

Why Follow a Schedule?

Following a schedule helps you stay organized and use your time wisely. It makes sure you don't forget important things like homework, projects, or activities. When you stick to a schedule, you're less likely to feel stressed or rushed because you know what to do and when to do it.

A good schedule also helps you find time for fun, rest, and the things you enjoy—so you can balance school and life more easily! An example schedule is below, to help you ensure that your homework is completed ready for the hand in day.

Day	Subject	Homework set	Hand in
Monday	Seneca		Sparx Science
Tuesday	Sparx Science	Sparx Science	Sparx Maths
Wednesday	Sparx Maths	Sparx Maths	Sparx Reader & Seneca
Thursday	Sparx Reader	Sparx Reader & Seneca	
Friday	Sparx Maths		

How Can I Do Independent Study?

Independent study helps you take control of your learning and get ahead! Here's how you can do it in each subject:

Science

- Use the **Independent Learning** section in Sparx Science, your booklet or Quest for Knowledge booklet.
- Pick a topic you're unsure about and review the key points.
- Watch a short video, read a summary, or make flashcards to help remember it.

Reader

- Keep **reading regularly**—at least 20 minutes a day if you can.
- Use the **quizzing system** to test your understanding of what you've read.
- Try different types of books to build a strong vocabulary.

Maths

- Complete the **XP Boost** tasks for extra practice and challenge.
- Check your **Target section** and focus on topics you need to improve.
- Use the **Independent Learning** section to help you review tricky areas.

Other Subjects

- Use the information in this Knowledge booklet and strategies to help you remember information to get ahead ad prepare for assessments

✓ Tip: Set aside 20–30 minutes a few times a week for independent study. Little and often works best!

Stop

'They're not bullying you because of you, they're bullying you because of how they are'

Jessie J

Bullying affects lots of people and can happen anywhere: at school, travelling to and from school, in sporting teams, in friendship or family groups.

Bullying can take many forms including:

- emotional abuse
- social bullying
- social media
- threatening behaviour
- name calling
- cyberbullying
- sexting

Bullying includes REPEATEDLY:

- people calling you names
- making things up to get you into trouble
- hitting, pinching, biting, pushing and shoving
- taking things away from you
- damaging your belongings
- stealing your money
- taking your friends away from you or leaving you out
- posting insulting messages or rumours, in person online
- threats and intimidation
- making silent or abusive phone calls
- sending you offensive texts or messages

Speak

'Blowing out someone else's candles doesn't make yours shine any brighter'

Drake

Speak to someone.

No one has a magic wand, but we always do our best and we do really care.

Telling someone shares the problem. It helps you feel supported.

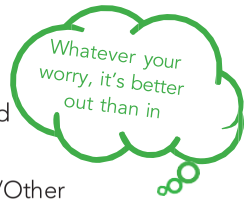
It is really important to tell someone, particularly if the bullying has been going on for a while or the strategies you've tried haven't worked.

Support

'You always have to remember that bullies want to bring you down because u have something that they admire'

Zak Efron

What we do at HCC to deal with bullying:



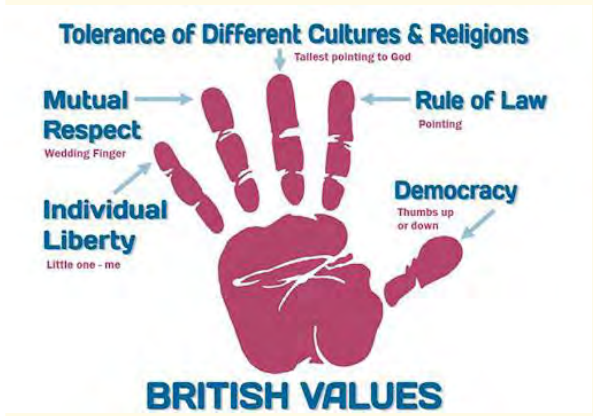
- **Mentoring** is having a named person you can go to for support at school. Tutor/HOY/Refocus/Other
- **Restorative justice** brings all children involved together so everyone affected plays a part in repairing the harm and finding a positive way forward.

Any form of bullying will not be accepted at HCC.

ChildLine 0800 1111

NSPCC HELPLINE 0808 800 5000 help@nspcc.org.uk

YOUNGMiNDS fighting for young people's mental health

Year 9 – Personal Development- Cycle 1	Week 2 - PSHE	Week 4 - PSHE
Key vocabulary/content/ideas  	• Mental health – the health of your state of mind. Mental health can be massively affected by a number of different factors. These can include (but are not exclusive to) • Diet – The food you consume on a daily basis. A diet can be healthy or unhealthy depending on what you eat. It is important to have a balanced diet to ensure you are getting the correct vitamins and minerals for your body to function. • Exercise – Exercising on a daily basis, even if just a walk, can improve your mood as your body releases chemicals. • Sleep – Getting enough sleep each night is important as your body can't function effectively without it. Not using your phone before bed can help you to fall asleep quicker.	Coping strategies for mental health – It is important to take responsibility for your own physical and mental health. 
Week 6 - PSHE	**Week 4 - RPE**	**Week 10 - RPE**
• Coercion – the practice of persuading someone to do something by using force or threats • Gang exploitation – being coerced into illegal activities on behalf of a gang for money, presents or other bribes. • Substance misuse – mis using substances such as cigarettes, alcohol and drugs which has a negative impact on your life. • Negative consequences – health problems, debt, loss of friendships, relationship breakdowns, police involvement.	• Most people in the UK claim to be Christian (though relatively few go to church) and the UK is generally seen as a Christian country even it has citizens of many religions and faiths. • During the 20th century, immigration into Britain encouraged the development of diverse cultural experiences and understanding within society. • Cultural integration brought music, literature, art, food and fashion from different parts of the world.	• Religious festival - a time of special importance marked by adherents to that religion. • Summer Solstice – Otherwise known as midsummers day and celebrated on 21st June each year and is celebrated by • Pagans. Christmas and Easter – traditionally Christian celebrations linked to Jesus' birth and death. • Ramadan – celebrated by Muslims, Ramadan is a time of fasting. • Religion and belief are a protected characteristic.

YEAR 9 KS3 Design and Technology/ 3D Design

One

Sustainability -Sustainability is concerned with protecting the planet, halting climate change and promoting social development, without endangering life on Earth or leaving anyone behind. This concept seeks to cover our present needs without **compromising resources for future generations**.

The 6 R's

Reduce - This means using less non-renewable resources.
Reducing the amount of raw materials we use to manufacture products.
Reduce wastage of raw materials used in the manufacture of products.
Reduce the amount of energy used to transport products. Perhaps, by manufacturing products locally.
Reducing the packaging we use to 'contain' products. Use less supermarket carrier bags.

Two

Recycle - We should recycle as many materials as possible, as this reduces the amount of new materials required to manufacture the products we want.
A vast range of materials can be recycled particularly paper, card, and many plastics.
Recyclable materials can be reformed / processed and made into a new products.

Reuse - Where possible, we should reuse products or their components / parts when they are disassembled, at the end of their life cycles.

Products should be designed, so that they can be used again or at least their parts, with minimal reprocessing. This is usually cheaper and more environmentally friendly, than using new raw materials.

A good example of reuse is glass bottles, which are washed and refilled. Also applies to some plastic bottles.

Three

Refuse to buy or use a product, if it is not environmentally sustainable, or it is not necessary.
Refuse to buy a product that is over packaged, with non-recyclable materials.
Refuse to buy a product, that has not been manufactured from recycled / reclaimed materials.
Refuse to invest your money in companies, that are not environmentally friendly.

Rethink - when designing, consider manufacturing the product from sustainable materials.
Rethink - do you really need the product, you are thinking of buying?
Rethink your lifestyle i.e. walk instead
of driving a car, for a short journey.
Turn electrical devices off, when they are not in use.

Repair - Only design products that are repairable, not disposable. A repairable product will last much longer, extending its useful working life. It will be environmentally friendly.
Only buy products that can be repaired / maintained. This will save you money in the long term and is kinder to the environment..
If possible, avoid buying disposable and non-repairable products.

Four

Does plastic have to be made from oil?
Plastic can either be 'synthetic' or 'biobased'. Synthetic plastics are derived from crude oil, natural gas or coal. Whilst biobased plastics come from renewable products such as carbohydrates, starch, vegetable fats and oils, bacteria and other biological substances.
The vast majority of plastic in use today is synthetic because of the ease of manufacturing methods involved in the processing of crude oil.
However, the growing demand for limited oil-reserves is driving a need for newer plastics from renewable resources such as waste biomass or animal-waste products from the industry.
In Europe, only a small proportion (about 4 – 6%) of our oil and gas reserves goes towards the production of plastics, with the rest used for transport, electricity, heating and other applications.

Five

When was the first plastic made? Meso American cultures (Olmec, Maya, Aztecs, 1500 BCE) used natural latex and rubber to make containers and clothes water-resistant.
Alexander Parkes (UK, 1856) patented the first man-made bioplastic, called Parkesine, made from cellulose nitrate. Parkesine was a hard, flexible and transparent plasticThe first truly synthetic plastic was Bakelite made from phenol and formaldehyde resin. Leo Baekeland (Belgium, 1906) invented Bakelite that was coined as a 'National Historic Chemical Landmark as it completely revolutionized every industry present in modern life. It has the property of high resistance to electricity, heat, and chemicals. It has non-conducting properties, which is extremely essential when designing electronic devices such as radio and telephone casings.

Seven

Resin - In polymer chemistry and materials science, a resin is a solid or highly viscous substance of plant or synthetic origin that is typically convertible into polymers. Resins are usually mixtures of organic compounds. Plants secrete resins for their protective benefits in response to injury.
Molding and Casting: Eco-resins can be easily molded and cast into a wide range of shapes and sizes, making them perfect for creating intricate designs and custom objects. From vases and sculptures to wall art and decorative panels, the possibilities are endless.

- Week 1 – Introduction to Food Choice

Key Knowledge:

- Factors influencing food choice: personal preference, cost, culture, religion, availability, health, advertising, peer pressure.
- Key Terms:

Coeliac disease, Cross-contamination, Impulse buying, Value for money

- **Consolidation Task:**
  - Suggest vegetarian and low-fat adaptations for Chilli Con Carne.

Week 2 – Making Chilli Con Carne

- Key Knowledge:
  - Learning frying, simmering and knife skills.
  - Understanding how to adapt recipes for different dietary needs.
- Practical Skill Focus:

Safe food handling, preparation techniques, simmering.

- **Consolidation Task**:
  - Reflect on what went well and what could be improved in your practical.

Week 3 – The 4 Cs of Food Safety

- Key Knowledge:
  - Religious food laws (Islam, Judaism, Hinduism, Christianity).
  - Moral choices (vegetarianism, food miles, organic, fair trade).
  - Ethical issues: sustainability, food poverty, fair trading.
- Key Terms:

Halal, Kosher, Food miles, Fair trade, Vegetarian

- **Consolidation Task:**
  - Explain how moral and ethical beliefs influence diet choices.

Week 4 – Cooking Turkey Burgers

- Key Knowledge:
  - Using lean meats to reduce fat.
  - Shaping, seasoning and safe cooking practices.
- Practical Skill Focus:

Burger forming, scrunching, seasoning, uniform shaping.

- **Consolidation Task:**
  - Reflect on your turkey burger practical: What worked? What didn't?
  - How would you adapt the burger for a vegetarian?
  - Explain why turkey is suitable for certain dietary restrictions.

Week 5 – Health Factors and Food Labelling

- Key Knowledge:
  - Food allergies vs intolerances
  - Anaphylaxis: symptoms and responses
  - Why food labels matter: allergens, ingredients, expiry
- Key Terms:

Lactose intolerance, Gluten, Anaphylaxis, Nutritional labelling

- Practical Skill Focus:

Understanding food packaging and label reading

- **Consolidation Task:**
  - Describe how a person with coeliac disease might use food labelling.

Week 6 – Buckwheat Carrot Cakes

- Key Knowledge:
  - Gluten-free cooking
  - Importance of food substitutions
  - Baking techniques: whisking, combining, baking
- Key Terms:

Buckwheat flour, Carrot, Sunflower oil, Brown sugar

- Practical Skill Focus:

Mixing, grating, spooning, checking bake readiness

- **Consolidation Task:**
  - What are the benefits of using buckwheat flour?
  - Reflect on the practical: What skills did you improve?
  - Explain how to test when the carrot cakes are ready.

YEAR 9 KS3 Mixed Messages

One/ Two | Three/Four | Five/Six

Juxtaposition	the fact of two things being seen or placed close together with contrasting effect. "the juxtaposition of these two images"
Pop Art	Movement that emerged in the 1950's based on modern popular culture and mass media.
Collage	From the French meaning "to glue," collage describes the technique of composing an artwork by gluing a wide range of materials - including pieces of paper, fabric, newspaper clippings, and sometimes readymade objects - to a surface.
Consumerism	An economic and social system that encourages consumption of goods and services as a means of attaining wellbeing.
Rule of Thirds	The rule of thirds is one of the most important composition guidelines for framing your images. It divides a photo into nine equal parts, split by two equally spaced horizontal and vertical lines. The most important elements should be placed at one of the four intersection points of these lines.
Scale	The relative size of one object compared to another.
Composition	The arrangement of visual elements in an art work.

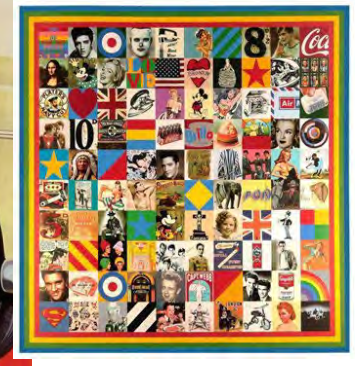
Cultural and Artist Knowledge: POP ART

Emerging in the mid 1950s in Britain and late 1950s in America, pop art reached its peak in the 1960s. It began as a revolt against the dominant approaches to art and culture and traditional views on what art should be. Young artists felt that what they were taught at art school and what they saw in museums did not have anything to do with their lives or the things they saw around them every day. Instead they turned to sources such as Hollywood movies, advertising, product packaging, pop music and comic books for their imagery.

In 1957 pop artist Richard Hamilton listed the 'characteristics of pop art' in a letter to his friends the architects Peter and Alison Smithson:

Pop Art is: Popular (designed for a mass audience), Transient (short-term solution), Expendable (easily forgotten), Low cost, Mass produced, Young (aimed at youth), Witty, Sexy, Gimmicky, Glamorous, Big business

Modernist critics were horrified by the pop artists' use of such 'low' subject matter and by their apparently uncritical treatment of it. In fact pop both took art into new areas of subject matter and developed new ways of presenting it in art and can be seen as one of the first manifestations of postmodernism.



Cultural and Artist Knowledge

Hassan Hajjaj, a Moroccan-British artist, is renowned for his captivating and vibrant works that merge contemporary art, fashion, and cultural identity. Born in 1961 in Larache, Morocco, he moved to London following his family at the age of 12 in the 1970s. Hajjaj's diverse background greatly influences his art, which reflects a fusion of North African tradition and Western popular culture. Using vibrant colours, bold patterns, and found objects, Hajjaj expertly blends his Moroccan and London roots through fashion but also consumer products, resulting in visually striking and culturally rich compositions. His subjects are often friends, musicians, artists in the widest sense, and everyday people, whom he photographs in carefully constructed settings filled with a kaleidoscope of colours. By incorporating elements of pop art, street culture, and fashion, Hajjaj challenges conventional notions of identity and cultural representation.

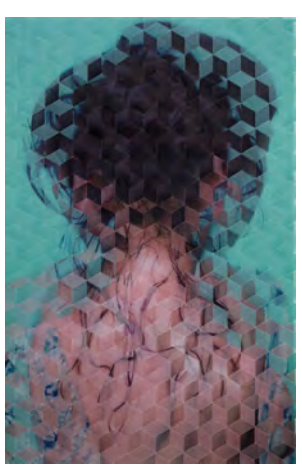
YEAR 9 KS3 Mixed Messages

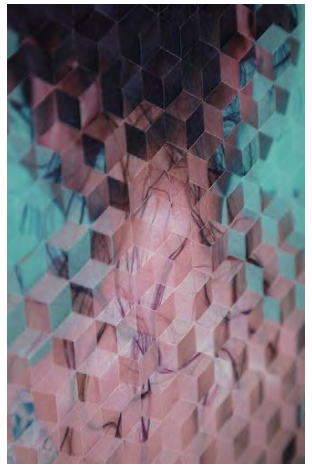
Seven/ Eight

Cultural and Artist Knowledge

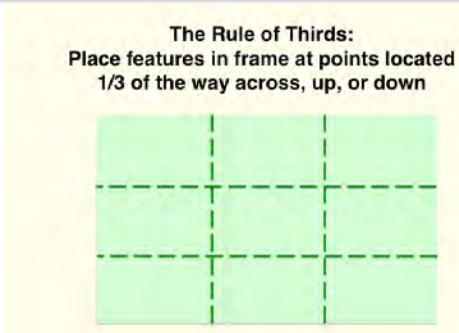
David Samuel Stern examines photography as a physical, craft-based process, and the medium's extraordinary relationship with portraiture. Work from his long-running series *Woven Portraits* has been commissioned by and appeared in publications including *POLITICO Europe*, *National Geographic*, *The California Sunday Magazine*, and *The Virginia Quarterly Review*.

Stern's recent large-scale work *Unknown (American)*, commissioned by Washington University in St. Louis, is on display there through summer 2024. For several years, he has travelled to locations such as Finland, Alaska, Iceland, and Canada's far north to execute his ongoing series and eventual photobook *Winter Solstice Pinhole Photographs*, a study of photography's bond to light, darkness, time, the planetary rhythms of nature, and the uncertain efforts behind image-making. He has taught at institutions such as Pratt Institute, Penland School of Craft, and Brooklyn Brainery. Stern lives and works in New York

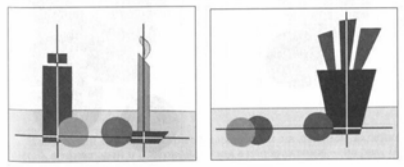




Nine/Ten



It helps balance your main subject with negative space in your photograph, to create an effective composition that will draw the viewer's eye.



Variety 	Use of similar and different elements to hold attention. Use opposing elements, change viewpoints, add detail and elaboration.
Rhythm 	One or more elements used repeatedly to create a sense of movement. Random, alternating, progressive/gradual change.
Harmony 	Elements arranged to compliment each other, similarities or separate but related parts of the whole piece. Shape, colour, texture and line all need to be considered.

Eleven/ Twelve

Collage TECHNIQUES

- ☐LAYERS
- ☐OVERLAPPING
- ☐SILHOUETTE
- ☐COLOUR
- ☐REARRANGE
- ☐STRIPS
- ☐BLACK & WHITE
- ☐BACKGROUND
- ☐SCALE/SIZE
- ☐REPETITION
- ☐TEXT
- ☐REPLACE
- ☐CROP
- ☐OBSCURE/HIDE/MASK
- ☐DETAILS
- ☐DIRECTION/ ORIENTATION

Year 9 - Combined Science - Cycle 1

Key vocabulary

- **Abiotic:** non-living factors which affect the distribution of organisms.
- **Biotic:**living factors which affect the distribution of organisms.
- **Community:** populations of different species.
- **Ecosystem:** all the organisms and the environment in which they live.
- **Habitat:** all the organisms which affect a species and the local environment.
- **Mixtures: impure substances**, containing 2 or more elements/compounds not chemically joined together.
- **Mutualism:** organisms live together and mutually benefit.
- **Parasitism:** a feeding relationship where one organism (the parasite) benefits from feeding off the host who is usually harmed.
- **Pollutant:** substances harmful to the environment.
- **Population:** all individuals within a species.

Week 1 - Ecosystems

- Within an **ecosystem** there are different levels of organisation.
- Organism that live and interact in an ecosystem form a **community**.
- Within a community, populations of different species depend on each other for resources - they are **interdependent**.
- Each population of species lives within a particular **habitat** in the ecosystem.
- Different species within a community will have different effects on each other.
- **Competition** occurs when 2 species compete for the same resource. E.g. food, water, mates, light.
- **Predation** occurs when one species eats another and numbers are correlated in the predator-prey cycle
- The distribution of organisms is affected by:
  - **Abiotic factors** – temperature, light, water, pollutants.
  - **Biotic factors** – competition, predation.

Week 2 - Sampling methods

- **Abundance** is a measure of how common something is in an area, such as population size.
- You can estimate population size by taking samples using **quadrats** - placed randomly along a line and each individual counted within the quadrat.
- **Distribution** of a species if determined using a **belt transect**.

Population size = number of organisms in all quadrats x (total size of area/ total area of quadrats)

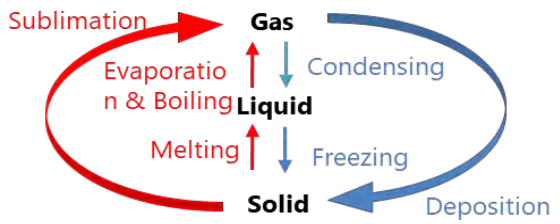
- Some organisms work together to survive in a **mutualistic** relationship, while others depend on a host in a **parasitic** relationship.
- Substances that cause harm in the environment are **pollutants**.
- Human interactions within ecosystems can be positive (+) and negative (-).
- **Fish farming: +** reduces overfishing, preserves wild stocks, **-** pollutants, spread of disease & parasites.
- **Non-indigenous species: +** used to control populations out of control, **-** out-competing native species.

Week 3 - Material cycles

- **Eutrophication** occurs when water becomes over-enriched with nutrients and causes aquatic animals and plants to die.
- Conservation: **+** preserves the biodiversity of a habitat (difficult if the habitat is under threat).
- Reforestation: **+** increased number & type of trees grown leads to more habitats and species numbers.
- The main **nutrient cycles** are:
  - **Carbon cycle:** involves carbon dioxide in the air, photosynthesis, respiration, digestion and waste materials, death, decay and decomposition, fossil fuels and combustion.
  - **Nitrogen cycle:** involves lightning, decomposition & nitrogen fixing bacteria. Farmers rotate crops to increase nitrates in the soil for plant growth.
  - **Water cycle:** involves evaporation, condensation. Ground water is made potable (safe to drink) via using chemicals or desalination.

Week 4 - States of matter

- **Solid:** Particles in fixed positions, regular arrangement, vibrate in fixed positions when heated. Lowest energy.
- **Liquid:** Particles are touching but can flow past each other & take the shape of an object. Has more energy than a solid but less than a gas.
- **Gas:** Random arrangement of particles, not touching, moving fast in all directions.
- Changes between the states are known as **physical changes** and are **reversible.**



Week 5 - Separating mixtures

- **Mixtures** can be separated using **physical techniques.**
- **Filtration:** separating insoluble solids from a mixture.
- **Simple distillation:** separating a mixture from a liquid based on boiling point. Heating causes evaporation and then cooling causes condensation. It is used to make seawater **potable** (drinkable).
- **Fractional distillation:** evaporation followed by condensation, to separate a mixture from liquids with similar different boiling points into different fractions.
- **Paper chromatography:** the separation of mixtures of soluble substances by running a solvent (mobile phase) through the mixture on the paper (stationary phase) which causes the substances to move at different rates over the paper.

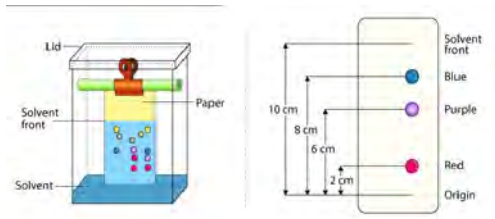
$$R_f = \frac{\text{distance moved by the spot}}{\text{distance moved by the solvent}}$$

Key vocabulary

- **Acceleration, a:** a change in velocity. Measured in m/s2.
- **Efficiency:** the proportion of energy a system transfers usefully.
- **Energy:** the ability of a system to do work.
- **Gravitational potential energy:** energy stored in an object due to its position in a gravitational field. Measured in Joules (J).
- **Insulation:** method or material used to reduce energy transfer by heating.
- **Kinetic energy:** energy stored in a moving object. Measured in Joules (J).
- **Non-renewable (fuel):** an energy resource which is finite (will run out) as the supply cannot be replaced.
- **Renewable (fuel):** An energy resource that will never run out.
- **Speed:** distance travelled by an object in a certain time. Measured in metres per second (m/s).
- **Velocity:** speed in a given direction. Measured in m/s.

Week 6 - Investigating inks

- **Paper Chromatography Core Practical -**
  - Insoluble inks stay on the sample line.
  - Greater solubility results in further movement.
  - R_f can be calculated to compare inks.



- **Distillation of Ink Core Practical -**
  - Boiling point of ink is above boiling point of water.
  - Ink mixture raised to 100ºC.
  - Condenser traps the water vapour so all is condensed into liquid water.
  - Distillate - pure water.
  - Residue - ink.

Week 7 - Energy stores and transfers

- **Energy** can be **stored** in different forms: Gravitational potential, Kinetic, Elastic potential, Chemical, Nuclear, Magnetic.
- Energy can be **transferred** between these stores by: Heating (thermal), Light (radiant), Sound, Electrical Current.
- The **Conservation of Energy** states that energy cannot be created or destroyed, only transferred between stores in a system.
- **Useful energy** is energy in the form needed, in the place it is needed.
- **Wasted energy** is energy in an unwanted form or in an unwanted place. It often **dissipates** (spreads out) to the surrounding by heating.
- The **efficiency** of a system can be calculated as:

$$\textbf{Efficiency} = \frac{\textbf{Useful energy transferred}}{\textbf{Total energy transferred}}$$

- Useful and wasted energy transfers can be shown using **Sankey Diagrams.**

Week 8 - Energy resources

- Electricity can be generated using **non-renewable** fuels including fossil fuels (coal, oil and natural gas) and also with nuclear fuels (uranium).
- Fossil fuels are burnt to heat water to produce steam, which turns a **turbine** connected to a **generator**.
- Burning fossil fuels produces **greenhouse gases** including carbon dioxide (CO_2) that contribute to **climate change**.
- **Nuclear power** stations produce no CO_2 but do produce dangerous radioactive waste. Nuclear fuel is very energy dense.
- Most **renewable resources** do not emit carbon dioxide as no fuel is burned. The energy resource is usually free.
- **Renewable resources** include olar; wind, wave, geothermal, tidal, hydroelectric power.
- Renewable resources can be unreliable and have low power output.

Week 9 - Motion

- **Scalar quantities** only have a magnitude (size) E.g. mass and volume.
- **Vector quantities** have both magnitude and direction E.g. velocity and force
- **Gravitational potential energy** is calculated as:

$$\textbf{GPE (J)} = \textbf{m (kg)} \times \textbf{g (N/kg)} \times \textbf{h (m)}$$

- **Kinetic energy** can be calculated as:

$$\textbf{KE (J)} = 0.5 \times \textbf{m (kg)} \times \textbf{v}^2 \textbf{ (m/s)}$$

- Motion of objects can be plotted on **distance/time** (d/t) graphs.
- The **gradient** shows the speed of the object – a steep gradient shows a high speed.
- A flat section shows an object is **stationary.**
- **Speed, v,** can be calculated as:

$$\textbf{velocity (m/s)} = \frac{\textbf{distance (m)}}{\textbf{time (s)}}$$

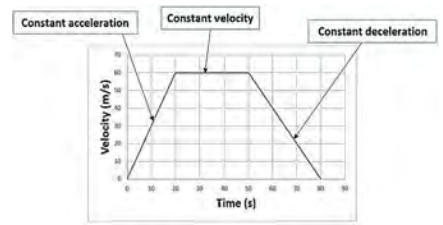
Week 10 - Velocity time graphs

- **Acceleration** of an object can be plotted on a **velocity/time (v/t)** graph.
- The gradient shows the acceleration/deceleration of an object.
- The area under the line on a v/t graph is the distance travelled.
- **Acceleration, a**, can be calculated as:

$$\textbf{a (m/s}^2\textbf{)} = \frac{\textbf{v - u (m/s)}}{\textbf{t (s)}}$$

$$\textbf{V}^2 \textbf{ - u}^2 \textbf{ (m/s)} = 2 \times \textbf{a (m/s}^2\textbf{)} \times \textbf{d (m)}$$

Where v = final velocity and u = initial velocity



Computing – Physical Computing

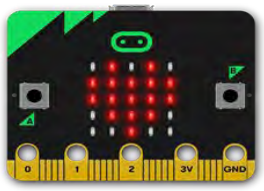
1. Hello Physical World – display.show

- Microbit Inputs: Buttons, Light Sensor, Temperature sensor, compass, accelerometer
- Microbit Outputs: LED Display
- Microbit Input & Outputs: GPIO Pins, Radio comms
- GPIO – General Purpose Input and Output - Pins

------Code Examples ----------

```
from microbit import *
display.scroll("Hello there!") or
display.show(Image.HEART)

from microbit import *
if accelerometer.is_gesture("face
up"):
    display.show(Image.HAPPY)
else:
    display.clear()
```

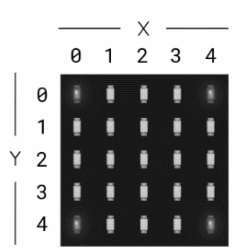


2. Bare-Bones – LED Array!

```
from microbit import *
images = [Image.HEART,
          Image.SAD,
          Image.MEH]
for image in images:
    display.show(image)
    sleep(1000)
```

Why display show the image

What does the sleep function do?



------**Sparkle ----LED Brightness is 0 to 9** ----------

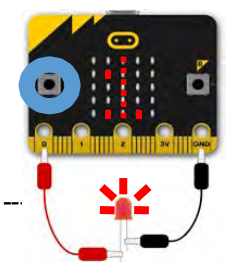
```
from microbit import *
from random import randint
while True:
  x = randint(?,?)
  y = randint(?,?) brightness =
  randint(?,?)
  display.set_pixel(x, y,brightness)
```

3. Making Connections 1 - LED

- **GPIO** means - General-Purpose Input Output

----Switch: Code to show an image ----------

```
from microbit import *
while True:
  in_value = pin1.read_digital()
  if in_value == 1:
  display.show(Image.YES) elif
  in_value == 0:
  display.show(Image.NO)
```

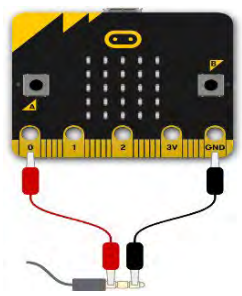


Light up LED

```
from microbit import *
while True:
  out_value = int(button_a.is_pressed())
  pin0.write_digital(out_value)
  display.show(out_value)
```

4. Making Connections 2 - Sounds

```
from microbit import * import
music
music.play(music.FUNK)
```

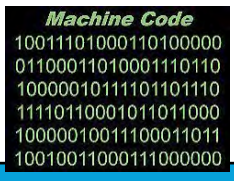


-- Key Information -------- When you flash the micro~ bit from the MU IDE python is **Translated** to machine code to run on the microbit.

Translation is:

Python to machine code

```
from microbit import *
from random import randint
while True:
  x = randint(?,?)
  y = randint(?,?)
  brightness = randint(?,?)
  display.set_pixel(x, y,brightness)
```



5. Mixing It UP!

- **Decompose -** break down the problem into sub-problems that will needed to be solved.

Description of sub-problem

- Starting the game
- Starting variables to use for comparing guess
- Conditions for guessing
- Response from user (type of input - buttons / gestures)
- What to do if guess is incorrect (visual display / sound)
- What to do if guess is correct (visual display / sound)
- Ending / restarting the game

6. Test and Finish!

Algorithm	A sequence of logical instructions for carrying out a task. In computing, algorithms are needed to design computer programs.
Flowchart	A diagram that shows a process, made up of boxes representing steps, decision, inputs and outputs.
Instruction	A single action that can be performed by a computer processor.
Programming	The process of writing computer software.
Programming language	A language used by a programmer to write a piece of software. There are many programming languages.
Pseudocode	A method of writing up a set of instructions for a computer program using plain English. This is a good way of planning a program before coding.
Variable	In a computer program, this is a memory location where values are stored.

Computing – Blending Bad

7: Move, Rotate, Scale, Colour

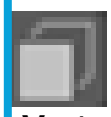
- **Open Source** – Free to use software with editable code.
- Blender – 3D manipulation Software
- **3D Designer** – Someone who creates 3D objects for a living.
- **Scale an object** – To change an objects dimensions along the X,Y, Z access.
- **Rotate an object** – To spin the object around a centre point along the X, Y, Z access.
- **Materials** – the properties of a surface that give it colour and texture.

8: Animation, Names, Parenting

- **Stop motion** means you have to manually animate every frame of the animation
- **Keyframe animation** only requires you to pick the important locations, the keyframes and the computer works out the rest
- **Tweening** – The automated calculation of intermediary frames between keyframes.
- **Keyframe** animation – saves significant time in creating all frames.
- **Parenting** – Attachment of objects together so they can be animated as a whole.

9: Complex Models and Colours

Face: A surface made up of three or more sides



Vertex: A point where one or more edges meet

Edge: A line connecting two vertices

Note that **faces** are often referred to

as polygons.

10: Organic Modelling

- **Symmetry** - Something is symmetrical when it is the same on both sides- is considered by some to be a sign of beauty
- **Subdivision** - split the faces of a mesh into smaller faces, giving it a smooth appearance
- **Proportional Editing** - is a way of transforming selected elements while also affecting the nearby unselected elements.

11: Lights Camera Render

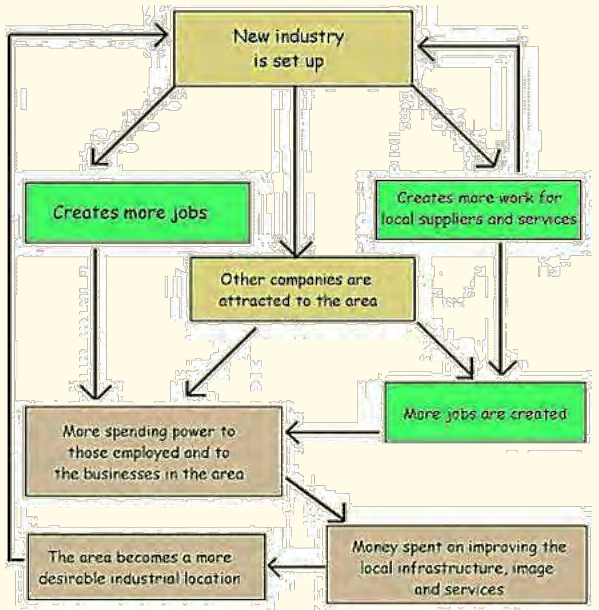
- **OpenGL** and **DirectX** are render codex
- **Ray tracing** tries to simulate how light actually works, by simulating how it bounces off objects
- **Ray tracing** is a lot **slower** than OpenGL, **but** the outputs are **better**.
- Pixar's *Monsters University* would take **495.78 years** to render on a desktop computer.
- **Render farm** - frames which were each rendered on thousands of different computers.
- **Parallel processing –** Many operations of the same task occurring at the same time across different processors**.**

12: Shortcut Keys

Return/Enter	Activate/Toggles Menus
A	Select all
Alt A	Select none
Tab	Edit Mode toggle
Alt + LMB	Orbit View
Alt+MMB	Pan View
Alt+RMB	Zoom View
F11	Show render window
F12	Render Current Frame

Year 9 - Geography- Cycle 1	Week 1 – Features of a Superpower	Week 2– Features of a Superpower
Key vocabulary **Superpower:** A state or organisation that can extend a dominant influence globally (e.g., the USA). **Globalisation:** The increasing links between countries around the world as a result of the movement of goods, services and money. **Economy:** The wealth & resources of a country in terms of the goods that are produced and consumed there. **Trade:** The activity of buying, selling or exchanging goods and services between people, business or countries. **Soft power:** Power through favour or persuasion (e.g. film, food). **Transnational corporation (TNC):** A business that is found in more than one country e.g. McDonalds. **Sustainable:** Meeting the needs of the present without compromising the ability of future generations to meet their needs.	**Features of a superpower** **Physical size & location:** Larger countries have more resources and influence. However, more bordering countries can create more tensions e.g. Russia. **Economic power & influence:** Top 10 largest economics earn 65% of the global GDP (wealth). Attract investments and creates global hubs e.g. London. Dollar and Euro are powerful currencies. **Political:** Political groups such as the G7 and OECD work with others to improve countries. **Cultural influence:** TNCs such as Coca-Cola, McDonalds, Disney and Sony influence people's lifestyles around the world.	**Features of a superpower** **Population:** Large population can create a sufficient labour force. China and India have large populations for cheap labour. Can also lead to large markets (people to buy products). **Military strength:** Historical influence on determining power. China has largest military followed by USA. **Natural resources:** Oil, gas and coal for energy and metals like iron ore for the steel industry are essential to development. Does not guarantee development though; some countries are unable to access them.
Week 3 – Emerging Powers	**Week 4 – Emerging Powers**	**Week 5 – Fast Fashion**
Emerging powers – BRICs **Emerging power:** A state or organisation that is growing significantly in power and beginning to extend a more global influence. **BRICs:** Brazil, Russia, India, China. Brazil has huge natural resources and self-sufficient in both food and energy. It is an agricultural superpower: third largest producer of iron ore, third largest of HEP. Brazil is infamous for deforestation in the rainforest as well as poaching and pollution.	**Emerging powers – MINTs** **MINTs:** Mexico, Indonesia, Nigeria, Turkey Mexico is neighbour to the USA. It is estimated that it's GDP will be $6.95 trillion by 2050. It has a history of corruption in the government but becoming more democratic. Indonesia has the largest population of the MINT countries – fourth most populated in the world. Good connections with China. The country is made up of 17,000 islands and many are prone to earthquakes and tsunamis. Turkey is situated in both the West and the East. Youthful population with good education levels.	**Impacts of fast fashion** Kazakhstan affected by cotton production – in the 1960s, the Aral Sea covered 68000 sq km. It was one of the largest inland seas with a thriving fishing and tourist industry. It has now all but gone. One of the rivers that fed the Aral Sea – Amu Darya – was diverted to cotton-production farms. Caused seasons to change. No water to absorb heat and keep the climate mild. Summers now as hot as 45°C! On the banks of the Citarum River there are over 400 factories. Tests of the river water found toxic levels of mercury, cadmium, lead and arsenic.

Multiplier Effect



Week 6 – South China Sea

South China Sea

China, Vietnam, the Philippines, Taiwan, Malaysia and Brunei all have competing claims to the South China Sea.

China believes that it owns the largest portion of the territory – the sea within the 'Nine-dash-line'.

China has been building islands with military bases in the Sea, creating more 3,200 acres of new land.

The USA, who has allies with some of the countries above, relies on the shipping route through the Sea for trade.

The USA sent military ships and planes to monitor the region.

Although the islands are uninhabited, they have nave natural resources around them.

Week 7 – Shell in Nigeria

Shell (TNC) in Nigeria

Advantages:

- 250,000 are employed as a result of the extraction of oil with 65,000 being directly employed by Shell.
- 91% of all contracts are with Nigeria which means money stays in the country.
- The government benefits from export taxes, providing money that can be spent on improving education, healthcare and services.
- Local people's education and skills can be improved.

Disadvantages:

- 75% of people in the delta have no access to safe drinking water.
- 9mn barrels have been split in 5 yrs. This damage the agriculture and water supplies.
- Oil flares and toxic fumes have increased air pollution.
- Few of the managers are local people.
- Locals are paid low wages, poor working conditions and long hours.

Week 8 – India Space Race

India's Space Race

Criticised for spending money on a space project when nearly 25% of its population live below the poverty line. India's space programme costs roughly $1 billion a year.

Satellites improve data on monsoons rains and weather patterns, helping farmers get a better idea of when to plant crops.

India is reducing poverty quickly, with 44 people lifted from poverty every minute.

40% of children are malnourished and half the population have no toilets.

The sector would employ highly-skilled workers from the country's universities.

Week 9 – China in Africa

Role of China in Africa

Colonialism: The gaining of political control over a territory by another country e.g. British Empire.

Neo-colonialism: The use of economic, political and cultural power to influence other countries (e.g. China's interest in the African continent).

Chinese officials say they are playing a constructive role in helping countries in Africa to develop.

China issued over $84 billion in loans to finance thousands of infrastructure projects in Africa.

President Xi Jinping stresses that their investment in Africa comes with no strings attached.

Week 10 – China in Laos

China in Laos

Laos is a landlocked country of 7.4 million people in SE Asia.

China has invested in transportation infrastructure, hydropower dams, schools and military hospitals, indicating growing ties with Laos.

Laos has the Mekong River running through it, making hydropower a big industry. It has underdeveloped resources including minerals and rubber.

Boosting connectivity via roadways and high-speed passenger and freight railways will help China to distribute its goods.

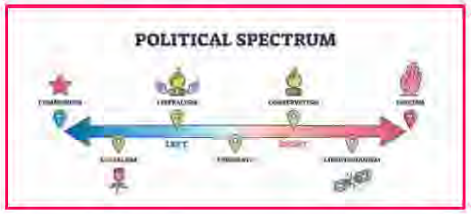
The China-Laos railways is an example of one of China's Belt and Road Initiatives.

YEAR 9 — Cycle 1 HISTORY: What were the Repercussions of the rise of Totalitarianism?

Week 1

Totalitarianism	A government where the state has complete control over every part of public and private life.
Communism	A society with no classes or private property and all businesses are run by the government.
Fascism	A political belief that focuses on extreme nationalism and a dictatorship of one leader with only one party.

Totalitarianism.
Totalitarianism is a form of government that attempts to assert total control over the lives of its citizens. It is characterised by strong central rule that attempts to control and direct all aspects of individual life through coercion and repression. It does not permit individual freedom. During the 1920s and 1930s, several major totalitarian governments developed – some were Communist, others were Fascist.



Why might the aftermath of WWI have made the growth of extreme parties more likely?

Week 2

Treaty of Versailles	A peace treaty signed in 1919 that set harsh terms for Germany's surrender to Allied powers after WWI.

The failed republic.
The Treaty of Versailles caused anger and resentment, particularly as it stated that Germany had to accept blame for starting the war. Their land was reduced, their army limited, and they were instructed to pay £6,600 million in reparations. These terms overwhelmed the Weimar Republic – the new democratic government set up in Germany after WWI.

The growing popularity of the Nazi Party.
In 1929 the popularity of the Nazi party increased considerably as a result of Germany's economic problems from the global 'Great Depression'. Laid on top of the existing economic problems because of the reparations they still owed, the effects of the Depression were very severe. The Nazi Party promised to fix the economic situation and provide 'arbeit und brot' (work and bread) and were increasingly viewed as a popular alternative to the failing government.

Why did the German people turn to extreme politics?

Week 3

Dictator	A political leader who possesses absolute power over a country.
Propaganda	Information and ideas deliberately spread to encourage people to support a certain idea.
Repression	The action of subduing someone or something by force.

Nazi Germany.
After the Nazi Party gained control in 1933, they set about tightening their control over the German people. Some of this was done through carefully considered persuasion tactics, other aspects of control were achieved through repression and fear.
Hitler's cult of personality was designed to encourage the population to admire and support him and the use of propaganda was key. Methods included poster campaigns, the arts, mass demonstrations and rewriting history.
The SS and the Gestapo were used to terrorise people into obedience and they had unlimited power to arrest suspected opponents of the Nazi Party. The police and courts also helped to reinforce the way of life expected in Nazi Germany.

Why do you think there was so little opposition to the Nazi Party?

Week 4

Appeasement	The policy of complying to the demands of a potentially hostile nation in the hope of maintaining peace.
Territorial	Relating to the ownership of an area of land or sea.

German territorial advances and the policy of appeasement.
Territorial changes stipulated in the Treaty of Versailles meant that Germany lost areas of land that were previously theirs. One of Hitler's aims was to get this land back, and also to expand German land further. He began by taking the Rhineland and allying with Austria.
It was during this situation, the British Prime Minister, Neville Chamberlain, met with Hitler in an attempt to find a way to avoid another serious conflict like WWI occurring. As a final attempt to avoid war, a conference in Munich was organised and it was agreed that Germany could occupy the Sudetenland region of Czechoslovakia. In return, Germany would make no further demands for land in Europe. On the 1st October German troops occupied the Sudetenland in Czechoslovakia. Less than a year later, Hitler invaded Poland, breaking the terms of the treaty and instigating World War Two.

Why did European leaders support a policy of appeasement with Germany?

Week 5

Blitzkrieg	A new method of warfare using a rapid, overwhelming force.
Invasion	When an army or country uses force to enter and take control of another country.

Blitzkrieg tactics.
The German invasion of Poland was fast and deadly and their 'blitzkrieg' methods ('lightning war') allowed them to defeat the Polish army in a week. Britain and France declared war on Germany on the 3rd of September; however, it was not until April 1940 that they attacked. After taking control of Norway and Denmark to secure their supply network, Germany turned their efforts towards the Netherlands and Belgium. Both were defeated within weeks. Then Germany entered France, defeated the French army and forced the British to retreat from Dunkirk. On the 22nd of June France surrendered. By mid-1940 Hitler's forces controlled a huge area of Europe. His next target was Britain, the only country still at war with him. Fighting also escalated in south-east Europe, with Hitler supporting his ally Mussolini, and in the Soviet Union.

Write a narrative summary of the developments in the initial months of the conflict.

Week 6

Revisit weeks 1-5. Create your own descriptive sentences about extremism, changes in Germany and the onset of WWII. You should aim to use all the key vocabulary.

YEAR 9 — Cycle 1 HISTORY: What were the Repercussions of the rise of Totalitarianism?

Week 7

Allied powers	Coalition of countries that opposed the Axis powers (led by Germany, Italy, and Japan) during World War Two.

The push back.
The key areas of fighting diverged away from central Europe after the evacuations at Dunkirk. The RAF held off the Luftwaffe in the Battle of Britain and the USA became directly involved in the conflict. Against immense odds, the Soviet armed forces held off the German 6th army at Stalingrad and steadily pushed them into consecutive retreats. In Africa, the battles for resources and access routes between 1940–1943 abated, with victory going to the Allies. D-Day, the invasion of occupied France by the Allied forces, took place in June 1944. Before the invasion, an aerial bombardment of German communications took place and this was then followed by 2,727 ships sailing to the Normandy coast. On the first day 156,000 men landed on a front of thirty miles. Over several months, the combined efforts of the Allied forces succeeded in pushing the German forces back to their borders and beyond. By the spring of 1945 Berlin was being closed in on from both sides.

How do the developments described above compare to the fighting that occurred in the first year of the conflict?

Week 8

Occupation	In a military occupation, armed forces of a foreign state are present without the consent of the country in question.
Collaborated	Actively worked with the Nazis.
Accommodated	Neither worked with the Nazis, nor plotted against them.
Resisted	Actively worked against the Nazis, sabotaging their plans and gathering intelligence.

Occupied Europe.
Between 1938 and 1944 Germany invaded and occupied vast sections of Europe. Whilst there were resistance movements across the continent, many individual people and governments throughout Europe decided to collaborate with Nazi Germany instead of fighting against them. There were various reasons for this: some agreed with Nazi ideology, some wanted to avoid war, and some did not realise the extent of the terror that was to be unleashed. Others were simply not able to fight back against an invasion and chose to collaborate to avoid being completely defeated and crushed.

Why did people respond differently to occupation?

Week 9

Anti-Semitism	Prejudice against and hatred of followers of the Jewish faith.
Persecution	Hostility and ill treatment, especially on the basis of ethnicity, religion, sexual orientation or political beliefs.

Persecution of the Jewish faith.
The persecution of Jewish people can be recognised in three stages, each with worsening discrimination. The first wave of persecution began in April 1933 with the boycott of Jewish shops and goods and the first anti-Semitic laws limiting what professions Jewish people could be employed in. The second stage started in 1935 with violence against those who were Jewish and the creation of the Nuremberg Laws which removed their citizenship and rights. The third wave in 1938 involved more violence and the event known as 'Kristallnacht' where there were numerous murders and thousands of arrests of Jewish men. From this point, many thousands of Jews were sent to ghettos and concentration camps. It is this point that Historians regard to be the beginning of the Holocaust.

Why do you think persecution of followers of the Jewish faith escalated in stages?

Week 10

Genocide	The deliberate killing of a large number of people from a particular nation or ethnic group with the aim of destroying that nation or group.
Holocaust	The systematic, state-sponsored killing of six million Jewish men, women and children and millions of others by Nazi Germany and its collaborators.

Ghettoisation.
From 1938 Nazi Germany decided to gather all Jewish people together and forced them to live in designated "ghettos" to isolate them from society. The Nazis established 356 ghettos in Poland, the Soviet Union, Czechoslovakia, Romania, and Hungary. They were filthy, with poor sanitation and extreme overcrowding. Disease was rampant and starvation was a major cause of death.

Concentration and extermination camps.
Concentration camps were built in Germany, Austria, Czechoslovakia and Poland. A senior SS Officer commanded each camp. By 1944 there were 13 main concentration camps and over 500 smaller camps. Some camps were purpose built for mass extermination.

Should learning about the Holocaust be compulsory? Justify your answer.

Week 11

Trial	A formal examination of evidence by a judge in order to decide guilt in a case of criminal or civil proceedings.

The consequences of the Allied advance and victory. As WWII progressed the Allies began to liberate the hundreds of camps that had been constructed as part of the Nazi regime of terror, but for many prisoners it was too late. The SS were ordered to evacuate prisoners from the camps. These forced evacuations became known as death marches as malnourished prisoners were forced to trek hundreds of miles on foot to camps in central Germany.

The Nuremberg Trials. After the war, German leaders were tried for Nazi Germany's crimes. Their trial was held before an International Military Tribunal in Nuremberg. Judges presided over the hearings of high-level officials of the German government, military, and SS as well as medical professionals and leading industrialists. The Nazis' highest authority, the person most to blame for the Holocaust, was missing at the trials. Adolf Hitler had committed suicide in the final days of the war, as had several others. Many more criminals were never tried. Some fled Germany to live abroad.

What happened to the Nazi party and their rule over Germany?

Week 12

Revisit weeks 7-11. Create your own descriptive sentences about the experience of soldiers, civilians and persecuted groups. You should aim to use all the key vocabulary.

The Cardiovascular System

WEEK 1

Functions of the cardiovascular system in sport

Regulation of Body Temperature
When exercising, the body's temperature increases. This can be controlled by increasing blood flow to the skin where heat can be lost into the atmosphere.

Clotting of Wounds
If an athlete is cut during a competition, platelets will clot the wound so that major blood loss does not occur.

Transport of Oxygen
Oxygen is transported in the blood by red blood cells. It is transported to the working muscles where it is required in order to produce energy for contraction.

WEEK 2

Transport of Carbon Dioxide
Carbon dioxide which is produced during exercise is transported in the blood by red blood cells. It is transported to the lungs where it can be removed.

Transport of Nutrients
Nutrients are transported around the body in the blood. They are required for different functions, such as providing energy (carbohydrates) and muscle growth (proteins).

WEEK 3

Role of Blood Cells

There are four components of the blood that help perform its functions.

Plasma
All of the blood cells are suspended in the plasma
- It allows blood cells to move around the body
- It plays a role in temperature regulation

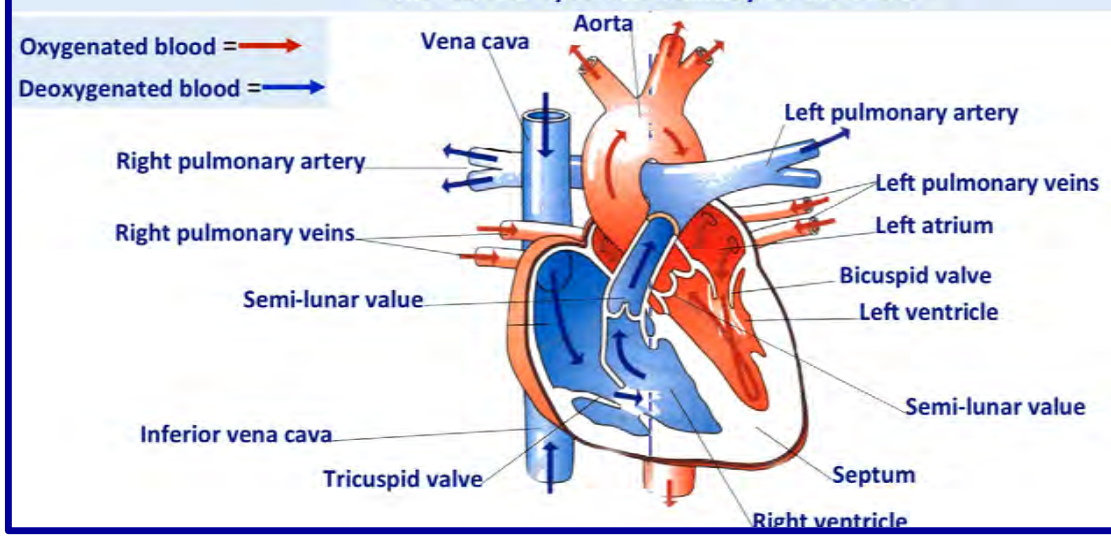
Platelets
- Responsible for clotting open wounds
- Prevent major blood loss when wounds occur as a result of accidents in sport and physical activity

White Blood Cells
- Form part of the immune response
- Respond when foreign cells such as viruses enter the body
- Help to maintain health

Red Blood Cells
- These contain haemoglobin
- Oxygen combines with haemoglobin in order to be transported to working muscles
- Carbon dioxide combines with haemoglobin in order to be removed from the body

WEEK 4

The Cardiac Cycle and Pathway of the Blood



WEEK 5

Blood Redistribution during Exercise

Blood is redistributed around the body during exercise so more blood is taken to the working muscles and less to the internal organs. This is known as vascular shunting.

This occurs by the arteries' smooth muscle layer either:
- contracting **(vasoconstriction)** to reduce blood flow to a certain area, such as the internal organs

or
- widening **(vasodilation)** to increase blood flow to a certain area, such as the working skeletal muscles

WEEK 6

Year 9 – **Music** – Cycle 1

Key vocabulary

Cyclic – musical themes repeated/recalled
Leitmotif – a musical phrase referring to a character
Ostinato – repeating musical phrase
Polyphonic – many sounds/two or more lines
Atonal – No key or tonal centre
Tone Row – a sequence of twelve chromatic notes
Chromatic scale – all twelve notes of the octave
Diminished chord – built on stack of two minor thirds
Augmented chord – chord stacking two major thirds
Click track – metronome pulse used when recording
Cues – An extract from a film score
Synchronised – aligning of music to visual
Chiptunes – music from early video games (limited)
Diegetic – Music which characters can hear in a film
Non-diegetic – Music characters cannot hear in film
Immersion – music creates immersion with a game
Ground Bass – repeating bass melody

Week 1 and 2 content

Task: *Write yellow words in your Purple books with meanings*
Texture – Polyphonic, Monophonic, Homophonic
LISTENING (***click on links to listen and watch***)
Electric Counterpoint – Steve Reich
https://www.youtube.com/watch?v=N2s410ZANPY
Tubular Bells – Mike Oldfield
https://www.youtube.com/watch?v=Bnb-v9fmmCA

- **MUSIC THEORY – (optional)**

Practice reading music notation at least twice a week for 5 minutes through this link. Change the setting in top right to include Bass Clef as well as Treble Clef. Also use **Duolingo Music.**
https://www.musictheory.net/exercises/note

- **PRACTICE – (optional)**

Log into Charanga and choose the assigned **YuStudio** Pop Project. Do a little bit each week and it will help you write a great song!
https://charanga.com/site/log-in/

Week 3 and 4 content

Task: *Write yellow words in your Purple books with meanings*
Tonality – Major, Minor, Modal, Atonal
LISTENING (***click on links to listen and watch***)
Rite of Spring – Igor Stravinsky
https://www.youtube.com/watch?v=ThmV9b_zmlE
Looney Tunes – Carl Stalling
https://www.youtube.com/watch?v=aw4KXgfBpBg
MUSIC THEORY – (optional)
Practice reading music notation at least twice a week for 5 minutes through this link. Change the setting in top right to include Bass Clef as well as Treble Clef. Also use **Duolingo Music.**
https://www.musictheory.net/exercises/note

- **PRACTICE – (optional)**

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https://charanga.com/site/log-in/

Week 5 and 6 content

Task: *Write yellow words in your Purple books with meanings*
PITCH – Melody, Disjunct, Conjunct

- **LISTENING** (***click on links to listen and watch***)

Super Mario Theme – Koji Kondo
https://www.youtube.com/watch?v=QKap57-TTwQ
Protecting Veil - John Taverner
https://www.youtube.com/watch?v=9QQUR72INts
MUSIC THEORY – (optional)
Practice reading music notation at least twice a week for 5 minutes through this link. Change the setting in top right to include Bass Clef as well as Treble Clef
https://www.musictheory.net/exercises/note

- **PRACTICE – (optional)**

Log into Charanga and choose the assigned **YuStudio** 'Pop Project'. Do a little bit each week and it will help you write a great song! https://charanga.com/site/log-in/

Week 7 and 8 content

Task: *Write yellow words in your Purple books with meanings*
TONALITY – Major, Minor, Modal, Atonal

- **LISTENING** (***click on links to listen and watch***)

'Chase' (ET) – John Williams
https://www.youtube.com/watch?v=P7CyzH6R7f4
Outlands (from Tron Legacy) – Daft Punk
https://www.youtube.com/watch?v=CklirXg6Pm4
MUSIC THEORY – (optional)
Practice reading music notation at least twice a week for 5 minutes through this link. Change the setting in top right to include Bass Clef as well as Treble Clef
https://www.musictheory.net/exercises/note

- **PRACTICE – (optional)**

Log into Charanga and choose the assigned **YuStudio** 'Pop Project'. Do a little bit each week and it will help you write a great song! https://charanga.com/site/log-in/

Week 9 content

Task: *Write yellow words in your Purple books with meanings*
TIMBRE – Strings, Woodwind, Brass, Percussion

- **LISTENING** (***click on links to listen and watch***)

Going the Distance (Rocky) – Bill Conti
https://www.youtube.com/watch?v=GvQkl7qa6RQ
James Bond Theme – John Barry
https://www.youtube.com/watch?v=U9FzgsF2T-s
MUSIC THEORY – (optional)
Practice reading music notation at least twice a week for 5 minutes through this link. Change the setting in top right to include Bass Clef as well as Treble Clef
https://www.musictheory.net/exercises/note

- **PRACTICE – (optional)**

Log into Charanga and choose the assigned **YuStudio** 'Pop Project'. Do a little bit each week and it will help you write a great song! https://charanga.com/site/log-in/

https://forms.office.com/e/n8AJsdJSyb
(fee's apply)

Extra Curricular Music

Please come along and join in!

House Band - (any instruments, including singers) - Monday lunchtime in Mu1

Balalaika Group - (Tuesday breaktime in Mu1)

Singing Group - Tuesday lunchtime in Mu1

Rockschool - (guitar/bass/ keyboard/voice) - Wednesday lunchtime in Mu1

Song Writing Group - *(using computer software to write songs) - Thursday lunchtime in Mu2*

Japanese Taiko Drumming - Friday lunchtime in Mu1

Practice Rooms can be booked at break/lunch through Mr Turner!

Spanish

Week 1		Week 2		Week 3	
1	uno	estoy	I am	tengo	I have
2	dos	soy	I am	tienes	you have (sing)
3	tres	un poco	a bit	tiene	he/she/it has
4	cuatro	bastante	quite	el pelo...	...hair
5	cinco	muy	very	...castaño	...brown
6	seis	demasiado	too	...corto	...short
7	siete	alto	tall	...largo	... long
8	ocho	ambicioso	ambitious	...liso	...straight
9	nueve	bajo	short	...moreno	...dark
10	diez	bonito	pretty	...negro	black
11	once	comprensivo	understanding	...pelirrojo	...red
12	doce	deportivo	sporty	...rizado	...curly
13	trece	fiel	faithful, loyal	...rubio	...blond
14	catorce	fuerte	strong	los ojos...	...eyes
15	quince	gracioso	funny	...azules	blue...
16	dieciséis	nervioso	nervous	...marrones	brown...
17	diecisiete	orgulloso	proud	...verdes	green...
18	dieciocho	responsable	responsible	gafas	glasses
19	diecinueve	sensible	sensitive	pecas	freckles
20	veinte	simpático	nice, friendly	tatuaje	tattoo

Week 4		Week 5	
los consejos	advice	Me llevo bien con	I get on well with
la verdad	the truth	Me peleo con	I fight with
apoyar	to support	Me divierto con	I have fun with
ayudar	to help	casarse	to get married
comunicar	to communicate	celebrarse	to celebrate
conocer	to know, to meet	divertirse	to have fun
criticar	to criticise	divorciarse	to get divorced
cuidar	to care for	ducharse	to shower
dar	to give	enamorarse de	to fall in love with
decir	to say	lavarse	to wash
discutir	to argue	levantarse	to get up
gritar	to shout	llevarse bien con	to get on well with
guardar	to keep	parecerse a	to look like
proteger	to protect	pelearse con	to fight with
reír	to laugh	preocuparse por	to worry about
respetar	to respect	separarse	to separate
Week 6		tendría	would have
una boda	a wedding	artístico	artistic
el marido	husband	independiente	independent
el matrimonio	marriage	listo	clever
la mujer	wife	precioso	beautiful
la pareja	partner	religioso	religious
la novia	girlfriend	responsable	responsible
el novio	boyfriend	rico	rich
sería	would be	trabajador	hard-working

Week 7		Week 8	
voy	I go	odio	I hate
vas	you (sing.) go	puedo	I can
va	he, she, it goes	quiero	I want
vamos	we go	tengo que	I have to
salgo	I go out	voy a	I'm going to
sales	you (sing.) go out	descargar música	to download music
sale	he, she, it goes out	hacer los deberes	to do homework
salimos	we go out	ir de compras	to go shopping
hago	I do / make	leer	to read
haces	you (sing.) do / make	pasar tiempo	to spend time
hace	he, she, it does/makes	salir con amigos	to go out with friends
hacemos	we do / make	ver la tele	to watch TV
Week 9 - Additional Verbs		**Week 10 - Additional Adjectives**	
abandonar	to abandon	alemán	German
abrazar	to hug	casado	married
amenazar	to threaten	cristiano	Christian
atraer	to attract	duro	hard
besar	to kiss	enojado	angry
compartir	to share	español	Spanish
comprender	to understand	extranjero	foreign
engañar	to trick, deceive	francés	French
llorar	to cry	inglés	English
morir	to die	judío	Jewish
nacer	to be born	loco	crazy
pegar	to hit, stick on	muerto	dead
perdonar	to forgive	musulmán	Muslim
regalar	to give as a gift	perezoso	lazy
romper	to break	soltero	single

P	*I have decided...*	*He decidido...*
R	*...because he is serious.*	*...porque es serio.*
O	*In my opinion...*	*En mi opinión...*
F	*I am going to get married.*	*Voy a casarme.*
S	*If it were possible...*	*Si fuera posible...*
+	*According to my brother...*	*Segun mi hermano...*
+	*I would say that...*	*Diría que...*
+	*I don't get on well with my sister.*	*No me llevo bien con mi hermana.*

Verbs are in **VIOLET**
Feminine nouns are in **PINK**
Masculine nouns are in **BLUE**
Adjectives are in **AMBER**

Notes

Notes