

The English Martyrs Catholic School and Sixth Form College

How to support your child with revision



Purpose of the session

- To find out different ways you can support your son/daughter with GCSE revision at home.
- Find out some revision techniques that can be applied across the curriculum.
- To answer any questions you have about revision techniques



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*“No-one ever left an exam
wishing they had revised less”*



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General tips

- Hours of 'cramming' doesn't work. 20 minute stints are recommended.
- Re-reading, highlighting material and watching videos are popular BUT...the brain needs to 'DO' something with information! (build the muscle – make it work)
- Don't just stick with one technique – if it doesn't work, try something else!



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General tips

- Encourage your child to review what their priorities for revision are. What is it that they struggle with the most? Start with this!
- Encourage your child to create a revision timetable and start early.
- Remove distractions, such as TV and mobile phone.
- Stay healthy. Exercise, eat well, sleep well and drink lots of water.



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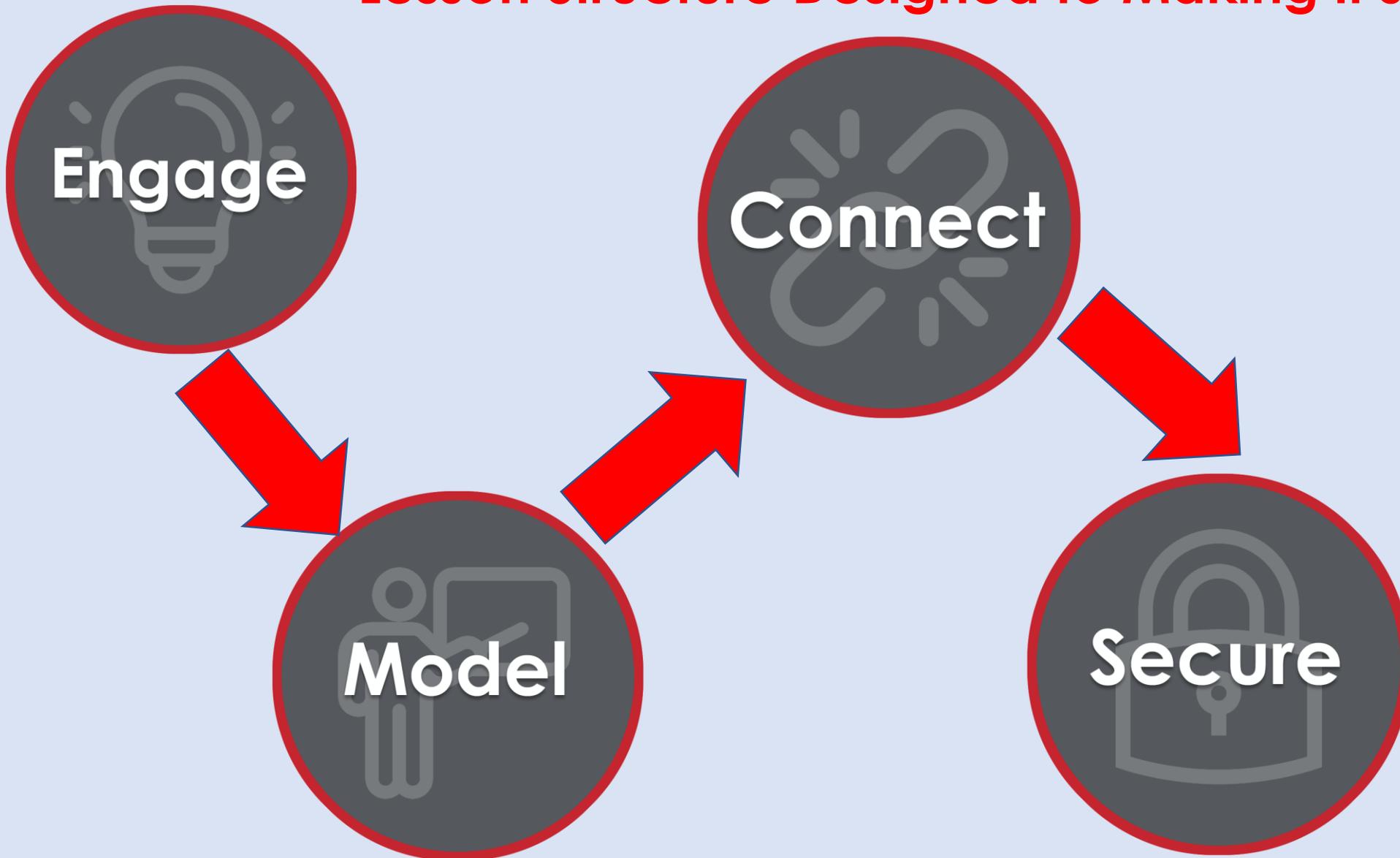
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Lesson Structure Designed to Making it stick



Revision clocks

Revision clocks are a great way of breaking down information in up to 12 manageable chunks. By breaking down an area you are revising, it allows you to see the big picture, as well as focus on the important aspects of the unit. By spending 5 minutes on each chunk it helps keep you focussed and makes revision more manageable.



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What is an Ecosystem?	
An ecosystem is a system in which organisms interact with each other and with their environment.	
Ecosystem's Components	
Abiotic	These are non-living , such as air, water, heat and rock.
Biotic	These are living , such as plants, insects, and animals.
Flora	Plant life occurring in a particular region or time.
Fauna	Animal life of any particular region or time.

Biome's climate and plants					
Biome	Location	Temperature	Rainfall	Flora	Fauna
Tropical rainforest	Centred along the Equator.	Hot all year (25-30°C)	Very high (over 2000mm/year)	Tall trees forming a canopy; wide variety of species.	Greatest range of different animal species. Most live in canopy layer
Tropical grasslands	Between latitudes 5°- 30° north & south of Equator.	Warm all year (20-30°C)	Wet + dry season (500-1500mm/year)	Grasslands with widely spaced trees.	Large hoofed herbivores and carnivores dominate.
Hot desert	Found along the tropics of Cancer and Capricorn.	Hot by day (over 30°C) Cold by night	Very low (below 300mm/year)	Lack of plants and few species; adapted to drought.	Many animals are small and nocturnal: except for the camel.
Temperate forest	Between latitudes 40°- 60° north of Equator.	Warm summers + mild winters (5-20°C)	Variable rainfall (500-1500mm /year)	Mainly deciduous trees; a variety of species.	Animals adapt to colder and warmer climates. Some migrate.
Tundra	Far Latitudes of 65° north and south of Equator	Cold winter + cool summers (below 10°C)	Low rainfall (below 500mm/ year)	Small plants grow close to the ground and only in summer.	Low number of species. Most animals found along coast.
Coral Reefs	Found within 30° north – south of Equator in tropical waters.	Warm water all year round with temperatures of 18°C	Wet + dry seasons. Rainfall varies greatly due to location.	Small range of plant life which includes algae and sea grasses that shelters reef animals.	Dominated by polyps and a diverse range of fish species.

Food Web and Chains	
Simple food chains are useful in explaining the basic principles behind ecosystems. They show only one species at a particular trophic level. Food webs however consists of a network of many food chains interconnected together.	

Nutrient cycle	
Plants take in nutrients to build into new organic matter. Nutrients are taken up when animals eat plants and then returned to the soil when animals die and the body is broken down by decomposers .	
Litter	This is the surface layer of vegetation, which over time breaks down to become humus .
Biomass	The total mass of living organisms per unit area.



Unit 1b

The Living World

AQA

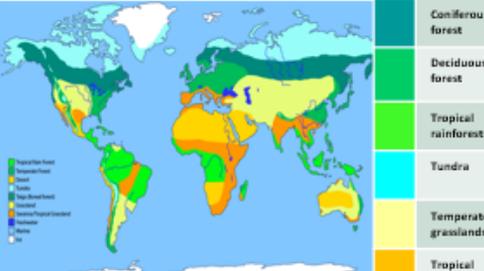
Case Study: UK Ecosystem: Epping Forest, Essex		
This is a typical English lowland deciduous woodland. 70% of the area is designated as a Site of Special Scientific Interest (SSI) for its biological interest, with 66 % designated as a Special Area of Conservation (SAC) .		
Components & Interrelationships	Management	
Spring	Flowering plants (producers) such as bluebells store nutrients to be eaten by consumers later.	- Epping has been managed for centuries. - Currently now used for recreation and conservation . - Visitors pick fruit and berries , helping to disperse seeds . - Trees cut down to encourage new growth for timber .
Summer	Broad tree leaves grow quickly to maximise photosynthesis .	
Autumn	Trees shed leaves to conserve energy due to sunlight hours decreasing.	
Winter	Bacteria decompose the leaf litter, releasing the nutrients into the soil.	

Tropical Rainforest Biome	
Tropical rainforest cover about 2 per cent of the Earth's surface yet they are home to over half of the world's plant and animals .	
Interdependence in the rainforest	
A rainforest works through interdependence . This is where the plants and animals depend on each other for survival. If one component changes, there can be serious knock-up effects for the entire ecosystem.	

Distribution of Tropical Rainforests	
Tropical rainforests are centred along the Equator between the Tropic of Cancer and Capricorn. Rainforests can be found in South America, central Africa and South-East Asia. The Amazon is the world's largest rainforest and takes up the majority of northern South America, encompassing countries such as Brazil and Peru.	

Layers of the Rainforest	
Emergent	Highest layer with trees reaching 50 metres.
Canopy	Most life is found here as it receives 70% of the sunlight and 80% of the life .
U-Canopy	Consists of trees that reach 20 metres high .
Shrub Layer	Lowest layer with small trees that have adapted to living in the shade .

Rainforest nutrient cycle	Climate of Tropical Rainforests
The hot, damp conditions on the forest floor allow for the rapid decomposition of dead plant material. This provides plentiful nutrients that are easily absorbed by plant roots. However, as these nutrients are in high demand from the many fast-growing plants, they do not remain in the soil for long and stay close to the surface. If vegetation is removed, the soils quickly become infertile .	<ul style="list-style-type: none"> Evening temperatures rarely fall below 22°C. Due to the presence of clouds, temperatures rarely rise above 32°C. Most afternoons have heavy showers. At night with no clouds insulating, temperature drops.



The **most productive biomes** – which have the greatest biomass- grow in climates that are **hot and wet**.

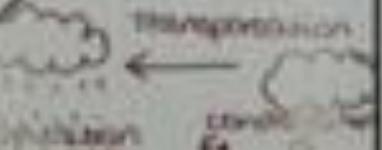


WATER ON THE LAND

DEFINITION
 Physical action - force of water against bed & banks
 erosion - wearing away
 mass wasting (landslides)
 mudflow - mass of muds + silt + water
 debris flow - mud + rocks + water
 debris avalanche - mud + rocks + water + ice
 debris flow - mud + rocks + water + ice
 debris flow - mud + rocks + water + ice



RIVER HYDROLOGICAL CYCLE



FACTORS AFFECTING CHANNELS

Channel - shape of the river + flow
 Cross-section - shape of the channel
 Longitudinal profile - shape of the river bed

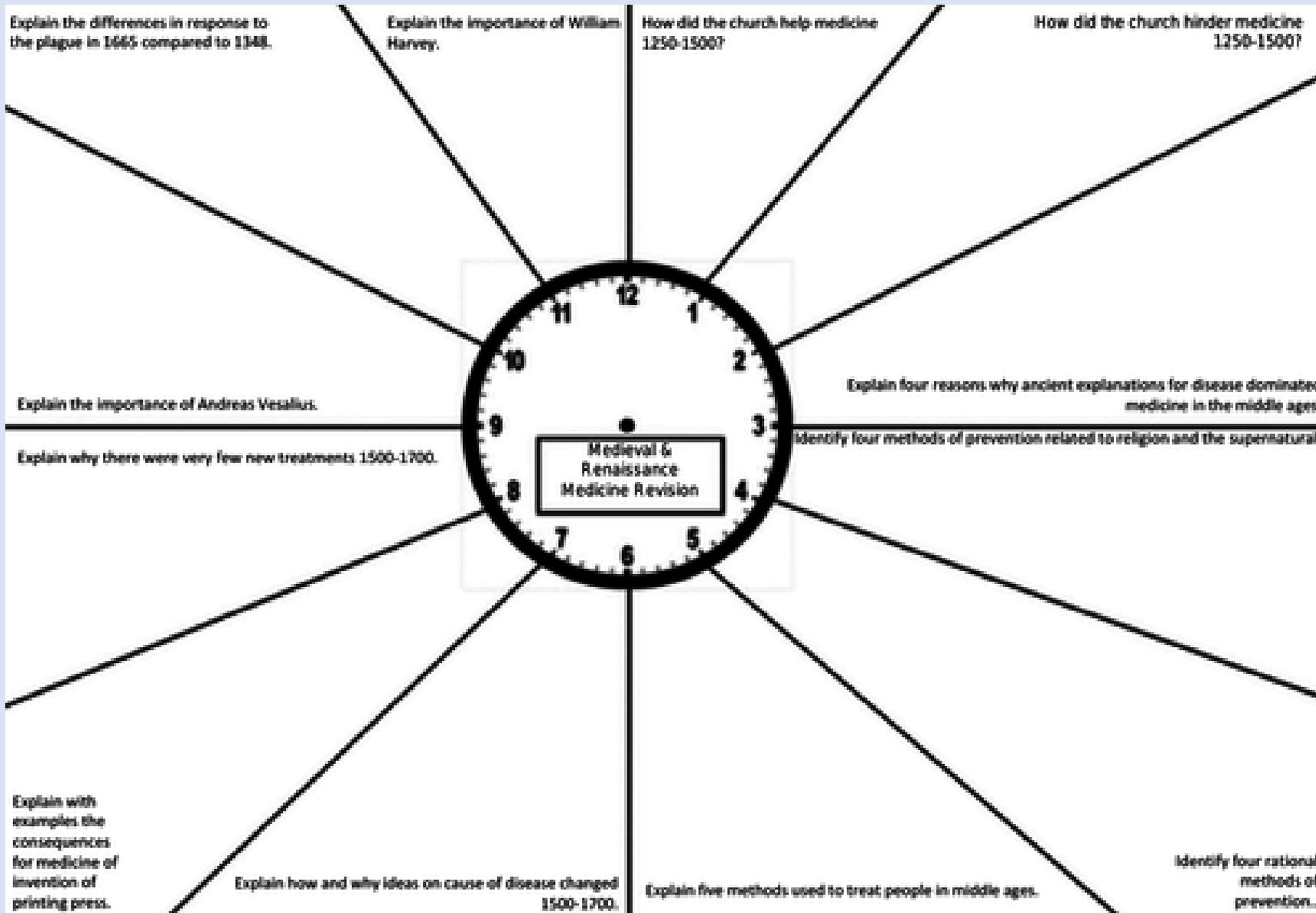
THE WATER MANAGEMENT BOARD

1970 - 1971
 1972 - 1973
 1974 - 1975
 1976 - 1977
 1978 - 1979
 1980 - 1981
 1982 - 1983
 1984 - 1985
 1986 - 1987
 1988 - 1989
 1990 - 1991
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 2016 - 2017
 2018 - 2019
 2020 - 2021

LOADING CASE STUDIES - ARDC TOWER

1997 - 1998
 1999 - 2000
 2001 - 2002
 2003 - 2004
 2005 - 2006
 2007 - 2008
 2009 - 2010
 2011 - 2012
 2013 - 2014
 2015 - 2016
 2017 - 2018
 2019 - 2020
 2021 - 2022

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Flash cards

Revision cards are small, double-sided flashcards that emphasise key information. They usually mention the topic/question on one side and important details, keywords, mnemonics, etc. on the other. This helps the brain make better connections between those two pieces of information



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CIRCULATORY SYSTEM

1- THE HEART & THE BLOOD VESSEL

THE HEART: muscular organ, fist size. rhythmically pumps blood through the **CIRCULATORY SYSTEM**, slightly left on the chest cavity, protected by the rib cage, slightly in front of the lungs.

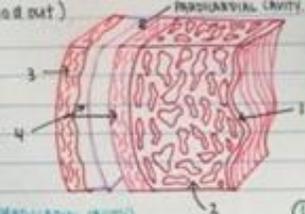
FOUR CHAMBERS: coming out of organ is **TRIAL & ATRIUM** lower with the **VENTRICLE** upper makes 4.

- **2- ATRIA:** receives blood returning to heart
- **2- VENTRICLES:** release blood for delivery to body (thicker muscle walls for pumping blood out)

WALL MUSCLE LAYERS:

- **ENDOCARDIUM:** inner lining (1)
- **MYOCARDIUM:** thick wall of muscle (2)
- **EPICARDIUM:** outer lining (3)
- **PERICARDIUM:** tissue sac around lining (4)

• **PERICARDIUM:** BETWEEN CARDIUM ATRIUM & (PERICARDIAL CAVITY)



MUSCLE & MOVEMENT

1- BONES & MUSCLES

MUSCULOSKELETAL SYSTEM: 2 organ systems, the skeletal sys. & muscular sys. work together to support the human body and allow it to move.

FUNCTIONS OF BONES

STRUCTURAL FUNCTION	PHYSIOLOGICAL FUNCTION
PROTECTION: protects organs - bones of vertebral column protect spinal cord - Ribs protect heart + lungs MUSCLE SUPPORT: muscle attach to bones levers to allow bones to move when contract.	BLOOD CELL PRODUCTION: bone marrow, located in many flat bones: pelvic bones, ribs, sternum, end of bones. MINERAL STORAGE: stores calcium and phosphorus. Responsible for BONE STRENGTH & FLEXIBILITY poor Ca in diet = weaken bones.

PLANTS (topic 9)

1- INTRODUCTION: ALL PLANTS ARE EUKARYOTIC & MULTICELLULAR

PLANT CELLS: contains nucleus and organelles, but distinctive features:

- **CELL WALLS:** made of cellulose, a complex carbohydrate provides rigid structural support, difficult to digest
- **CHLOROPLAST:** organelle that conducts photosynthesis

CLASSIFYING PLANTS: classified on the presence & absence of vascular tissue (a network of specialized cells that allows transportation of water, mineral & sugar)

- **VASCULAR:** special cells that help with ~~ner~~ circulation
- **NON VASCULAR:** without vessels

FUNCTION OF STEMS:

1. **SUPPORT:** system for plant body
2. **TRANSPORT:** (made of **XYLEM & PHLOEM**) carries water & nutrients
3. **HOLDS STRUCTURE:** leaves and branches upright.

DEFENCE SYSTEM

1- D- DEFENCE AGAINST INFECTION'S DISEASES & ANTIBODY PRODUCTION

1-1- PATHOGENS: IS AN AGENT THAT CAN CAUSE DISEASES IN AN ORGANISM.

VIRUSES: NOT ALIVE

- No cellular structure, cytoplasm, organelles, OF membranes.
- No metabolism, can't grow respire
- mobile genes, **ATTACK CELLS**, can **REPRODUCE**, take over them control
- composed of **NUCLEIC ACID, PROTEIN, SOMETIMES LIPIDS**
- Nucleic acid is surrounded by a protective protein coat called **CAPSID**
- outer membranous layer, **ENVELOPE**, made of lipids & proteins surrounds capsids
- more than 100 major groups, now identified, determined by the type & arrangement of proteins in capsid
- within host organism, limited # of cell types are susceptible to infection

↳ CAN BE VERY SPECIFIC, ONLY AFFECT SPECIFIC CELL



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Flash cards

- Flash cards can be bought or made
- Use colour to separate and organise ideas
- Use images and text
- Don't overload
- Make as neat as possible
- Spread large topics over multiple cards
- Place quiz questions on the back of them and quiz in pair



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Taking Flash cards further



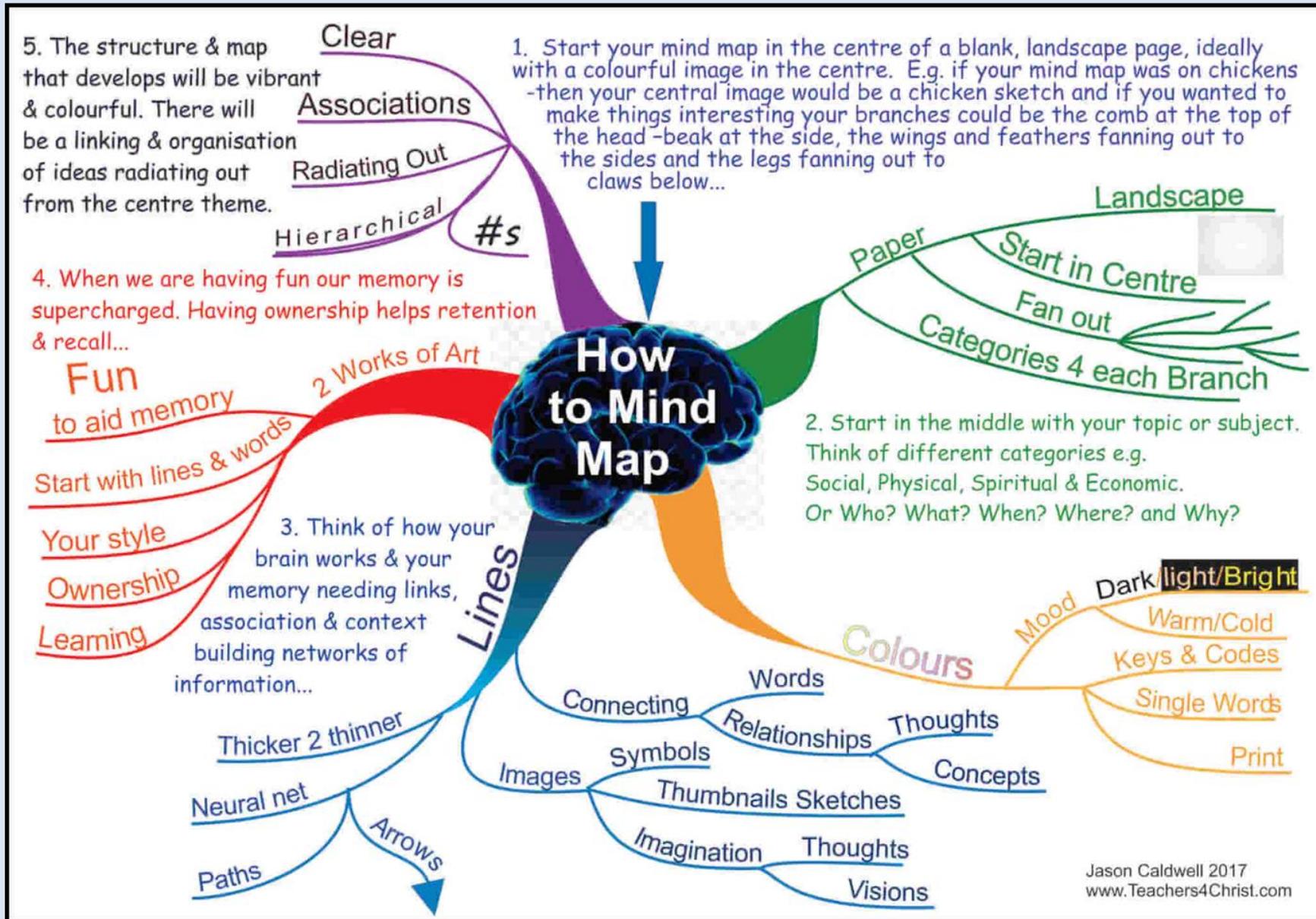
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Mind mapping

Mind maps provide a structured way to capture and organise ideas and information. They help users to understand concepts by breaking them down into their component parts. The technique is used to develop new ideas, or to break down and better understand existing information. Mind maps help you to see how information fits together.



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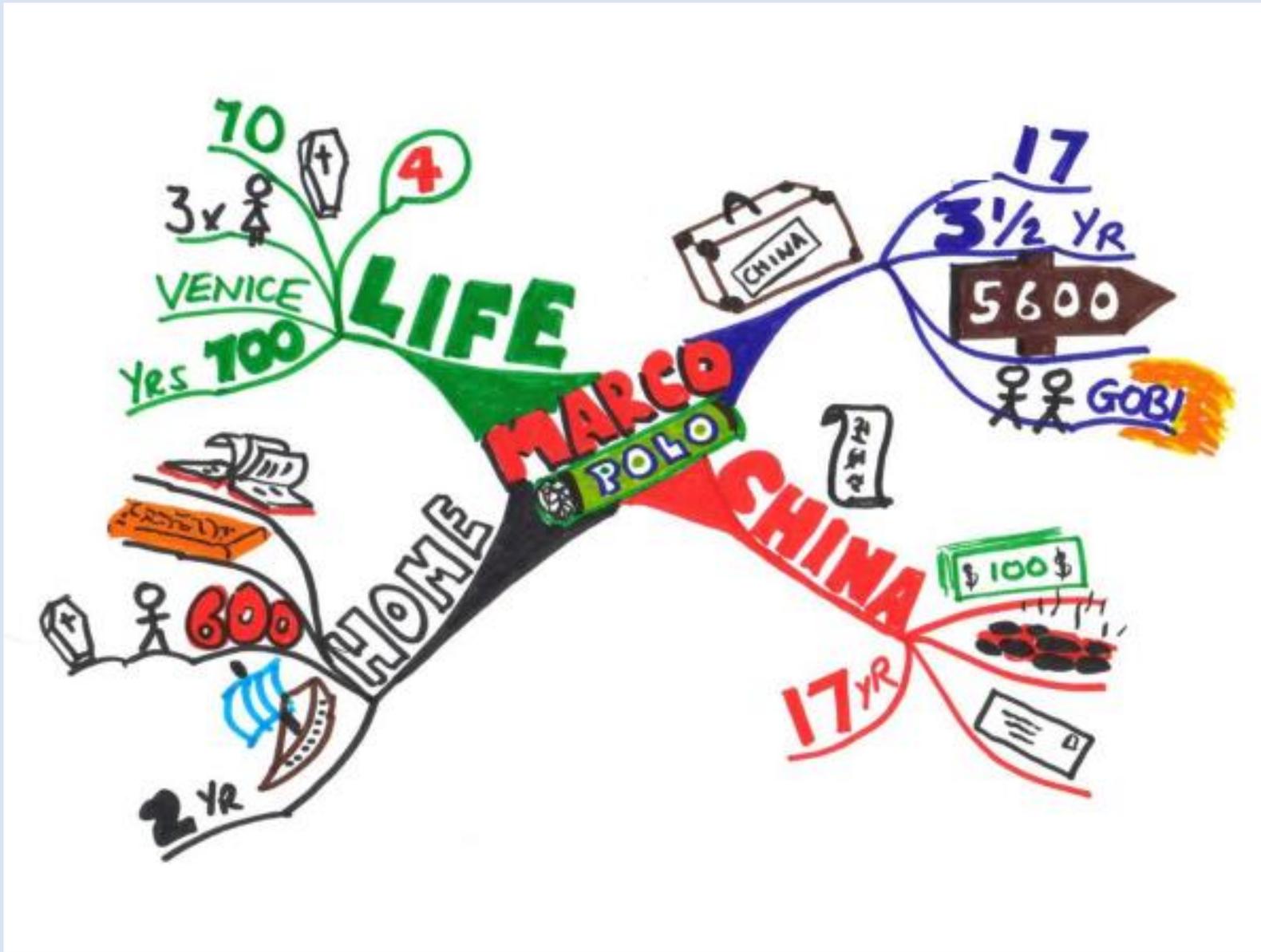
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MARCO POLO 1254-1324

Marco Polo was an explorer who lived over 700 years ago in the city of Venice. His Father and Uncle were great travellers who had travelled to China when Marco was very young. When he was 17 he accompanied them on their return to China. The trip was very long and it took 3 ½ years to travel over 5600 miles. It was perilous, especially when they had to cross the Gobi Desert. Once in China seeing paper money and coal for the very first time fascinated Marco Polo. He was also impressed with the Imperial Postal service that had 3 levels. To send a “Second Class” letter, you gave it to foot-runners that ran between relay stations about 3 miles apart. They wore bells around their waists so that as they approached the relay station, someone would be ready to take the message on to the next station. “First Class” business post was carried on horseback between staging posts 25 miles apart. Really important Imperial business was carried on horseback by the same courier, stopping only to get a fresh horse. Marco Polo and his Father and Uncle stayed in China for 17 years before they returned to Venice. This time they travelled by sea but it took them 2 years and over 600 passengers and crew died on the voyage. They were assisted on their travels by carrying a special Golden Tablet that guaranteed their safe passage. On his return to Venice Marco Polo wrote a book but because no one had ever travelled that far east before, many of his tales were seen as lies. It was only in the last century when parts of China were revisited by westerners for the very first time since Marco Polo that his stories were found to be true. Marco Polo spoke 4 languages, was 70 when he died in his home city of Venice and he had 3 daughters.



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Albert Einstein

Einstein was born in Germany in 1879. As a child, Albert hated school and his teachers thought he was rather "stupid". In fact he was asked to leave school because his teachers found him disruptive. He was a very curious child and wanted to know how everything worked. When he was five years old, his father gave him a compass, which he loved and took apart to understand how it worked. When he was 12 he was given a geometry book, which he read from cover to cover, and so began his love of maths.

Einstein had several jobs. His first, ironically, was as a teacher. At first he failed the exam, but persisted and got the job. He then went to work in a patent office where he would look at new inventions. When his scientific papers became well-known, he was actively sought after by many universities. He worked in German universities for 17 years, until the Nazi reign, when he fled Germany because he was a Jew. He went to work at Princeton University in the USA for the rest of his life.

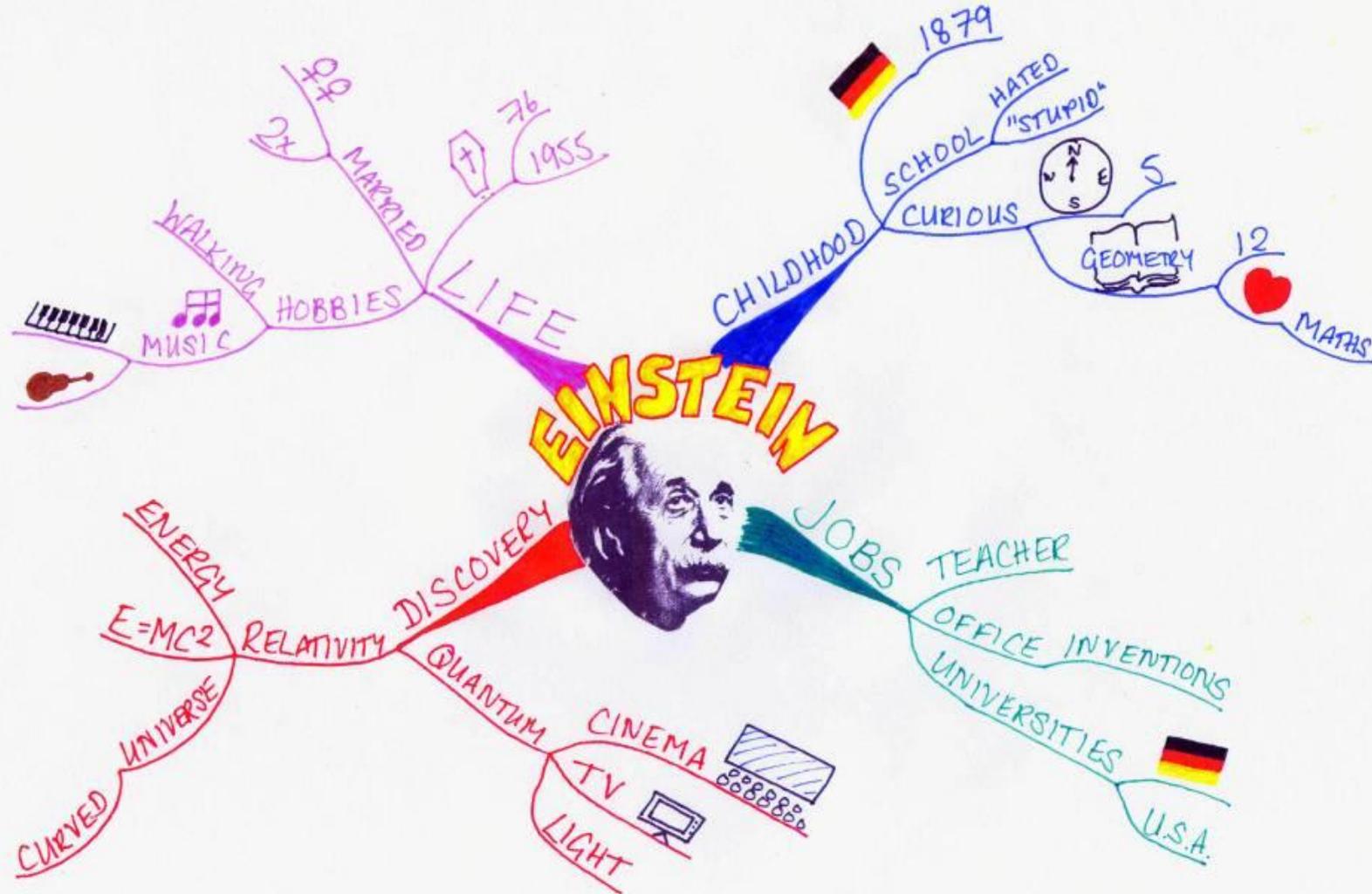
He made some amazing discoveries in his work, that changed much about the world. His first scientific paper was his Quantum Theory. He discovered that light travelled not only in waves, as previously thought. This discovery later led to the inventions, by others of the cinema and television. His second major discovery was his theory of Relativity. Daydreaming one afternoon, he imagined travelling on a beam of light, and dreamt that the universe is curved. This daydream led to his famous theory, E=MC², and has led to many inventions for creating more powerful energy.

Although Einstein worked hard his whole life, he also had many things he enjoyed, and contributed them to his great brain. He loved music and played both the violin and piano to a very high standard. He went walking every day to relax and daydream and keep fit.

Einstein married twice, and with his first wife had two sons. He died in 1955 at the age of 76.



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Any questions?

