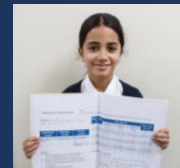


Together, Be the Best We Can Be.

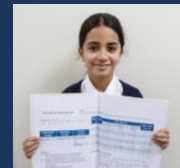
Present – Achieving – Excelling



Knowledge Organisers

Mrs Nadeem

Kettlethorpe
HIGH SCHOOL



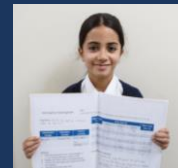
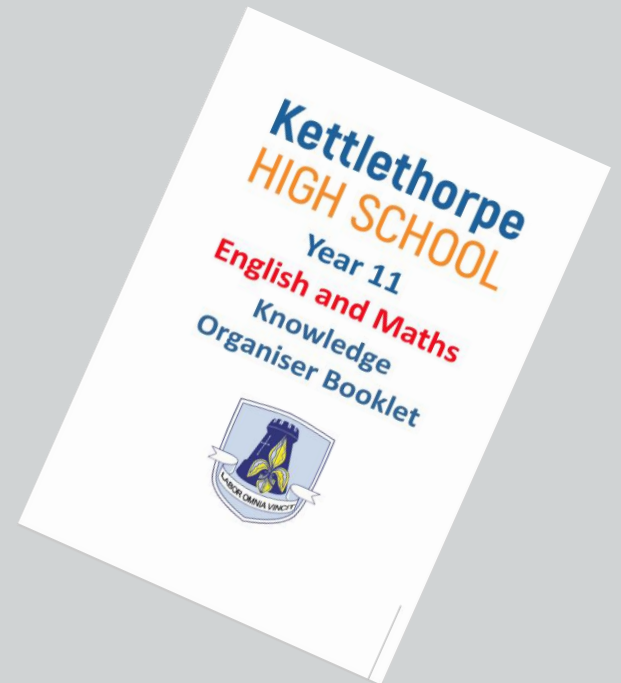
Rationale behind using Knowledge organisers

- Knowledge organisers set out the important, useful & powerful knowledge from a topic, on a single page.
- By building long term memory, we free up “Working” memory. Retrieval aids retention.
- Excellent tool for differentiation.
- Key concepts (not everything on the spec)... they do need to go away, so pupils can retrieve information.

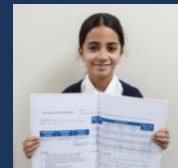
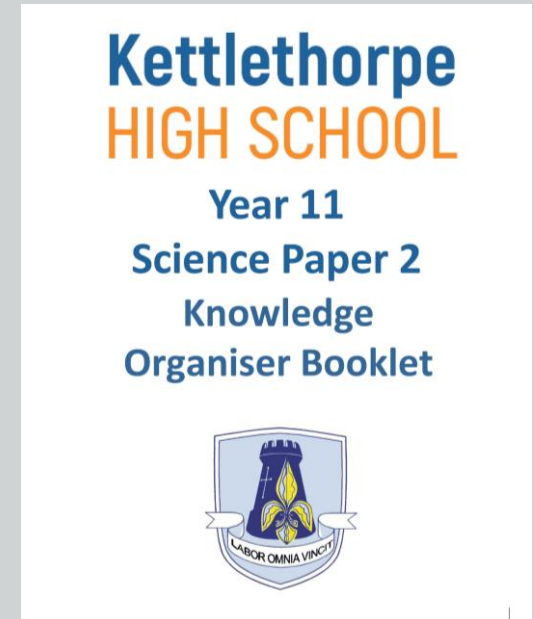


What Year 11 have received:

Pupils should now have received your Knowledge Organiser packs.

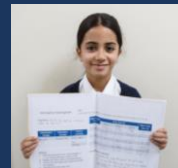


- Pupils will start receiving Knowledge Organiser sheets/booklets from their subject teachers.
- It is important that when they receive these, are placed in the folders.
- Pupils will need these to complete revision techniques in tutor time and in lessons.
- Do not lose your Knowledge Organiser sheets.



Expectations

- You will bring your folder, containing all elements, every day.
- If you don't have your folder, your teacher will give you a concern.
- The exercise book can be used for all your subjects, and to practise any learning strategies you already use.
- You mustn't lose your booklet, or you will need to buy a new one.

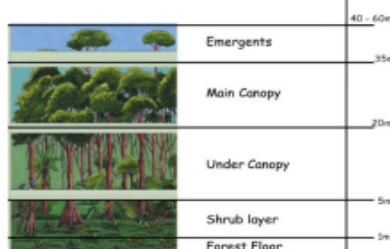


Location



Tropical rainforests are located in a thin belt, straddling the Equator. They include the Amazon (south America), the Congo (Africa) and the Malaysian Rainforest (SE Asia)

Structure & Vegetation



Tropical rainforests are the most biodiverse places on the planet. A single hectare may contain as much as 500 different species of tree and over 1000 different types of plant.

Trees have **Butress roots** to support their great height, and leave have **drip tips** to shed heavy rainfall.

The vegetation is divided into layers.

Adaptations

Just like the vegetation, animals have had to adapt to living in the hot, humid rainforest conditions. For example:



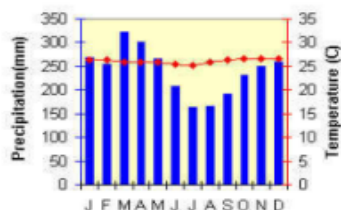
The Sloth. Has very long claws to hold on to the branches of trees. Can regulate

body temperature to keep cool and has a thick, dense fur coat to protect against the sun and rain.

The Boa Constrictor. Very strong tail to help climb tall trees. Green for camouflage. The hunt at night, using infrared sensors, to track rodents in the dark

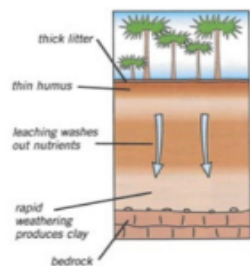


Climate



Tropical rainforests have an Equatorial climate. This means they are very wet (rainfall in every month) and warm all year (25°C – 27°C all year). They are also very humid.

Soils



The soil in rainforests is poor quality. There is a thick layer of leaf litter, but the soil is thin. It is a red clay colour.

Human Interaction

People are bad news for rainforests. Humans cause **deforestation** in a number of ways:

1. **Agriculture** – forest is cleared for farming – Cattle and crops
2. **Settlement** – land is needed for new homes as populations are increasing
3. **Logging** – timber is exported for furniture
4. **Mining** – Gold, iron ore and bauxite are all mined.
5. **Dams** – Rainforests are home to some of the largest rivers in the world (Amazon and Congo). HEP is used to generate electricity (renewable energy)

Effects of Deforestation

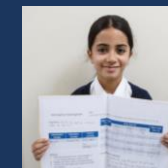
Once the trees are removed, the soil is exposed to the heavy rain. This leads to:

1. **Soil erosion** – the soil is washed away leaving bare rock. This soil ends up in the rivers silting them up.
2. **Infertile soil** – nutrients are washed out of the soils resulting in poor quality farmland.
3. **Reduce Biodiversity** – rare plants and animals lose habitat and may become extinct. Meaning that we might lose potentially life saving medicines.
4. **Indigenous tribes** – they lose their land, their homes and traditional way of life.
5. **Trees are a carbon sink** – less trees means less CO₂ is absorbed, increasing the concentration in the atmosphere. This can lead to an increase in the greenhouse effect and cause climate change.

Sustainable Management

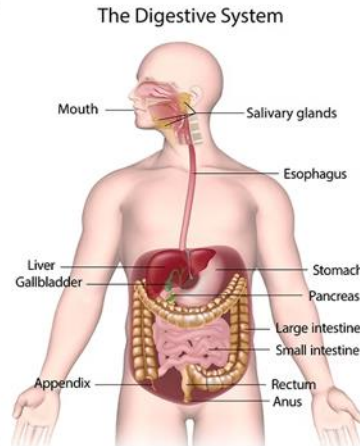
To protect the rainforest the following things can be done:

1. **Selective logging** – only cut down the desired trees rather than ALL the trees in an area
2. **Eco-Tourism** – Small scale tourist resorts, built to blend in with the natural environment, run by locals to keep the profit in the community.
3. **International agreements** – The FSC and Rainforest Allegiance are used to limit deforestation and protect large areas of the forest.
4. **Debt reduction** – Poor counties debt is reduced or removed in exchange for protecting areas of forest.



Digestive System

- 1) The mouth has **teeth** that mechanically digest food. The **saliva** contains **amylase** which breaks down **carbohydrates** into **glucose**.
- 2) The food is pushed down the oesophagus by rings of muscles.
- 3) **Hydrochloric acid** in the stomach gives a good environment for enzymes to break food down. The stomach muscles **churn** the food.
- 4) **Bile** is a green liquid that is made by the **liver** and is released by the **gall bladder**. It helps digest **fats**.
- 5) The **pancreas** releases **enzymes** into the small intestine that help digest our food.
- 4) The **small intestine** is the longest part of the digestive system. It is made from microscopic **villi** that help increase the **surface area** so more nutrients can be absorbed quickly.
- 5) The **large intestine** absorbs any remaining **water**.
- 6) Any undigested food is stored in the **rectum** as faeces and leaves the body via the **anus**.



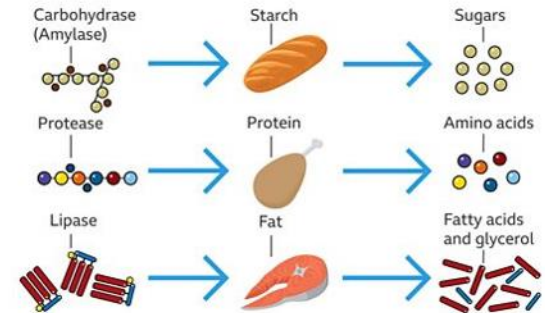
Food Tests - REQUIRED PRACTICAL

There are some simple chemical tests that can be carried out, to see what food groups are present.

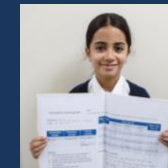
- a) Starch:** if iodine is added to starch, it will turn **blue/black**.
- b) Protein:** if Biuret solution is added to protein, it will turn **purple**.
- c) Fat:** to test for fat, mix the food with a small amount of ethanol and distilled water, if a **milky-white** emulsion appears, then fat is present.
- d) Sugar:** If Benedict's solution is added to sugar and heated, it will form an **orange** precipitate.

Enzymes

Enzymes are found in digestive juices. They are biological catalysts, which means they speed up digestion without being used up. Carbohydrates, fats, and Proteins each have their own enzyme that breaks them down.

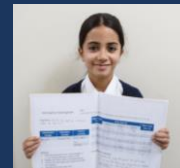


Drug type	Example	Effect
Stimulants	Caffeine, nicotine	Increased alertness
Sedatives	Alcohol, tranquilisers	CNS slowed
Painkillers	Aspirin, morphine	Suppress pain receptors & neurones in CNS
Hallucinogens	LSD, cannabis	Feeling of enormous energy, hallucinations
Alcohol	Alcoholic drinks	Lowers inhibitions, slowed CNS and reaction times
Solvents	Glue, paint, fuel	Distorted perception, hallucinations



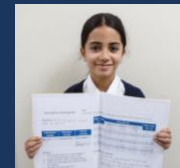
What is the strategy booklet?

- The booklet contains 20 different learning strategies, for pupils to try with different subjects throughout the year.
- There are 3 of each copy so pupils can work straight in the booklets.
- The aim is to encourage pupils to take ownership of their own learning and to support them in developing Independent revision.



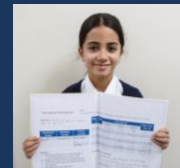
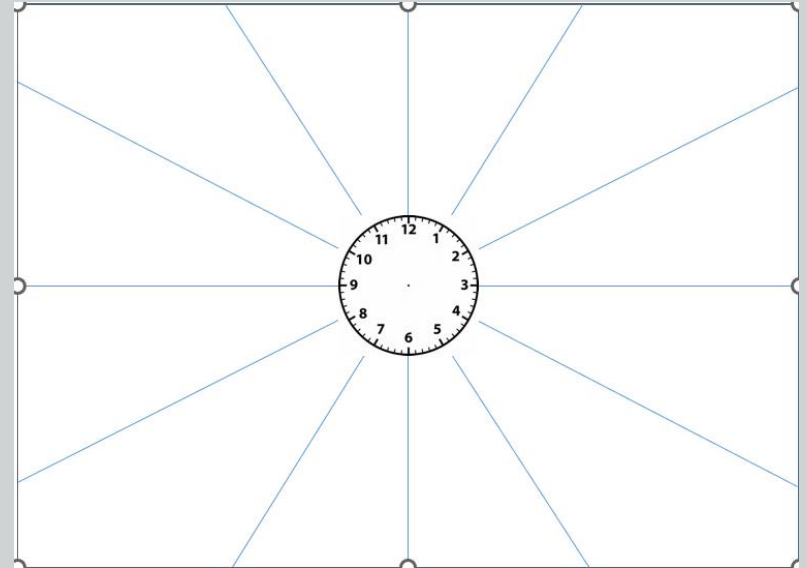
Green Revision Books

- Green books also provided for pupils to do extra revision.
- Pupils can use the green books to try exam questions or use in lessons
- To use so pupils can summarise key facts of a particular topic/subject



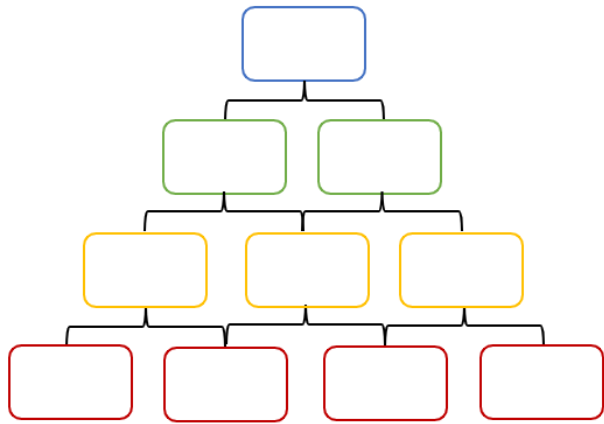
Revision Techniques

- Use your strategy booklet to help in your revision
- Pick a different one and try them out to see which you like.
- Complete this technique in your green books.



Revision Techniques

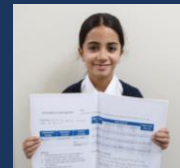
Subject selected:



Why?

"Knowledge is of no value, unless you put it into practice"

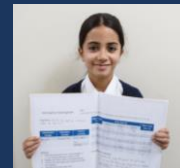
- Use your strategy booklet to help in your revision
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Revision Techniques

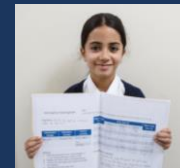
- Use your strategy booklet to help in your revision
- Pick a different one and try them out to see which you like.
- Complete this technique in your green books.

Question:	
Mental muttering:	Answer:



Revision timetables will be provided and pupils will be guided how to use them effectively

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday	Sunday
8:30 to 4:00	School	School	School	School	School			



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Present – Achieving – Excelling

