STOKE DAMEREL

Aspire Achieve Thrive

## Cycle 4

# GEOGRAPHY

## Year 10

**Name: _____**

**Tutor: _____**

# Year 10 Homework Timetable

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|---|---|---|---|---|
| **Monday** | Bedrock Learning | Ebacc Option D | Option C | Modern Britain |
| **Tuesday** | English | Tassomai | Option B | Option A |
| **Wednesday** | Hegarty | Science | Modern Britain | Option C |
| **Thursday** | Ebacc Option D | Tassomai | Bedrock Learning | Option B |
| **Friday** | Hegarty | Science | English | Option A |

**Tassomai - 2 Daily Goals per week**
**Hegarty - 4 tasks of Hegarty per week**

| Block A | Block B | Block C | Block D |
|---|---|---|---|
| Art | Business Studies | Art | French |
| Dance | Child Development | Business Studies | Geography |
| Drama | Catering | Geography | History |
| Media Studies | Computer Science | Health & Social Care | |
| Music | Drama | History | |
| Photography | Health & Social Care | Catering | |
| | IT | Photography | |
| | Media Studies | Sport | |
| | Sociology | Travel & Tourism | |
| | Sport | | |

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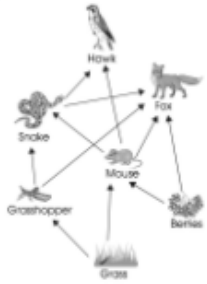
GREENSHAW LEARNING TRUST

**Year 10 - Homework plan Geography - Ecosystems and Tropical Rainforests**

| Week/Date | Homework Task | Examination Question |
|---|---|---|
| Week 1<br>25th April | **Cornell Notes**<br>Introduction to ecosystems | Describe the global pattern of the tundra ecosystem (4) |
| Week 2<br>2nd May | **Revision Cards**<br>Tropical rainforests | Explain why tropical rainforests have high levels of biodiversity. (4) |
| Week 3<br>9th May | **Cornell Notes**<br>Adaptations in the rainforest | Describe and explain the main plant adaptations in a tropical rainforest environment. (6) |
| Week 4<br>16th May | **Revision Cards**<br>Deforestation in the rainforest | Explain, with reference to an example, why it is important to retain biodiversity. (4) |
| Week 5<br>23rd May | **Cornell Notes**<br>Causes of deforestation in Malaysia | Evaluate the impacts of different causes of deforestation in a rainforest you have studied. (6) |
| Week 6<br>6th June | **Revision Cards**<br>Impacts of deforestation | The rainforest is more valuable when left intact than when destroyed. Using a case study, use examples to support or challenge this view. (9) |
| Week 7<br>13th June | **Revision** (any method) | |
| Week 8<br>20th June | **Revision** (any method) | |
| Week 9<br>27th June | **Plug the gap** | |

| Cycle 4 Geography Year 10 Knowledge Organiser: Ecosystems and the Tropical Rainforest | | | | |
|---|---|---|---|---|
| **Session** | **Keywords** | **Knowledge** | **Geographical concepts** | |
| 1<br><br>Introduction to Ecosystems | **Producers**: In an ecosystem plants generate glucose (sugar) using the sun's energy (photosynthesis).<br>**Consumers**: In an ecosystem animals feed by eating plants and other animals.<br>**Decomposers**: In an ecosystem fungi feed by making dead plants and animals rot. | An **ecosystem** is a community of plants and animals that interact with each other and their environment.<br><br>A food chain (Figure 1) shows how plants and animals get their energy. A food chain starts with a **producer,** which make their food by **photosynthesis. Consumers** are next in the chain.<br><br>**Figure 1** | When all the food chains in an ecosystem are joined up together, they form a **food web**<br>  | 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**. |
| 2<br><br>Biomes and tropical rainforests | A **biome** is a large scale ecosystem eg desert, polar, tundra, tropical rainforest, coniferous forest, savanna<br><br>**Rainforests** are wet with over 2,000 mm of rainfall per year and warm with an average daily temperature of 28°C. Temperatures never drops below 20°C and rarely exceeds 35°C. | **There are 4 layers to a rainforest**<br>**Emergent**: the tallest section, lots of light. Birds and butterflies live here<br>**Canopy**: More light here, makes up the most of the rainforest vegetation. In the canopy, tall trees which block most sunlight<br>**Under canopy:** Some light, new young trees competing to get through the canopy. Monkeys and other animals live here, Llianas and other plants hang down to the floor.<br>**Shrub layer:** dark damp, lots of tree litter, large tree trunks. Lots of insects. | **The geographical location of tropical rainforests**<br>In a description of location you should include: lines of latitude, continents, countries and oceans.<br><br>Tropical rainforests are found in areas near the equator, between the tropics of Cancer and Capricorn. These countries include northern South America, Central Africa, Indonesia and northern India. An example of a tropical rainforest is the Amazon which is mostly found in Brazil. | |
| 3<br><br>How plants are adapted to living in the rainforest | **Adaptation:** the process of change by which an organism (plant or animal) becomes better suited to its environment | Plant adaptations to the rainforest:<br>**EMERGENTS** - Some trees are fast growing to EMERGE above forest canopy and capture sunlight.<br>**LIANA** – a plant that takes root in soil but that is supported by trees so it can grow upwards to get sunlight<br>**DRIP TIP** leaves to allow excess water to spill off, preventing leaf damage.<br>Many trees have wide deep **BUTTRESS** roots at the base to stabilise the tree.<br>**EPIPHYTES** - these are plants which live on the branches of trees high up in the **canopy**. They get their nutrients from the air and water, not from the soil. | Animal adaptations to the rainforest:<br>The **SPIDER MONKEY** has long limbs and e strong tail for living in the canopy. They also have sharp nails for peeling off the bark to eat the sap underneath.<br><br>**ANTEATERS** are mammals that live in the ground layer. They have long tongues that can gather up to 35,000 ants and termites each day and sharp claws that can tear open anthills. Anteaters have a good sense of smell to find food<br><br>The **FLYING FROG** has web-like feet which allow it to glide through the air to escape predators. | |

| Cycle 4 Geography Year 10 Knowledge Organiser: Ecosystems and the Tropical Rainforest | | | |
|---|---|---|---|
| **Session** | **Keywords** | **Knowledge** | **Geographical concepts** |
| 4 | **Deforestation** is the permanent destruction of forests in order to make the land available for other uses. | **Rainforests are important because:**<br>1. They remove carbon dioxide from the atmosphere.<br>2. Provides habitats for 75% of the world's plants and animals<br>3. They regulate the earth's climate<br>4. About 25% of all medicines come from rainforest plants | **Deforestation is the main threat to rainforests. Deforestation is often caused by one of these three activities;**<br>1. **Mining**: destroys trees and habitats. Chemicals and toxins infiltrate into the ground and get into the water table<br>2. **Cattle farming**- Land cleared for cattle as well as for growing the feed for the cattle.<br>3. **Crops-** forest areas cleared and burned to make room for new crops eg Soya beans. The burning releases greenhouses into the atmosphere, the soil will have less nutrients in because there is a smaller variety of plants. Habitats destroyed. |
| 5 | 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-on effects** for the entire ecosystem. | Malaysia is a LIC country is south-east Asia. 67% of Malaysia is a tropical rainforest with 18% of it not being interfered with. However , Malaysia has the fastest rate of deforestation compared to anywhere in the world | **Causes of deforestation**<br>**Road Building:** In Malaysia, logging companies use an **extensive network of roads** for heavy machinery and to transport wood.<br>**Logging:** Timber is harvested to create **commercial items** such as furniture and paper.<br>**Agriculture:** Large scale **'slash and burn'** of land for ranches and palm oil. Increase in **palm oil** is making the **soil infertile**.<br>**Mineral Extraction: Precious metals** are found in the rainforest. Areas **mined** can experience **soil and water contamination**<br>**Energy Development** : **Hydro-electric power (HEP).**<br>• The **Bakun Dam was built in 2011** in Malaysia is key for creating energy in this developing country, however, both people and environment have suffered as it flooded 700km$^2$ of rainforest. |
| 6 | **Biodiversity** is a variety of species of plants and animals in a habitat | **Deforestation has significant economic benefits**<br>+ Mining, farming and logging creates employment and tax income for government.<br>+ Products such as palm oil provide valuable income for countries.<br>**Uncontrolled and unchecked exploitation can cause environmental damage.**<br>- **Soil erosion:** - Once the land is **exposed by deforestation,** the soil is more **vulnerable to rain**.<br>- **Climate change:** -Trees are **carbon 'sinks'**. With greater deforestation comes more greenhouse emissions in the atmosphere. | **Main issues with biodiversity decline**<br>• **Keystone species** (a species that are important of other species) are extremely important in the rainforest ecosystem. Humans are threatening these vital components.<br>• **Decline in species** could cause tribes being unable to survive.<br>• **Plants** & **animals** may become **extinct.**<br>• Key medical **plants** may become **extinct.**<br>•<br>**Possible strategies for the sustainable use of rainforests include:**<br>• **Agro-forestry** - Growing trees and crops at the same time. It prevents soil erosion and the crops benefit from the nutrients.<br>• **Selective logging** - Trees are only felled when they reach a particular height.<br>• **Education** - Ensuring those people understand the consequences of deforestation<br>• **Afforestation** - If trees are cut down, they are replaced.<br>• **Forest reserves** - Areas protected from exploitation.<br>• **Ecotourism** - tourism that promotes the environments & conservation |

Date…….

Describe the global pattern of the tundra ecosystem (4)

Answer:-

Date…….

Explain why tropical rainforests have high levels of biodiversity.

Answer:-

Date…….

Describe and explain the main plant adaptations in a tropical rainforest environment. (6)

Answer:-

Date…….

Explain, with reference to an example, why it is important to retain biodiversity. (4)

Answer:-

Date…….

Evaluate the impacts of different causes of deforestation in a rainforest you have studied. (6)

Answer:-

# WEEK 6

Date…….

The rainforest is more valuable when left intact than when destroyed. Using a case study, use examples to support or challenge this view. (9)

Answer:-

## STEP 2: CREATE CUES

What: Reduce your notes to just the essentials.

What: Immediately after class, discussion, or reading session.

How:

- Jot down key ideas, important words and phrases
- Create questions that might appear on an exam
- Reducing your notes to the most important ideas and concepts improves recall. Creating questions that may appear on an exam gets you thinking about how the information might be applied and improves your performance on the exam.

Why: Spend at least ten minutes every week reviewing all of your previous notes. Reflect on the material and ask yourself questions based on what you've recorded in the Cue area. Cover the note-taking area with a piece of paper. Can you answer them?

## STEP 1: RECORD YOUR NOTES

What: Record all keywords, ideas, important dates, people, places, diagrams
and formulas from the lesson. Create a new page for each topic discussed.

When: During class lecture, discussion, or reading session.

How:

- Use bullet points, abbreviated phrases, and pictures
- Avoid full sentences and paragraphs
- Leave space between points to add more information later

Why: Important ideas must be recorded in a way that is meaningful to you.

## STEP 3: SUMMARISE & REVIEW

What: Summarise the main ideas from the lesson.
What: At the end of the class lecture, discussion, or reading session.
How: In complete sentences, write down the conclusions that can be made from the information in your notes.
Why: Summarising the information after it's learned improves long-term retention.

Date / / Topic

# WEEK 1

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| Revision Card on tropical rainforests | Answers |
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| 1. Name the 4 layers of the rainforest<br>2. What is the average annual rainfall in a rainforest<br>3. What is the average annual temperature in a rainforest<br>4. Tropical rainforests are located between which lines of latitude?<br>5. Give an example of a tropical rainforest | |

| Revision Card on threats to rainforests | Answers |
| --- | --- |
| 1. Why is mining a threat to tropical rainforests?<br>2. Why is cattle farming a threat to tropical rainforests?<br>3. Why is crop farming a threat to tropical rainforests?<br>4. Give 3 reasons why rainforests are important. | |

| Revision Card on impacts of deforestation | Answers |
| --- | --- |
| 1. Give a positive impact of mining in the tropical rainforest<br>2. Why is palm oil so important for Malaysia?<br>3. Give 3 negative impacts of deforestation on biodiversity<br>4. How can ecotourism reduce the impacts of deforestation?<br>5. How can selective logging reduce the impacts of deforestation? | |