



Aspire Achieve Thrive

Spring Term
(Half Term 3 and 4)
Geography
Year 10

Name: _____

Tutor: _____

Year 10 Homework Timetable

Monday	English Task 1	Ebacc Option A Task 1	Option C Task 1	
Tuesday	Tassomai	Option B Task 1	Modern Britain Task 1	
Wednesday	Sparx	Science Task 1	Option C Task 2	
Thursday	Ebacc Option A Task 2	Tassomai	Option B Task 2	Modern Britain Task 2
Friday	Sparx	Science Task 2	English Task 2	

Tassomai - 2 Daily Goals per week

Sparx - 4 tasks of Sparx per week

Option A (EBACC)
French
Geography
History

Open B
Art
Business Studies
Catering
Computer Science
History
Health & Social Care
Music
Sport
IT

Open C
Business Studies
Childcare
Catering
Drama
Geography
Health & Social Care
Triple Science
Sport

Geography Half Term 3 - Year 10

Week / Date	Homework task 1 Cornell Notes	Homework task 2 Exam Question
Week 15 2nd January	Cornell Notes on: Evidence for climate change	Question: Explain how shrinking glaciers and seasonal changes could be evidence of climate change. (4)
Week 16 9th January	Cornell Notes on: Natural causes of climate change	Question: Outline two reasons why the climate changes by natural causes. (4)
Week 17 16th January	Cornell Notes on: Human causes of climate change	Question: Outline two reasons why human activities affect concentrations of CO ₂ in the atmosphere. (4)
Week 18 23rd January	Assessment Week Revision	Assessment Week Revision
Week 19 30th January	Cornell Notes on: A small scale ecosystem	Question: Describe the features of a small scale ecosystem. (4)
Week 20 6th February	Cornell Notes on: The impacts of change on an ecosystem	Question: Using the example of a pond, explain how change can impact the ecosystem. (6)




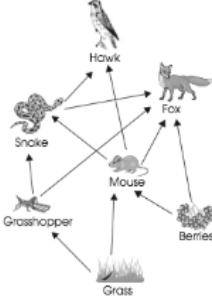
Geography Half Term 4 - Year 10

Week / Date	Homework task 1 Cornell Notes	Homework task 2 Exam Question
Week 21 20th February	Cornell Notes on: The distribution and characteristics of large-scale global ecosystems	Question: Describe the global pattern of desert and rainforest ecosystems. (4)
Week 22 27th February	Cornell Notes on: Characteristics of tropical rainforests	Question: Explain how and why vegetation characteristics in a rainforest change from the emergent layer to the soil. (6)
Week 23 6th March	Cornell Notes on: Plant and animal adaptations in the rainforest	Question: Describe and explain the main plant adaptations in a tropical rainforest environment. (6)
Week 24 13th March	Cornell Notes on: Threats to the Malaysian rainforest	Question: Evaluate the impacts of logging and commercial farming in Malaysia. (6)
Week 25 20th March	Cornell Notes on: Impacts of deforestation in Malaysia	Question: The economic gains of deforestation outweigh the environmental losses. To what extent do you agree with this statement? (9)
Week 26 27th March	Cornell Notes on: Sustainable management of the rainforest	Question: Describe the benefits of ecotourism and selective logging in sustainably managing rainforests. (4)

Geography Year 10 Knowledge Organiser: Half term 3 and 4 (Climate change and ecosystems)

Session	Key terms	Specific knowledge
15	<p>Climate Change: Long term changes in the earth's temperature and weather patterns</p>	<p>Evidence for Climate Change</p> <p>Ice and Sediment Cores: Ice sheets are made up of layers of snow – one per year. If you drill down you can analyse gases trapped in layers of ice for the past. Ice cores from Antarctica show changes over the last 400 000 years. Tree Rings A tree grows one new rind each year. Rings are thicker in warm, wet conditions.</p> <p>Shrinking glaciers and melting ice: Arctic sea ice has thinned by 65% since 1975 it was at an all time low in 2014</p> <p>Visible effects: Historical temperature records date back to the 1850s show a gradual warming of the climate. Low-lying islands such as the Maldives and Tuvalu are under threat from sea level rise. Skiing industry in Alps threatened by less snow.</p>
16		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Natural causes of climate change</p> <p>Orbital changes – The sun's energy on the Earth's surface changes as the Earth's orbit is elliptical its axis is tilted.</p> <p>Solar Output – sunspots increase to a max every 11 years</p> <p>Volcanic activity – volcanic ash can block out the sun, reducing global temperatures temporarily. Short term impact of 1-2 years.</p> </div> <div style="width: 45%; text-align: center;"> <p style="font-size: small;">Eccentricity Earth encounters more variation in the energy that it receives from the sun when Earth's orbit is elongated than it does when Earth's orbit is more circular.</p> </div> <div style="width: 45%;"> <p>Human causes of climate change: The greenhouse effect is a naturally occurring process where greenhouse gasses such as Carbon Dioxide and Methane trap heat in our atmosphere.</p> <ul style="list-style-type: none"> • Fossil fuels – Releasing excessive greenhouse gasses intensify this process and warm the earth's climate. Carbon dioxide accounts for 60% of the enhanced greenhouse effect. • Agriculture – accounts for around 20% of greenhouse gases due to methane production from cows etc. Larger populations and growing demand for meat and rice increase contribution • Deforestation – logging and clearing land for agriculture increases carbon dioxide in the atmosphere and reduces ability to planet to absorb carbon through photosynthesis. </div> </div>
17	<p>Adaptation: Finding ways to live with the effects of climate change)</p> <p>Mitigation: Actions taken to reduce climate change</p>	<p style="text-align: center;">Managing Climate Change: Adaptation</p> <ul style="list-style-type: none"> • Changes in agricultural systems – needed to react to changing rainfall and temperature patterns and changing threat of disease and pests. This is hard for poor farmers who tend to be most affected • Managing water supplies – eg. by installing water efficient devices and increasing supply through things like desalination plants. There is an increasing threat of political stability • Reducing risk from rising sea levels would involve constructing defences such as the Thames Flood Barrier or restoring mangrove forests, or raising buildings on stilts. (Expensive / may be short term) <p>Maldives (a group of islands in the Indian Ocean)</p> <p>Some climate models suggest that the Maldives will be uninhabitable by 2030 and submerged by 2070. The 380,000 inhabitants are having to adapt to the effects of climate change.</p> <ul style="list-style-type: none"> • A 3m high sea wall is being constructed around the capital Male. • Houses are being built on stilts • Mangrove forests are being restored to offer protection from waves • Ultimately, the entire population could be relocated to Sri Lanka <p style="text-align: center;">Managing Climate Change: Mitigation</p> <ul style="list-style-type: none"> • Alternative energy production – renewable sources will last longer and are 'clean' as they do not produce fossil fuels, but they can be expensive and are less reliable than fossil fuels. • Planting Trees – helps to remove carbon dioxide. Has the potential to increase carbon storage by 28%. However land may be limited and biodiversity is still threatened unless a wide range of trees are planted • Carbon Capture – takes carbon dioxide from the emission sources and stores it underground under a cap rock. It can reduce capture of up to 90% of carbon dioxide. However, it is very expensive and unclear if the captured carbon would escape in the long term. Also it discourages development of renewable energy resources • International Agreements – targets will only be met if they are legally binding (Paris 2015). Financial support is needed for LICs. However, poorer countries argue that they need to industrialise and getting richer countries to accept their responsibility is difficult.

Geography Year 10 Knowledge Organiser: Half term 3 and 4 (Climate change and ecosystems)

Session	Keywords	Knowledge	Geographical concepts	
18 Revision	<p>Your assessment will be on;</p> <p>Paper 2 Urban Issues and Challenges (Freiburg and Bristol)</p> <p>Changing UK Economy</p>	<p>To revise, use</p> <ol style="list-style-type: none"> Your term 1 and term 2 knowledge organisers. These can be found in your Google Classroom. A revision guide BBC Bitesize 	<p>Urban change in the UK</p> 	<p>The Changing UK Economy</p> 
19 Introduction to Ecosystems	<p>Producers: In an ecosystem plants generate glucose (sugar) using the sun's energy (photosynthesis).</p> <p>Consumers: In an ecosystem animals feed by eating plants and other animals.</p> <p>Decomposers: In an ecosystem fungi feed by making dead plants and animals rot.</p>	<p>An ecosystem is a community of plants and animals that interact with each other and their environment.</p> <p>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.</p> <p style="text-align: center;"> Figure 1  </p>	<p>When all the food chains in an ecosystem are joined up together, they form a food web</p> 	<p>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.</p>
20 Biomes and tropical rainforests	<p>A biome is a large scale ecosystem eg desert, polar, tundra, tropical rainforest, coniferous forest, savanna</p> <p>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.</p>	<p>There are 4 layers to a rainforest</p> <p>Emergent: the tallest section, lots of light. Birds and butterflies live here</p> <p>Canopy: More light here, makes up the most of the rainforest vegetation. In the canopy, tall trees which block most sunlight</p> <p>Under canopy: Some light, new young trees competing to get through the canopy. Monkeys and other animals live here, Lianas and other plants hang down to the floor.</p> <p>Shrub layer: dark damp, lots of tree litter, large tree trunks. Lots of insects.</p>	<p>The geographical location of tropical rainforests</p> <p>In a description of location you should include: lines of latitude, continents, countries and oceans.</p> <p>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.</p>	

Geography Year 10 Knowledge Organiser: Half term 3 and 4 (Climate change and ecosystems)

Session	Keywords	Knowledge	Geographical concepts
<p>21</p> <p>How plants are adapted to living in the rainforest</p>	<p>Adaptation: the process of change by which an organism (plant or animal) becomes better suited to its environment</p>	<p><u>Plant adaptations to the rainforest:</u> EMERGENTS - Some trees are fast growing to EMERGE above forest canopy and capture sunlight. LIANA – a plant that takes root in soil but that is supported by trees so it can grow upwards to get sunlight DRIP TIP leaves to allow excess water to spill off, preventing leaf damage. Many trees have wide deep BUTTRESS roots at the base to stabilise the tree. 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.</p>	
<p>21</p> <p>How animals are adapted to living in the rainforest</p>	<p>Adaptation: the process of change by which an organism (plant or animal) becomes better suited to its environment</p>	<p><u>Animal adaptations to the rainforest:</u> The SPIDER MONKEY has long limbs and a strong tail for living in the canopy. They also have sharp nails for peeling off the bark to eat the sap underneath. 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 The FLYING FROG has web-like feet which allow it to glide through the air to escape predators.</p>	
<p>22</p>	<p>Deforestation is the permanent destruction of forests in order to make the land available for other uses.</p>	<p>Rainforests are important because:</p> <ol style="list-style-type: none"> 1. They remove carbon dioxide from the atmosphere. 2. Provides habitats for 75% of the world's plants and animals 3. They regulate the earth's climate 4. About 25% of all medicines come from rainforest plants 	<p>Deforestation is the main threat to rainforests. Deforestation is often caused by one of these three activities;</p> <ol style="list-style-type: none"> 1. Mining: destroys trees and habitats. Chemicals and toxins infiltrate into the ground and get into the water table 2. Cattle farming- Land cleared for cattle as well as for growing the feed for the cattle. 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.

Geography Year 10 Knowledge Organiser: Half term 3 and 4 (Climate change and ecosystems)

Session	Keywords	Knowledge	Geographical concepts														
24	A rainforest works through interdependence . The plants and animals depend on each other for survival. If something changes, there are knock-on effects for the ecosystem.	Malaysia is a LIC country in 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	<p>Causes of deforestation</p> <p>Road Building: In Malaysia, logging companies use an extensive network of roads for heavy machinery and to transport wood.</p> <p>Logging: Timber is harvested to create commercial items such as furniture and paper.</p> <p>Agriculture: Large scale 'slash and burn' of land for ranches and palm oil. Increase in palm oil is making the soil infertile.</p> <p>Mineral Extraction: Precious metals are found in the rainforest. Areas mined can experience soil and water contamination</p> <p>Energy Development : Hydro-electric power (HEP).</p> <ul style="list-style-type: none"> 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 700km² of rainforest. 														
25	<p>Deforestation has significant economic benefits</p> <p>+ Mining, farming and logging creates employment and tax income for government.</p> <p>+ Products such as palm oil provide valuable income for countries.</p> <p>Uncontrolled and unchecked exploitation can cause environmental damage.</p> <ul style="list-style-type: none"> - Soil erosion: - Once the land is exposed by deforestation, the soil is more vulnerable to rain. - Climate change: -Trees are carbon 'sinks'. With greater deforestation comes more greenhouse emissions in the atmosphere. 		<table border="1"> <thead> <tr> <th>Economic gains</th> <th>Economic losses</th> </tr> </thead> <tbody> <tr> <td>Job creation – directly in construction and operations, and indirectly in supply and support industries.</td> <td>Water pollution in an increasingly dry climate may limit supplies.</td> </tr> <tr> <td>Tax revenue used to supply public services (e.g. education).</td> <td>Fires pollute and destroy vast areas of valuable forest.</td> </tr> <tr> <td>Improved transport infrastructure benefits development and tourism.</td> <td>Rising temperatures could devastate established farming.</td> </tr> <tr> <td>Plantation products support processing industries.</td> <td>Plants that could form the basis of hugely profitable medicines may become extinct.</td> </tr> <tr> <td>HEP is cheap and plentiful.</td> <td>Climate change could have economic costs (see 4.4 and 4.5).</td> </tr> <tr> <td>Minerals are valuable.</td> <td>Rainforest tourism could decrease.</td> </tr> </tbody> </table>	Economic gains	Economic losses	Job creation – directly in construction and operations, and indirectly in supply and support industries.	Water pollution in an increasingly dry climate may limit supplies.	Tax revenue used to supply public services (e.g. education).	Fires pollute and destroy vast areas of valuable forest.	Improved transport infrastructure benefits development and tourism.	Rising temperatures could devastate established farming.	Plantation products support processing industries.	Plants that could form the basis of hugely profitable medicines may become extinct.	HEP is cheap and plentiful.	Climate change could have economic costs (see 4.4 and 4.5).	Minerals are valuable.	Rainforest tourism could decrease.
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26	Biodiversity is a variety of species of plants and animals in a habitat	<p>Main issues with biodiversity decline</p> <ul style="list-style-type: none"> • Keystone species (a species that are important of other species) are extremely important in the rainforest ecosystem. Humans are threatening these vital components. • Decline in species could cause tribes being unable to survive. • Plants & animals may become extinct. • Key medical plants may become extinct. 	<p>Possible strategies for the sustainable use of rainforests include:</p> <ul style="list-style-type: none"> • Agro-forestry - Growing trees and crops at the same time. It prevents soil erosion and the crops benefit from the nutrients. • Selective logging - Trees are only felled when they reach a particular height. • Education - Ensuring those people understand the consequences of deforestation • Afforestation - If trees are cut down, they are replaced. • Forest reserves - Areas protected from exploitation. • Ecotourism - tourism that promotes the environments & conservation 														

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.

WEEK 15: Cornell Notes (Homework task 1)

Date / /	Topic: Evidence of climate change	Revision guide page 33
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Bitesize links 	Notes
Questions	

Summary

WEEK 15: Exam Question (Homework task 2)

Date.....

Question: Explain how shrinking glaciers and seasonal changes could be evidence of climate change. (4)

Answer:


WEEK 15: Exam Question review and improvement (Classwork)

Question: Explain how shrinking glaciers and seasonal changes could be evidence of climate change. (4)

Answer:

WEEK 16: Cornell Notes (Homework task 1)


Date / /	Topic: Natural causes of climate change	Revision guide page 34
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Bitesize links 	Notes
Questions	

Summary

WEEK 17: Cornell Notes (Homework task 1)



Date / /	Topic: Human causes of climate change	Revision guide page 35
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Bitesize links 	Notes
Questions	

Summary

WEEK 19: Cornell Notes (Homework task 1)


Date / /	Topic: A small scale ecosystem (pond)	Revision guide page 39
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Bitesize links  	Notes
Questions	

Summary

WEEK 20: Cornell Notes (Homework task 1)

Date / /	Topic: The impacts of change on an ecosystem	Revision guide page 40
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Bitesize links 	Notes
Questions	

Summary

WEEK 20: Exam Question (Homework task 2)

Date.....

Question: Using the example of a pond, explain how change can impact the ecosystem. (6)

Answer:



WEEK 20: Exam Question review and improvement (Classwork)

Question: Using the example of a pond, explain how change can impact the ecosystem. (6)

Answer:

WEEK 21: Cornell Notes (Homework task 1)

Date / /	Topic: The distribution and characteristics of large-scale global ecosystems	Revision guide page 41
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Bitesize links  	Notes
Questions	

Summary

WEEK 21: Exam Question (Homework task 2)

Date.....

Question: Describe the global pattern of desert and rainforest ecosystems. (4)

Answer:


WEEK 21: Exam Question review and improvement (Classwork)

Question: Describe the global pattern of desert and rainforest ecosystems. (4)

Answer:

WEEK 22: Cornell Notes (Homework task 1)

Date / /	Topic: Characteristics of tropical rainforests	Revision guide page 42
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Bitesize links 	Notes
Questions	

Summary

WEEK 22: Exam Question (Homework task 2)

Date.....

Question: Explain how and why vegetation characteristics in a rainforest change from the emergent layer to the soil. (6)

Answer: _____


WEEK 22: Exam Question review and improvement (Classwork)

Question: Explain how and why vegetation characteristics in a rainforest change from the emergent layer to the soil. (6)

Answer: _____

WEEK 23: Cornell Notes (Homework task 1)


Date / /	Topic: Plant and animal adaptations in the rainforest	Revision guide page 42
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Bitesize links 	Notes
Questions	

Summary

WEEK 24: Cornell Notes (Homework task 1)


Date / /	Topic: Threats to the Malaysian rainforest	Revision guide page 43
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Internet-geography link 	Notes
Questions	

Summary

WEEK 25: Cornell Notes (Homework task 1)


Date / /	Topic: Impacts of deforestation in Malaysia	Revision guide page 44
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<p>Internet-geography link</p>  <p>Questions</p>	Notes

Summary

WEEK 26: Cornell Notes (Homework task 1)

Date / /	Topic: Sustainable management of the rainforest	Revision guide page 46
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Bitesize link 	Notes
Questions	

Summary

Aspire
ACHIEVE
Thrive

Develop your character



Aspire Achieve Thrive