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#AIMHIGH

Transition Pack

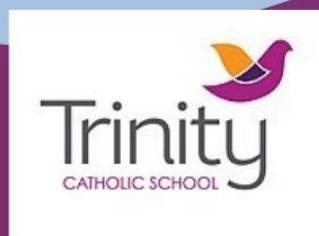
A Level

Geography

Get ready for Level 3 qualifications!

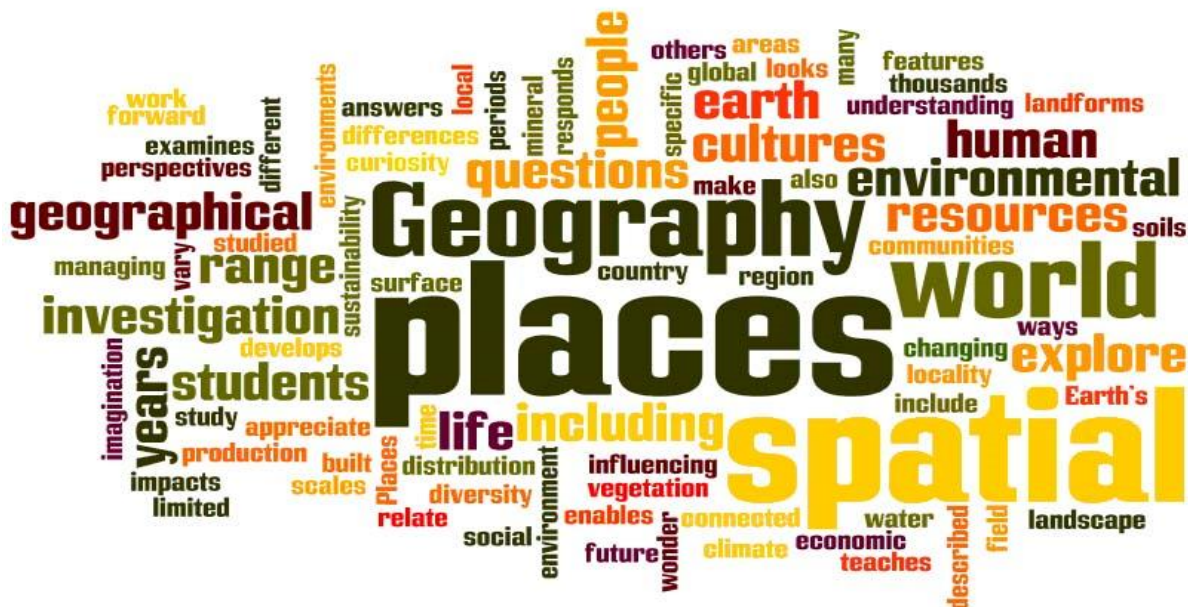


2021



Deus Fortitudo Mea

Dear Geographer, Congratulations, you have chosen a subject that is highly relevant and flexible. A subject that deals with your world; helps you to understand how complex the world is and make sense of the 'big / dynamic issues' we all face. Geography sits comfortably in the Russell Group report published in 2011 names geography as one of the eight facilitating subjects. This is a subject most likely to be required or preferred for entry to degree courses and choosing facilitating subjects will keep more options open to you at university.



At A Level Geography it is expected that you can demonstrate to the examiners that you have been partaking in wider reading.

Journals are a good way of keeping up to date with what's happening in the world of geography. You can subscribe for a year or buy individual past publications.

Some good Geography magazines are:

Geography Review, Go to: <http://www.philipallan.co.uk/geographyreview/index.htm>

Geographical, go to: <http://www.geographical.co.uk/Home/index.html>

You need to be aware of current global events that are related to the units you will be studying; so look out for things in the news to do with the topics we are studying. You can use Google Alerts to make this easier

<http://www.google.co.uk/alerts?hl=en>

News website are partially good at keeping you informed and up-to-date, such as:

www.bbc.co.uk <http://www.telegraph.co.uk>

You can also use websites like –

<http://www.nationalgeographic.com/> <http://www.geographyalltheway.com/> <http://www.gatm.org.uk/>

Finally, there are a plethora of websites offering you help with the subject content. Many will cover topics you don't study and most are based on the old specifications or different exam boards so check the content is relevant to you when using these sites. This is a list of the web sites that are currently being prepared for the new Geography AQA specification for 2016.

www.geographyiseverything.co.uk

www.coolgeography.com

Task 1

Each week you should aim to read a newspaper (paper copy/online/app) and **add relevant study information to your scrap book**. The articles can be printed out, highlighted, summarised, written about with diagram/pictures. The format may change every time you use it, it does not matter— BUT what you put in it does.

The geography department will be marking this scrap book and be expecting this practise to continue throughout you're a level course. So—what do you need to put in it????? You need to sort information and carefully think about it, they should be linked in a strong way to one of the topics to be covered. Look carefully at the table below!

By September, we expect to see **at least 6 six articles** within your scrap book! Enjoy the start of you new learning journey –as a Geographer it never ends...

<u>AQA Advanced Level Topics</u>
Changing Places
Coastal Systems and landscapes
Urban Environments
Global Systems and Global Governance
Hazards
Population and the Environment
Water and carbon cycles

The best way to do this is to watch the news and more importantly read a newspaper (a quality broadsheet). You will benefit immensely from this exercise. Your vocabulary will increase, your essay writing style (for Geography) will improve, you will have a greater awareness of the background to topics being studied and a greater wealth of examples/case studies to utilise in YOUR exam to demonstrate YOUR geographical brilliance!

RIVERS

Pre knowledge topic - How to answer questions on river (and other) processes.

Historically in the Rivers section of the exam paper they will have a question that relates to a river process. As there are many processes that take place in a river it is more than likely that this sort of question that will come up in your exam (although it is not 100% certain). When answering questions on river processes it is essential that you are able to make it as simple for the examiner to give you full marks. There is no quick fix in terms of leaning the processes. This takes time and some effort from yourself. However, if you present the processes in this example format you will be well on your way to leaning the processes and also giving yourself the best chance to gain full marks in the question.

For this example, you are going to look at the formation of a waterfall. This technique can be used for almost all of the processes you are going to look in your Geography A level.

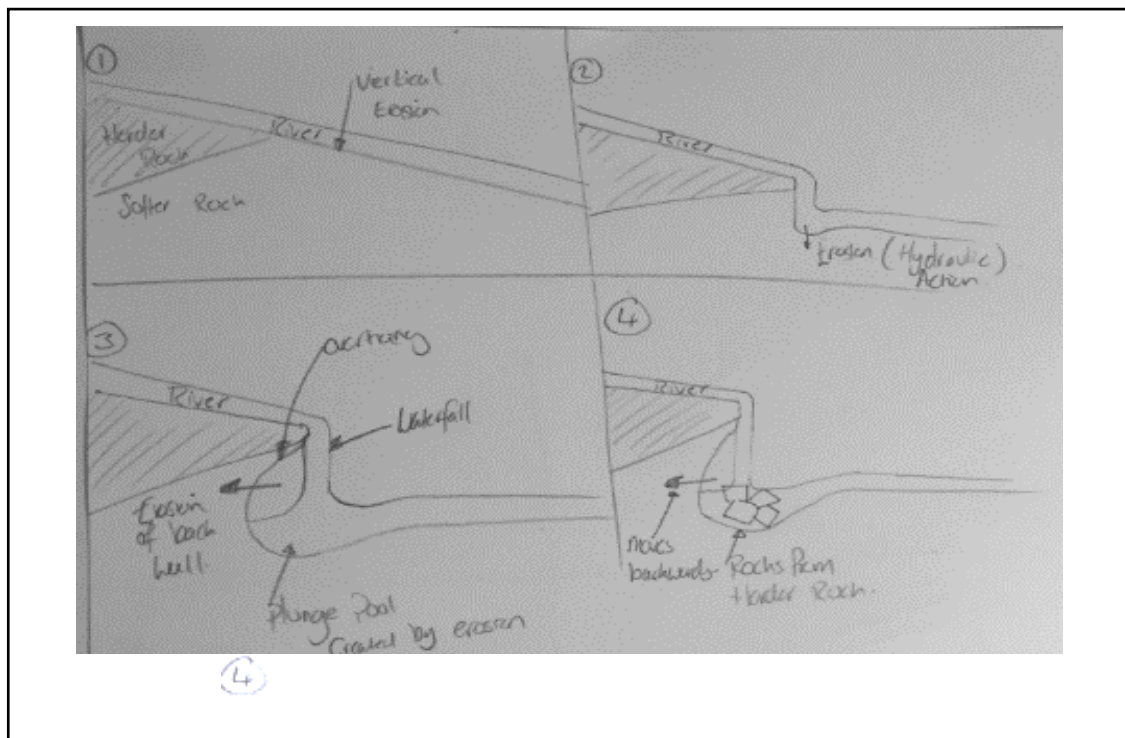
A common exam question would be –

“Using a diagram/s to help you, describe and explain the formation of a waterfall. (6 marks)”.

The key part is that they are asking for a diagram and written explanation so the two must be linked. The best way to approach this is firstly draw 4 boxes in the space provided to draw your diagrams and then label them 1,2,3,4 (for some process you might need more or less boxes but no less than 2 and no

more than 6). Then in each box you will draw 4 key diagrams from the process. This has been done in the example below.

Then in the section below write the first paragraph that links to the first image you have drawn. Start this paragraph with a so so it clearly links to the diagram. This is again shown in the example below. You now have a stuttered answer which is simple to follow and answers the question giving you the best chance for full marks.



Sometimes questions might be slightly different for example –

“Describe and explain and the formation of a waterfall.”

There are no rules stating you cannot draw a diagram; the only difference here is that you will need to draw these diagrams where you also write your answer.

Rivers task

The drainage basin and hydrological cycle: the water balance.

With some extensive research this is quite an easy task.

You are to create an A3 poster with a **detailed** annotated diagram explaining the Water cycle and how it works. However, this also has to have the drainage basin incorporated into it as the two are linked.

There should be a clear process to the cycle and should be in extensive detail making it easy to follow and explain. Use the rivers Glossary for key terminology. The poster should be clear and in extensive detail. Within this you need to incorporate key words that are defined (a good idea is to have flaps with the key term on one side and then the definition under it). Make it bright bold and clear so it is an easy and “fun” revision tool.

For some information on the drainage basin and the hydrological cycle you can start here www.geographyiseverything.com/a---level.html. You can also try searching Google.

Task 3 – Complete the glossary for Rivers

Afforestation	
Antecedent conditions	Is moisture that was in the soil preceding to more rain falling.
Aquifer	Rocks, porous and permeable which can store water underground.
Attrition	
Bank full	The state of flow of a river when it completely fills its channel.
Baseflow	Water that reaches the channel largely through slow through flow and from permeable rock below the water table.
Bedload	Larger material, cobbles, pebbles and sand transported by the river.
Braided stream	
Calibre	Is the measurement of the long axis of sediment in a river.
Capacity	Is the total volume of sediment a river can carry.
Catchment area	The area of land which drains water into a river system separated by the watershed.
Cavitation	Air bubbles trapped in the water get compressed into small cracks in the river's banks. The bubbles will eventually implode creating a small shockwave that weakens the rocks. The shockwaves are very small and weak but the continued process will weaken the rock until it falls apart.
Channel Enlargement	Deepening and/or widening the channel (by humans) to accommodate larger discharge and get it out of the area quicker.
Channel flow	
Channelisation	A way that attempts to alter the natural geometry of the watercourse.
Char	An island formed from silt deposited in a delta. The land is about at sea level. It is very fertile and attracts settlers desperate for land. However, it can easily be washed away by monsoon floods and cyclones.
Competence	Is the maximum size (calibre) of load a river is capable of transporting.
Condensation	The name of the process where water vapour is converted into water.
Contour ploughing	Farmers work around hills not up and down- to reduce runoff, soil erosion and silting of river channels.
Corrasion	Erosion by friction scraping, scouring and rubbing of load in contact with banks and bed.
Corrosion	The dissolving of carbonate rocks (e.g. limestone) in slightly acidic water.
Cross sectional area	The total length of the bed and the bank sides in contact with the water in the channel
Culverts	Rivers in cities may be covered over or in concrete pipes to allow development and remove the increased amount of runoff created by impermeable surfaces.
Dams	
Deficit	A shortage in soil moisture (normally summer).
Deltas	
Deposition	Decrease in rivers energy makes it no longer competent to carry the load so it deposits. This happens when a river enters a lake, sea, floods onto wide floodplain, shallow inside of meander or in time of drought.
Discharge	
Dissolved load	Is the most common load type in chalk or limestone areas where weak acids (e.g. carbonic acid from rainwater) may remove material in solution (Corrosion).
Distributary	Small channel which leaves the main river on a delta
Diversion spillways	Overflow channels which can take surplus water during times of flood.
Do minimum	Maintain existing flood measures but no more.
Do nothing	An approach that only deals with issues when they arise.

Drainage basin	The catchment area of a river and its tributaries.
Dredging	To remove sediment from the river bed to increase the depth of the channel
Dynamic equilibrium	Rivers are constantly changing over time to reach a state of balance with the processes that determine their form. As the flows of energy and materials passing through a river system vary, the river changes to move towards this equilibrium.
Eddies	
Erosion	
Eustatic	Changes in sea level caused by variations in the amount of water in the oceans.
Evacuation	In the worst situations people are alerted to vacate their properties.
Evaporation	The transformation of water droplets into water vapour by heating
Evapotranspiration	The loss of water from a drainage basin into the atmosphere from the leaves of plants.
Field capacity	the normal amount of water that can be held in the soil
Flocculation	River load particles join together on contact with the salt in sea water, increasing their weight and causing them to drop/ be deposited.
Flood	
Flood Abatement	Reducing the possibility of flooding by managing land use upstream e.g. afforestation
Flood embankments	The building up of levees which are often made of earth with rubble fill. They are more common in rural areas.
Flood forecasts	The meteorological office informs the environment agency of any flood hazards from precipitation.
Flood interception schemes	Intercepting channels, divert only part of the flow away, allowing flow for town and agricultural use, and flood retention areas.
Flood plain	
Flood Prediction	Records of river discharge and flooding are kept in order to predict future events.
Flood Proofing	Can be temporary i.e. sandbags to raise the height of flood walls, and protect household doors or permanent i.e. new buildings can be constructed with flood-proof ground floor walls, or have flood gates that can be moved into place.
Flood Relief Channel	Constructed to redirect excess water upstream of a settlement via an alternative route.
Flood walls	Increase height of channel, preventing water spilling out over the floodplain- common in cities.
Flood warnings	The Environment Agency warns residents when floods are likely to occur.
Floodplain Zoning	Planning controls on building of urban areas based on maps of relative risk.
Frequency	
Gorge	The narrow, rocky, steep-sided valley, created by recession of a waterfall.
Graded profile	Theoretical Long profile of a river where erosion, transport and deposition are in equilibrium.
Groundwater flow	
Groundwater storage	
Hard engineering	Flood management strategies that are structural measures offering protection through engineering.
Helicoidal flow	
Hjulstrom's curve	Graph showing the relationship between velocity, erosion and deposition. Size of particles are clay, silt, sand gravel pebble boulders.
Hydraulic action	Force exerted by moving water on the bed and banks of a river that causes the river bed and bank to be eroded.
Hydraulic radius	The ratio of the cross sectional area of the channel and the length of its wetted perimeter

Hydrograph	A graph showing for a given point on a stream the discharge, stage (depth), velocity , or other property of water with respect to time; a graphical representation of stream discharge (volume/time) during a storm or flood event
Infiltration	
Infiltration rate	The speed (mm/sec) at which water passes through the ground surface into the soil (faster in sandy soils)
Intercepting Channels	Divert only part of the flow, allowing water for urban and agricultural use. E.g. Great Ouse Protection Scheme
Interception	The prevention of precipitation from reaching the Earth's surface by trees and vegetation.
Interception storage	The total volume of water held on the surface of vegetation
Isostatic	
Kinetic energy	Erosion caused by the mass of the water in motion.
Knick point	A break of slope in the long profile of a stream. Often the upper limit along which down cutting triggered by rejuvenation has reached- marked by rapids and waterfalls.
Lateral erosion	Middle and lower sections where river has high energy especially if close to bank full. Widens the valley especially strong on outside meanders where hydraulic action undercuts river cliffs.
Levees	Natural parallel ridges formed by deposition of coarser material closer to the river channel during flood events, alongside rivers. May be reinforced by engineers to form flood embankments.
Lining the channel	Lining the river channel with concrete, making it smoother which will reduce friction and increase velocity taking water away from urban areas quickly.
Load	
Magnitude	The size of the flood
Meanders	Bends in a river formed by Helicoidal flow, with erosion on the outside and deposition on the inside.
Naturalisation	Restoring rivers to a state closer to their original course by removing hard engineering and other restrictive structures.
Overland flow	The movement of water over the surface of the land, usually when the ground is saturated or frozen or when precipitation is too intense for infiltration to occur.
Peak rainfall	
Percolation	The movement of water through gravity within soil.
Point bar	Sediments laid down on the inside of a meander.
Potential energy	The erosive power that is related to the height the water has to fall downhill to reach sea level. (gravity)
Potholes	Are formed by corrasion (abrasion). Pebbles carried by the river are swirled around on the riverbed.
Precipitation	All forms of moisture that reaches the Earth's surface, including rain, snow and dew.
Rapids	Rapids are stretches of fast-flowing water tumbling over a rocky and shallow riverbed.
Realignment	(straightening) shortening the river course by removing meanders, which increases gradient therefore moving water more quickly away from urban areas.
Recurrence interval	The interval at which particular levels of flooding will occur
Regime	The annual pattern of river discharge.
Rejuvenation	
Revetments	Made of concrete, steel piling or gabions are used to strengthen banks
Riffles and pools	Shallows (riffles) alternate with deeper (pools) sections along the meandering sections of a river.
Risk categories	For floods low; 1 in 200 years or less; moderate- 1 in 75 to 1 in 200 years significant 1 in 75 years.

River cliff	
River restoration	Returning uplands to peat bog increasing absorption to historic levels and delaying water entering streams that threaten towns.
Roundness	The shape of sediment in a river which changes downstream as a result of attrition. Highly angular → smooth/ rounded.
Runoff	Water flowing over the land surface as channel flow and overland flow. (aka surface flow and overland flow)
Saltation	
Sinuosity	The curving nature of a meander described as; actual channel length divided by straight line distance
sluice gates	Barriers that hold back water, may even pump water in the opposite direction to flow with a pumping station.
Soft engineering	Flood management strategies that are non- structural measures more “naturalistic”.
Soil moisture	The total amount of water, including water vapour, in an unsaturated soil
Solution load	Dissolved minerals transported within the mass of the moving water.
Stemflow	Flow down plant trunks and stems following interception.
Stormflow	Water that reaches the channel largely through runoff. This may be a combination of overland flow and rapid throughflow.
Straightening	To increase velocity of removal of water near to an urban area- may cause flooding downstream may make navigation quicker (see realignment)
Strata	Layers of rock
Surface storage	The total volume of water held on the Earth’s surface in lakes ponds and puddles
Surplus	More than is needed e.g. soil moisture in winter
Suspended load	This is the bulk of the sediment transported by a river and consists of muds, clay and sand. It is the reason why rivers appear muddy when bank full or approaching the river mouth
Suspension	Sand and silt carried along by the flow of river.
Throughflow	The movement of water downslope within the soil layer.
Traction	
Urbanisation	An increase in the proportion of a country’s population living in urban areas.
Velocity	The speed and the direction at which a body of water moves (metres per second).
Vertical erosion	Dominates upper reaches of river cutting into the bed by abrasion and hydraulic action.
Washland restoration	Wet lands that are deliberately allowed to flood at times of high discharge. Allowing water flood over agricultural land in the floodplain and have that as part of management plan of farm.
Water budget	Relationship between inputs and outputs in a drainage basin. May be shown as a graph.
Water table	The surface of the saturated layer of soil or rock.
Waterfalls	Is a steep or vertical part of the river. Waterfalls occur when a band of hard rock lies across the river with softer rock downstream which is more rapidly eroded
Watershed	Boundary of a drainage basin, usually ridges of higher land.
Wetland and river bank conservation	Wetland includes environments such as marshes, swamps, bogs, and estuaries. Plants and animals found in wetlands are uniquely adapted to these conditions, and it has a unique biodiversity that projects aim to protect, preserve, or restore wildlife and maintain it sustainably.
Wetted perimeter	
Wing dykes	Jut out from the sides of the channel to focus the main river current in the centre of the channel and away from the banks. This pins the river down preventing meanders migrating downstream.

Additional—inspired geographers might also look to expand their knowledge by completing some of the following:

- A) Read Bill Bryson's books about travelling around the world
- B) Read 'Rulers of the new world' a controversial book about globalisation by John Pilger
- C) Read 'The world is flat' by Thomas L Friedman, a more positive view than the one above
- D) Listen to Radio 4 'Today' programme or other programmes with geographical themes
- E) Buy a geographical magazine, e.g. Royal Geographical or National Geographical
- F) Visit a place of geographical interest, e.g. coastal area and record your views
- G) Visit the Tectonic and Biomes exhibitions at the Natural History Museum

