AQA LEVEL GEOGRAPHY
PAPER 1
RAG CHECKLIST

tutor2u

WATER AND CARBON CYCLES

3.1.1.1 WATER AND CARBON CYCLES AS NATURAL SYSTEMS	R	A	G
Systems concepts and their application to the water cycle – inputs, outputs, stores/components, flows/transfers, positive/negative feedback, dynamic equilibrium			
Systems concepts and their application to the carbon cycle – inputs, outputs, stores/components, flows/transfers, positive/negative feedback, dynamic equilibrium			
3.1.1.2 THE WATER CYCLE	**R**	**A**	**G**
Global distribution and size of major stores of water – lithosphere, hydrosphere, cryosphere and atmosphere			
Processes driving change in the magnitude of these stores over time and space, including flows: evaporation, condensation, cloud formation, causes of precipitation and cryospheric processes at hill slope, drainage basin and global scales with reference to varying timescales involved and transfers in the water cycle at hillslope scale			
Drainage basins as open systems – inputs and outputs, evapo-transpiration and runoff; stores and flows, to include interception, surface, soil water, groundwater and channel storage; stemflow, infiltration, overland flow and channel flow			
Concept of the water balance			
Runoff variation and the flood hydrograph			
Changes in the water cycle over time to include **natural variation** including storm events, seasonal changes			
Changes in the water cycle over time to include **human impact** including farming practices, land use changes, water abstraction			
3.1.1.3 THE CARBON CYCLE	**R**	**A**	**G**
Global distribution and size of major carbon stores – lithosphere, hydrosphere, cryosphere, biosphere, atmosphere			
Factors driving change in the magnitude of these stores over time and spaces, including flows and transfers at plant scale, sere and continental scales: photosynthesis, respiration, decomposition, combustion, carbon sequestration in oceans and sediments, weathering			
Changes in the carbon cycle over time, to include **natural variation** (including wild fires and volcanic activity)			
Changes in the carbon cycle over time, to include **human impact** (including hydrocarbon fuel extraction and burning, farming practices, deforestation and land use change)			
The carbon budget and the impact of the carbon cycle on land, oceans and atmosphere, including global climate			

3.1.1.4 WATER, CARBON, CLIMATE AND LIFE ON EARTH	R	A	G
The role of water and carbon stores and cycles in supporting life on Earth with particular reference to climate			
The relationship between the water cycle and carbon cycle in the atmosphere			
The role of feedbacks within and between cycles and their link to climate change and implications for life on Earth			
Human interventions in the carbon cycle designed to influence carbon transfers and mitigate climate change			
3.1.1.5 QUANTITATIVE AND QUALITATIVE SKILLS	**R**	**A**	**G**
Quantitative and relevant qualitative skills, within the theme of water and carbon cycles, including simple mass balance, unit conversion; analysis and presentation of field data			
3.1.1.6 CASE STUDIES	**R**	**A**	**G**
Case study of a tropical rainforest (TRF) to illustrate themes in water and carbon cycles			
Case study of a TRF – relationship to environmental change and human activity			
Case study of a river catchment at a local scale – to illustrate and analyse the key themes above and engage with field data			
Case study of a river catchment at a local scale – consider the impact of precipitation on stores and transfers and implications for sustainable water supply and/or flooding			