RAYNES
PARK HIGH SCHOOL

Knowledge-based project Physical Geography

The Water Cycle and The Carbon Cycle

A-level Physical Geography

An Introduction:

- What is physical geography A-level?

Physical geography at A-level dives deeper into the world's natural processes which occur on various scales, enlightening you into the more complex nature of the natural world around you. You will then investigate how these natural phenomenon come to shape the lives of humans.

Why should you study the topic?

The relevance of the topics which you study for A-level geography to your daily lives is startling. Whether walking to school and seeing the carbon and water cycle in action, understanding the impact of our changing climate on some of our most fragile ecosystems, or understanding the role of governments in protecting people from hazards, what you learn can be applied to every day conversations.

Completing this work before you begin Year 12 will give you an outstanding start to the Edexcel A Level Geography course. You'll be on your way to achieving great things over the next 2 years.

I hope you enjoy your journey into the world of Physical Geography!

The Water Cycle topics tracker

Topic focus	Page number	Completed [tick when complete]
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Need Help?

Whilst the intention of this work is to encourage independent thought and research, please ask for advice if you feel it will help.
Email me from your school email account:
gcollman@raynespark.merton.sch.uk

Key words

Key words form the basis of physical geography. Without them, you are not speaking the language of geography. No matter how well you understand a process or concept, you cannot explain it clearly without using key words.

Task: Using the table on the following page, match up the key words with the definitions. To save you drawing lines and it looking messy, each key word has been given a number which you can write next to the correct definition. The first one has been done for you.

Once you have completed this, check your answers on the next page.

Key word	Definition
1. Water cycle	The way water is stored and moves on different scales 1
2 Open system	Places where water can be held in the water cycle
3 Closed system	The loss of water from a plant cell due to heat
4. Precipitation	The cooling of water vapour to form liquid water (in cloud form)
5. Interception	The movement of water over the ground surface, straight into the river channel. This is the fastest flow of water into a river channel
6 Infiltration	When matter (such as water) can enter or exit an area (the system), meaning the mass of water held in the area can increase of decrease
7. Percolation	The downwards movement of water from the soil layer into the rock layer below it
8. Throughflow	When soil has absorbed as much water as possible and cannot allow any more to infiltrate
9. Groundwater flow	Water which has percolated into rock will move horizontally through the rock layer towards the river channel (usually down a slope due to gravity)
10.Surface runoff	When vegetation (plants) store and hold onto water which has been precipitated
11. Soil saturation	Water which has infiltrated into soil will move horizontally through the soil layer towards the river channel (usually down a slope due to gravity
12. Evaporation	Water falling from the sky as rain, snow, sleet or hail
13. Condensation	The heating of liquid water on the ground surface, creating water vapour
14. Transpiration	The movement of water from one store to another
14. Store	The downwards movement of water from the ground surface into the top soil layer through absorption
15. Transfer	When matter (such as water) cannot enter or exit an area, so the mass of water never changes

Key words – correct definitions

Key word	Definition
1. Water cycle	The way water is stored and moves on different scales
2 Open system	When matter (such as water) can enter or exit an area (the system), meaning the mass of water held in the area can increase of decrease
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14. Transpiration	The loss of water from a plant cell due to heat
14. Store	Places where water can be held in the water cycle
15. Transfer	The movement of water from one store to another

The Water Cycle in Action

https://www.youtube.com/watch?v=al-do-HGuIk

Watch the video and complete the questions below.

1. Has the amount of water on Earth changed over millions of years?
2. List 3 ways water moves (is transferred) across the world (between stores)

3. In order to form clouds, water has to…
4. Where is 70% of all the water on Earth stored?

Think, why is this water not useful to humans?

5. Where is two thirds of all freshwater stored?

6. Where else can freshwater be stored? Aim for 6 different stores.

7. Why are the stores of water always changing?

8. What is precipitation? Give as many examples as possible (you should already know from the task before)

9. What is rain which falls onto land called and why might this cause flooding?

10. What is meant by interception?

11. Name the layers below the Earth surface.

12. What is evaporation? Is this a store or transfer of water?

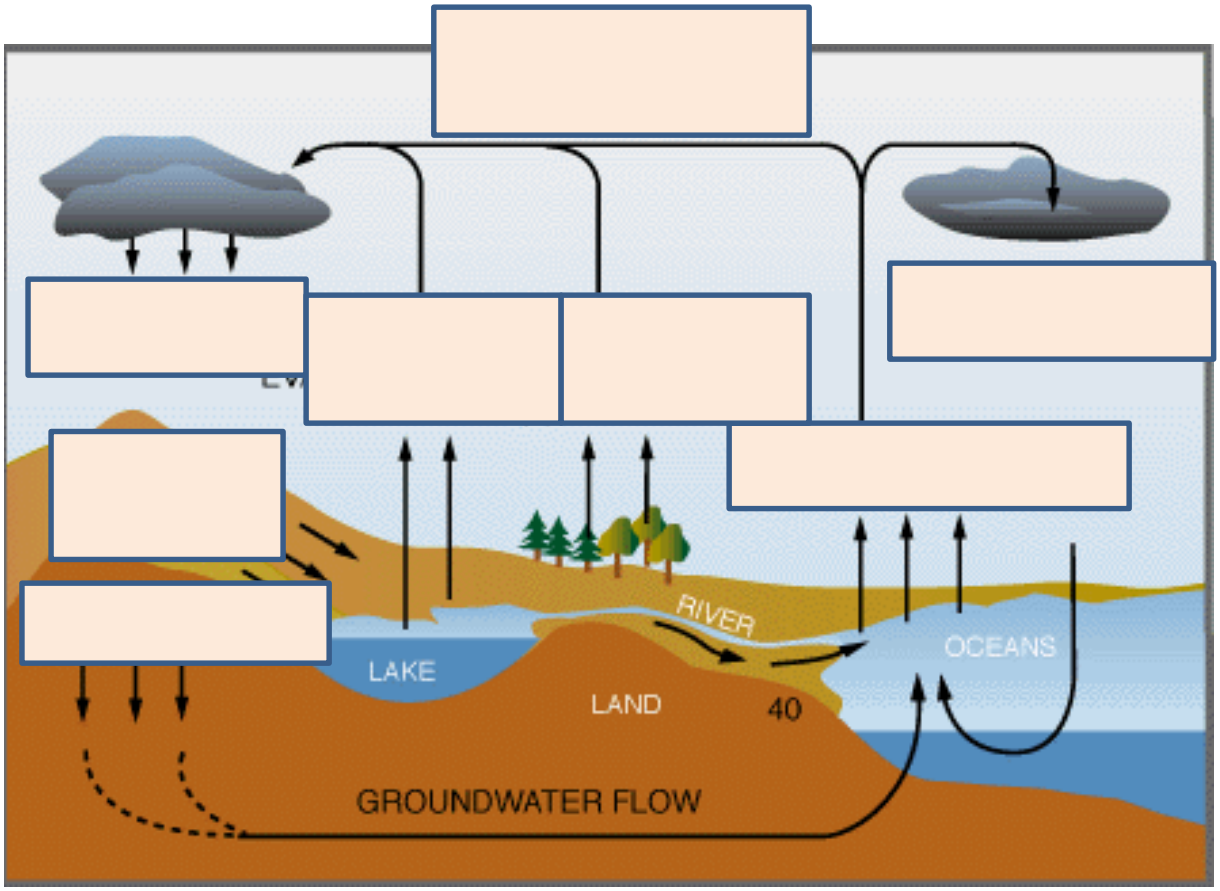
13. What is transpiration?

14. What is evapotranspiration?

15. What is condensation and what does it lead to occuring?

Large and Local scale water cycles

Large scale water cycles are so special that only one exists on the whole planet. This is known as the “Global Water Cycle”. This is the circulating of water around Earth, a closed system where no water is ever lost or gained, but simply moved about. ***Your task: Put the key words in the boxes into the correct place on the diagram. Precipitation and evaporation have been used twice.***



Evaporation

Transpiration

Evaporation

Precipitation

Infiltration

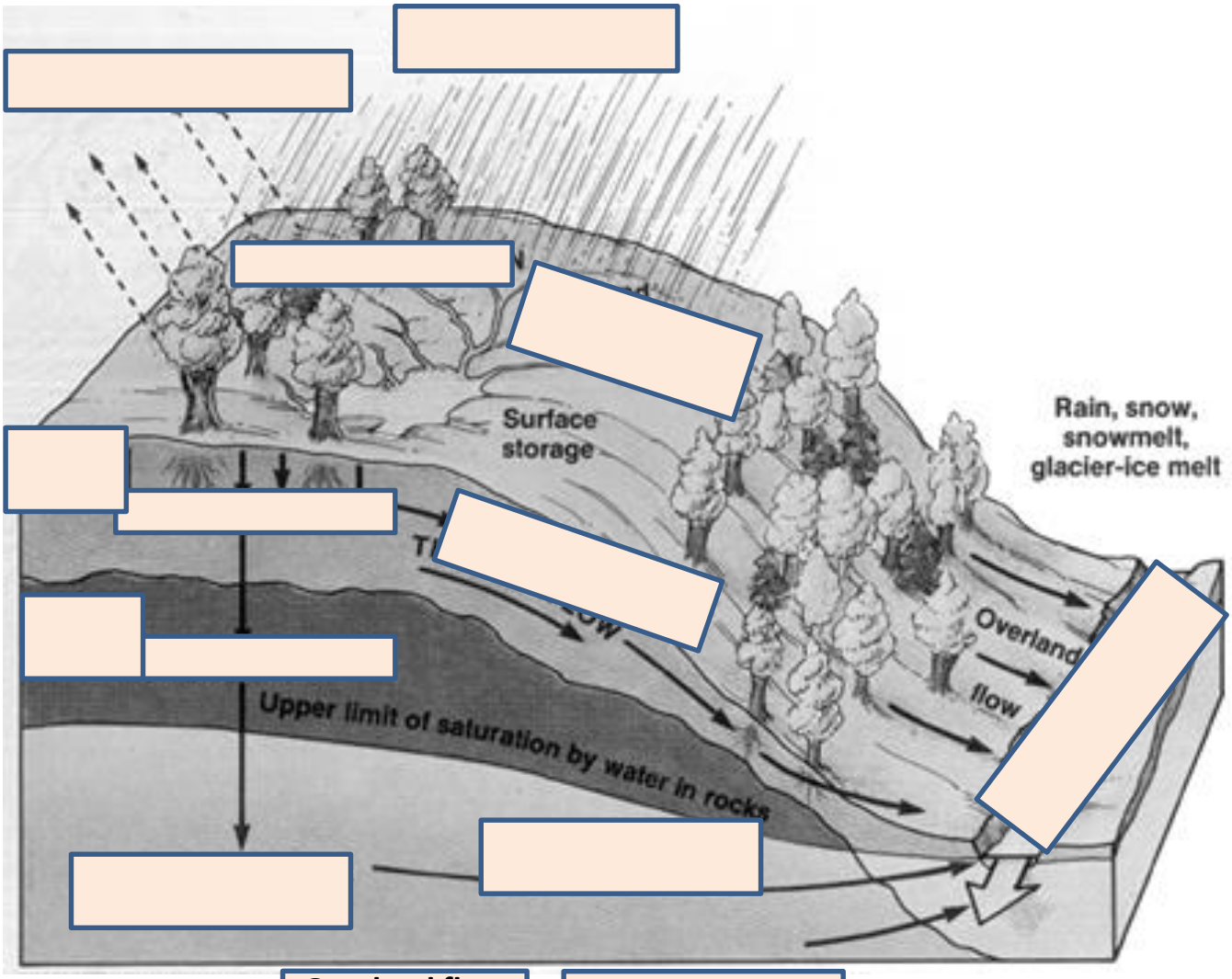
Water vapour movement

Precipitation

Surface runoff

Large and Local scale water cycles

Local, or smaller scale water cycles are called “subsystems”, and will usually be open systems, where water can move in and out of the system. A good example of a small scale water cycle or subsystem is a river channel on a hillslope or a drainage basin. ***Your task: Put the key words in the boxes into the correct place on the diagram of the hillsplope.***



Throughflow

Overland flow /surface runoff

Groundwater

Evaporation

Precipitation

Percolation

SOIL

Channel flow

Interception

Rock

Groundwater flow

Infiltration

Reading time – How The Water Cycle Works

Task 1: Read through the paragraph below and circle the letter which best answers the questions on the next page. The first one has been done for you.

Before we look at the water cycle and how water moves around the Earth on different scales, it is important to know what a "cycle" is. In A-level geography we use the word "system" to explain the complicated, always changing water cycle, you will see why the term is used in a minute. A system can be defined as, *"a collection of parts which work together to create something which works".* In this way, the water cycle has many "parts" known as stores, and there are many specific interactions between the stores. These interactions are better known as transfers. It is worth noting here that "processes" (things which are happening) such as evaporation, condensation and precipitation, are all examples of transfers of water.

For example, a store of water is a river, and the transfers interacting with the river could be evaporation and precipitation. As water moves into the system via precipitation, the store of water (the river) gets larger. This movement of water into the river is called an, "input", and evaporation, where water leaves the store is called an "output". Both precipitation and evaporation show movement of water, either to or from the river. In this way, precipitation and evaporation are known as "transfers". The greater the amount of transfers which a store receives as inputs, the greater the store of water in the river channel will grow. However, at the same time, transfers which leave the store, or outputs, will see a decrease in the size of the water store.

The amount of water stored globally (in the entire world) never changes, so the global water cycle never sees inputs and outputs. This means that no water ever leaves or enters Earth, so the mass of water on Earth stays the same. However, there as smaller scale water systems which operate within the global water cycle. An example of a small-scale water system could be a river channel which flows down a hill slope. The mass of the water stored in the river channel will change constantly. During certain time periods, evaporation may be higher (more water output) and precipitation may be lower, (less water input). This means that the mass of water in the river channel will be lower in this particular river. However, just because the water has been lost from this particular river channel, does not mean that the water has disappeared from Earth. The water which has been evaporated from this river channel, will likely turn into clouds and be stored in the sky, later on, it might enter another river channel through precipitation.

Question time

Circle the letter which best answers the question using the passage on the previous page. The first one has been done for you.

1. Which of the following is the best definition of a system?
a) Movement of matter such as water out of a place
b) A collection of parts which change as they are affected by processes
c) Transferring of many different materials to the same place

2. Which of the following is the best definition of a store?
a) Part of a system where water is gained
b) Part of a system where water is lost
c) Part of a system where water is held

3. Which of the list below outlines examples of stores of water?
a) Precipitation, evaporation, river channel, surface water
b) Surface water, cloud, evaporation, flooding
c) Puddle, river channel, cloud, soil

4. Circle the best definition of a transfer of water
a) The carrying of water in a constant cycle between two stores
b) The movement of water from one store to another via inputs and outputs
c) The output of water from a store

5. Which of the list below outlines examples of transfers of water?
a) Precipitation, clouds, soil, river channel
b) Precipitation, infiltration, surface runoff
c) Precipitation, evaporation, clouds

6. Which of the following factors will increase evaporation?

a) More sunlight
b) More rain
c) More clouds

7. Which of the following is the correct definition of an input?

a) Transfer of water from a store, decreasing the mass of water held in that store
b) The store of water, such as a cloud or a puddle
c) Transfer of water into a store, increasing the mass of water held in that store

8. Which of the following is the best definition of a closed system?

a) When inputs and outputs are equal
b) When there are many inputs and outputs to and from a system
c) When a system has no inputs or outputs, so the mass of matter (such as water) doesn't change

9. Which of the following is the correct definition of an input?

a) Transfer of water into a store, increasing the mass of water held in that store
b) Transfer of water from a store, decreasing the mass of water held in that store
c) The store of water, such as a cloud or a puddle

10. Which of the following statements is **not** correct?

a) The Earth is an example of a closed water system, here there is never a net loss or gain of water
b) The Earth is an example of a closed water system, water is always being lost and gained from this system
c) The Earth has no inputs or outputs of water to or from it, but the smaller water systems within Earth do change in water mass due to inputs and outputs

11. Which of the following best defines the word "process"?

a) A store of something where matter is held
b) An action which can occur, leading to a transfer of matter.
c) A transfer

Answers: 1-b, 2-c, 3-c, 4-b, 5-b, 6-a, 7-c, 8-c, 9-a, 10-b, 11b.

Positive and Negative Feedback in Systems

Systems always naturally try to maintain their own balance. This happens in all systems, no matter how big or small, from the global scale water cycle of evaporation, condensation and precipitation, to a small river with the same processes occurring,

This means that, if evaporation in increases, the ocean does not dry up, in fact, because of increased evaporation, condensation also increases, and therefore so does precipitation, causing rain to fill up the oceans again. This balancing effect is known as a negative feedback system, which reacts to a process which is happening (evaporation) by increasing processes to reverse its effects (thereby increasing condensation and precipitation). Because of this negative feedback, a system will usually stay in balance or what is known as a dynamic equilibrium. If we pick these words apart, we see that the system is in balance (equilibrium), but that this system is always changing (it is dynamic) due to inputs (such as precipitation) and outputs (such as evaporation).

Read through the following definitions of positive and negative feedback and decide if the examples in the boxes on the next page are examples of positive or negative feedback.

Positive feedback – when a process occurs in a system, creating a change, this then creates another change which amplifies (increases) the original change. When this happens, a system will be out of balance as one process is not cancelling out or balancing the other.

Negative feedback – when a process occurs in a system, creating a change, this change then causes another process to occur, which nullifies (cancels out) the original process, meaning the system is always in balance due to negative feedback.

Dynamic Equilibrium – the ever changing balance which systems achieve through negative feedback systems.

Positive or Negative Feedback in the water cycle?

Temperatures increase, increasing evaporation rates, increasing water vapour in the air, increasing condensation, increasing precipitation, causing cooling and a drop in temperature.

Temperatures increase due to the Greenhouse Effect, this increases the rate of evaporation, increasing water vapour in the atmosphere. Water vapour is a greenhouse gas, which absorbs heat which is trying to leave the atmosphere. More heat is trapped, temperatures increase.

Temperatures increase, increasing evaporation rates, increasing water vapour in the air, increasing condensation, increasing cloud cover, reducing the amount of heat from the sun which reaches the surface of the Earth, causing a decrease in temperature.

Sea temperatures rise due to higher atmospheric temps, ice melts, fewer heat reflective surfaces (ice) and more heat absorbent surfaces (ocean water which is dark blue). More heat absorbed by oceans, ocean temperatures rise.

In a tropical rainforest, heavy precipitation potentially leads to flooding. Flooding can occur when precipitation is high due to higher temperatures, more plant growth due to high sunlight and high rainfall, meaning a lot of vegetation cover and therefore a lot of interception, therefore a lower likelihood of flooding.

The soil moisture budget

The soil moisture budget is very important in our understanding of how the water cycle links to flooding. It explains why we see flooding occuring during certain times of year.
Your task: Watch the video and answer the following questions

https://www.youtube.com/watch?v=9_X7AB1Cz7g

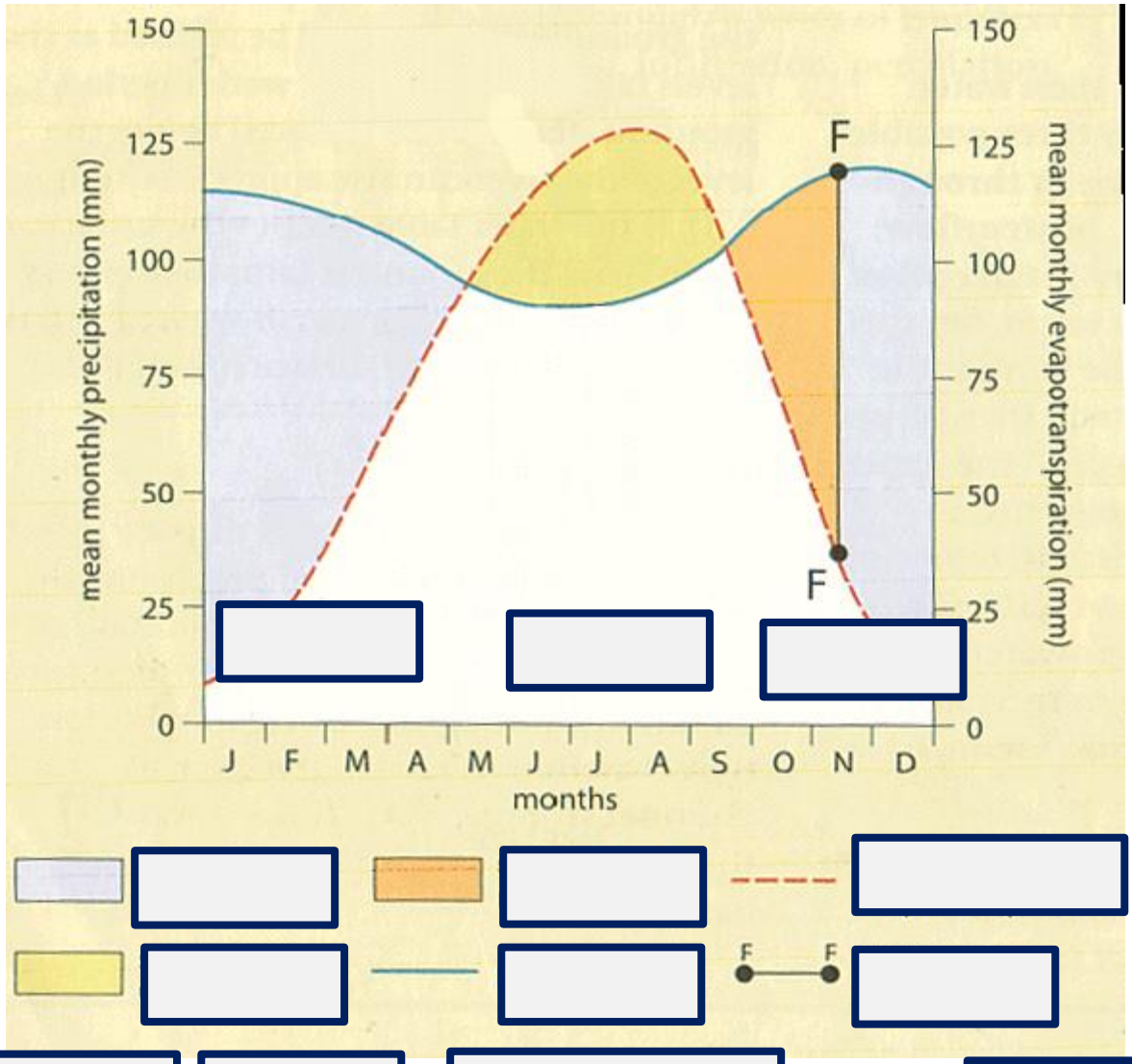
1. What do the x and y axis show?
2. What does the blue line show?
3. What does the red line show?
4. Over what period of time is this soil's moisture being measured?
5. Identify the inputs and outputs of water to the soil.
6. In which months are we more likely to get wetter weather?

7. In which months are we likely to get drier weather?
8. What does the graph show is occurring during the winter and the summer? You must refer to evapotranspiration and precipitation.
9. What is a soil moisture surplus and when does this occur?
10. What can happen when soil is in surplus?
11. What is soil moisture utilisation?
12. In which months do we run out of water in the soil?
13. What happens when we run out of water in the soil?
14. What is soil moisture recharge?
15. In which season we see
    1. A moisture deficit
    2. A moisture surplus
    3. A moisture recharge?

    Challenge: How would the soil moisture budget look different in a topical rainforest and a hot desert over the course of a year?
    Challenge 2: How can you link the soil moisture budget to feedback systems?

Your soil moisture budget

Your Task: Add the labels to the correct part of the diagram/key.



Wetter months

Moisture recharge

Evapotranspiration

Moisture deficit

Precipitation

Moisture surplus

Soil saturation

Drier months

Wetter months

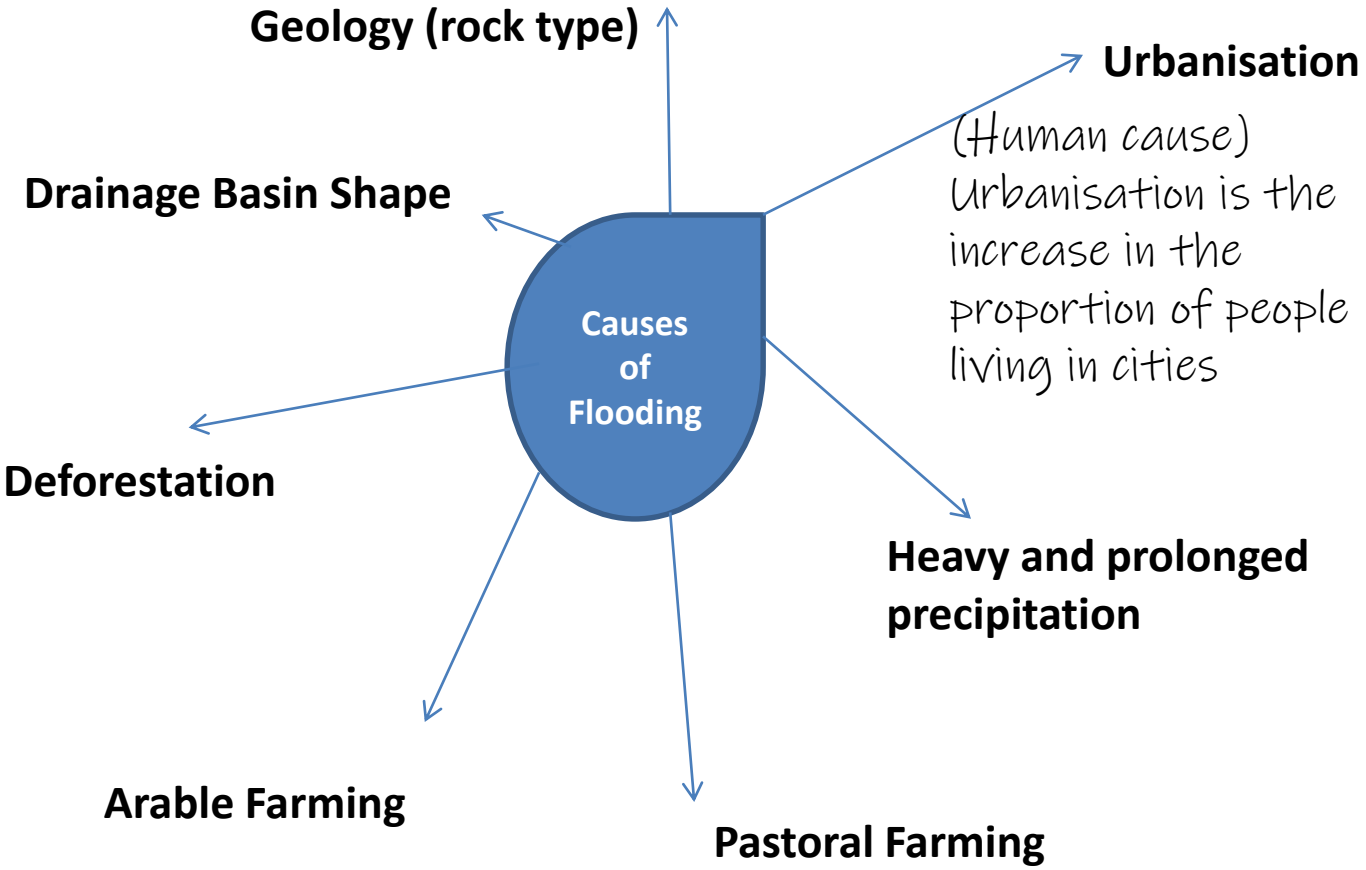
Soil Moisture Budget Summary Questions

1. Using no more than 20 works, explain what the soil moisture budget is	2. Name one input of water and two outputs to the soil moisture budget
3. What is meant by the following: Moisture recharge: Moisture deficit: Moisture surplus:	4. During with months is flooding most likely to occur and why?

The Causes of Flooding

Your task: Using the spider diagram below give a definition of the causes of flooding and decide if they are human or physical causes. The first one has been done for you.

Take note: You do not yet need to explain how these lead to flooding, only show that you know what the definitions are of the causes. You may have to research some definitions.



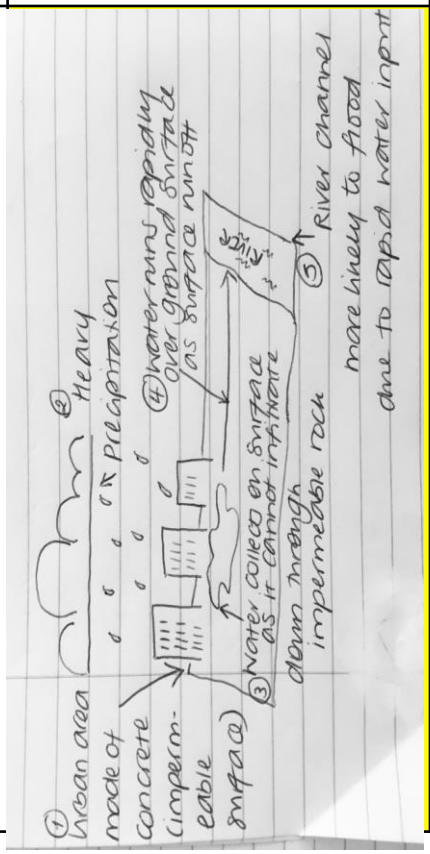
The Causes of Flooding – Research Task

Your task: Using the spider diagram on the previous page, pick 4 causes of flooding. For each chosen cause:

1. Explain how flooding occurs

2. Draw a diagram to show how it occurs, you need to use your key words from the water cycle for this part of the task

3. Find an example of where this particular cause occurs in the UK

Cause	Explain how this leads to flooding	Diagram	Example of where this cause of flooding is prevalent (happens) in the UK
Urbanisation	As the number of people living in cities rises (urbanisation), so does the increase in need for housing and infrastructure such as roads. Cities are predominantly (mainly) made of concrete surfaces which are impermeable. If precipitation is prolonged and heavy, it will lead to an excess of surface runoff. This is because infiltration cannot occur due to the impermeable concrete surface, leading to increased surface runoff, which is the fastest route water can take into the river channel, meaning the chances of a river flooding are higher.		Small scale floods in London, particularly those areas close to the Thames such as Richmond and Petersham. Banbury, near Oxford saw urban areas heavily effected due to lack of infiltration.

The Causes of Flooding – Research Task – Over to you.

Cause	Explain how this leads to flooding	Diagram	Example of where this cause of flooding is prevalent (happens) in the UK

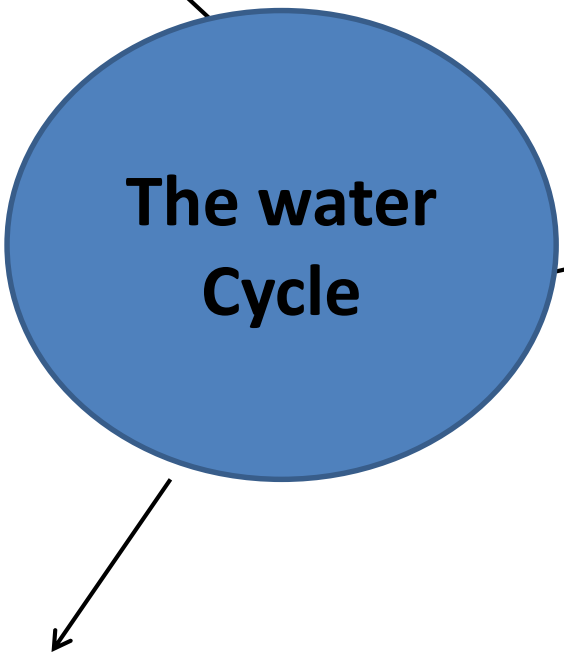
The Causes of Flooding – Research Task – Over to you.

Cause	Explain how this leads to flooding	Diagram	Example of where this cause of flooding is prevalent (happens) in the UK

Water Cycle – Reflection Task

Answer the questions below before we move on

Which task did you enjoy doing the most and why?



Which topic did you find the most challenging and why?

Which topic did you already know the most about?

The Carbon Cycle Topics tracker

Topic focus	Page number	Completed [tick when complete]
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Key words

Just as with the water cycle, the carbon cycle comes with its own set of specific key words.

Task: Match up the key words with the definitions. Check your answers overleaf.

Key word	Definition
Carbon	An element (C) which joins with others to form compounds that make up life forms and parts of the Earth such as its outer layer.
Carbon cycle	The intake of CO_2 by plants, this can be done using energy from the sun and also requires water to take place. CO_2 is converted to carbohydrates () in the plants, resulting in plant growth.
Open system	The carbon which is stored within living matter, predominantly plants on land or in humans and animals
Closed system	Stopping something from happening, in this case, the increase of CO_2 into the atmosphere
Sphere	A large scale store of carbon. Examples of spheres include the biosphere (carbon stored in living matter) and the atmosphere (carbon stored in the air)
Biosphere	When carbon (in its various forms) can enter or exit an area (the system), meaning the mass of carbon held in the area can increase of decrease eg a forest
Atmosphere	The carbon which is stored within the air, usually as carbon dioxide (CO_2) or methane (CH4)
Lithosphere	The movement of carbon from one store to another due to processes such as photosynthesis (atmosphere to biosphere
Hydrosphere	The storage of carbon either naturally (via photosynthesis) or by humans (via carbon capture)
Photosynthesis	The movement of carbon from one store to another due to processes such as photosynthesis (atmosphere to biosphere)
Carbon sequestration	Carbon which is held in oceans (sea plants are counted here, not in the biosphere)
Mitigation	When carbon (in its various forms) cannot enter or exit an area, so the mass of carbon never changes, there are very few examples of closed carbon cycles
Greenhouse gas	Places where carbon can be held in the carbon cycle. Either on a small scale (a tree) or on a large scale (the biosphere).
Store	Gases which are released into the atmosphere, these gases absorb heat and keep it in the atmosphere, making Earth warmer
Transfer	The movement and storage of carbon around the Earth

Key words

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Sphere	A large scale store of carbon. Examples of spheres include the biosphere (carbon stored in living matter) and the atmosphere (carbon stored in the air)
Biosphere	The carbon which is stored within living matter, predominantly plants on land or in humans and animals
Atmosphere	The carbon which is stored within the air, usually as carbon dioxide (CO_2) or methane (CH4)
Lithosphere	The carbon which is stored within the outer layers of the Earth (in rocks)
Hydrosphere	Carbon which is held in oceans (sea plants are counted here, not in the biosphere)
Photosynthesis	The intake of CO_2 by plants, this can be done using energy from the sun and also requires water to take place. CO_2 is converted to carbohydrates () in the plants, resulting in plant growth.
Carbon sequestration	The storage of carbon either naturally (via photosynthesis) or by humans (via carbon capture)
Mitigation	Stopping something from happening, in this case, the increase of CO_2 into the atmosphere
Greenhouse gas	Gases which are released into the atmosphere, these gases absorb heat and keep it in the atmosphere, making Earth warmer.
Store	Places where carbon can be held in the carbon cycle. Either on a small scale (a tree) or on a large scale (the biosphere).
Transfer	The movement of carbon from one store to another due to processes such as photosynthesis (atmosphere to biosphere).

The different forms of carbon

Read the passage below and answer the questions in full sentences

Carbon is an amazing element which is often described as versatile. This means that it goes with anything, rather like a white t-shirt (which if you broke it down, would contain carbon). Carbon in its element form has the chemical symbol, “C” but we rarely discuss carbon by itself, more often when it is combined with something to form a compound (when elements have joined together), for example when it combines with oxygen to form carbon dioxide (CO_2). Over the course of this topic, we look at carbon, the various forms which it can take, and what this means for our planet, especially when too much carbon ends up in one place.

A side note: If you are starting to worry that this is starting to sound too much like a science lesson, then do not worry. You just need to know how carbon combines with other elements/compounds and what the names and symbols are for these new forms of carbon compound. You do not need to worry too much about what the little two and big twos are doing scattered about all over the place. However, if you are a science lover, then this will be right up your street and you will probably want to do some of your own research into the different compounds that comprise of carbon (apparently there are more than 10 million different carbon compounds). Today, we are just going to look at the most important carbon compounds,

The most heard of carbon compound is (CO_2) which is a gas and is found in the atmosphere. (CO_2) is an example of a greenhouse gas, and when it is in our atmosphere, it absorbs the heat which is trying to escape from the Earth’s atmosphere and keeps it there, this leads to our climate becoming warmer. (CO_2) is mainly released by factories which burn fossil fuels and deforestation, as well as transport. Hydrocarbons are other forms of carbon compound, and there are many different types. Hydrocarbons are solids, liquids and gases which are found in the Earth’s outer layer (held in the air spaces between rocks). When hydrocarbons are burned and extracted, they release (CO_2) into the atmosphere, thereby converting a hydrocarbon into CO_2. Notice here that carbon (or C) is always present, but it has changed the compound which it is held in, Another form of carbon is carbohydrates (CH_2O), these are usually found in plants. These carbohydrates have formed and creating new plant matter due photosynthesis which uses CO_2 and energy from the sun to make the new CH_2O. Methane (CH_4) is an example of another greenhouse gas which contains carbon, often released as a result of the digestion process in cows. Finally, rocks themselves not only contain hydrocarbons in the air spaces between them but they themselves contain carbon in the form of calcium carbonates ($CaCO_3$). You are probably asking yourself, am I made of carbon? And the answer to that is yes, in our simplest form, we are just a walking, talking carbohydrate breathing out carbon dioxide.

The different forms of carbon

Using the passage in the previous page, answer the questions in full sentences:

1. ***What is the best adjective to describe carbon and why?***

2. ***What is the chemical symbol for carbon as a simple element?***

3. ***What is a compound?***

4. ***How many different types of carbon compound are there on Earth?***

5. ***Write out the chemical symbol for each of these different carbon compounds and state where they are found (you do not need to find a chemical symbol for hydrocarbons):***
    1. ***Carbon dioxide***

    2. ***Carbohydrates***

    3. ***Hydrocarbons***

    4. ***Methane***

    5. ***Calcium carbonate***

The Carbon Cycle in Action

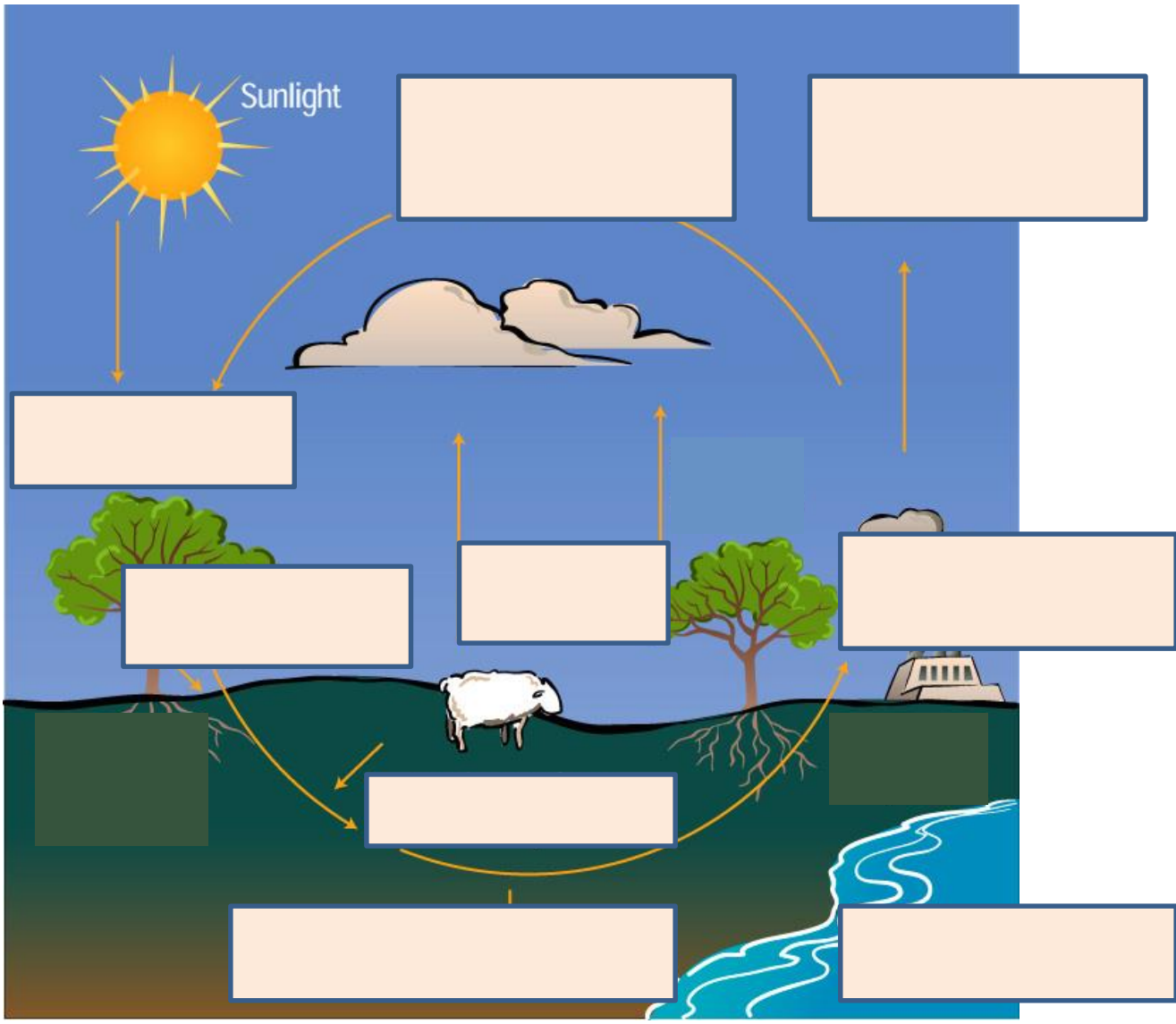
https://www.youtube.com/watch?v=A4cPmHGegKI

Watch the video and draw out your own version of the carbon cycle as you go, don't worry if it is messy, this is just to give you an idea before you see the carbon cycle in full.

The Carbon Cycle, by:

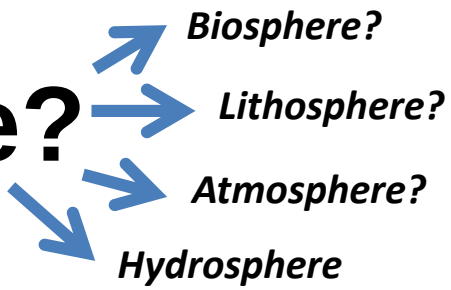
The Carbon Cycle

Task: Put the key words in the boxes into the correct place on the diagram. Shade the boxes which are transfers of carbon using one colour and the boxes which are stores of carbon in another colour.



Respiration	The atmosphere	Photosynthesis	Decomposition	The biosphere
Carbon dioxide	Hydrocarbon Extraction and combustion	Lithosphere containing hydrocarbons	The hydrosphere	

Which Sphere?

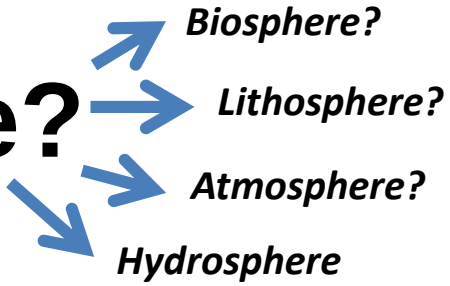


As stated in the previous exercise, a sphere is a large scale store of carbon. For each of the transfers below, decide what happens to carbon (it will change from one compound to another) and decide which sphere this will transfer carbon from and to, you will also need to note whether it is a human or natural transfer or carbon. You will need to do some research to complete this task. The first one has been done for you. Below is a list of websites which will help you with your research:

Some helpful websites:

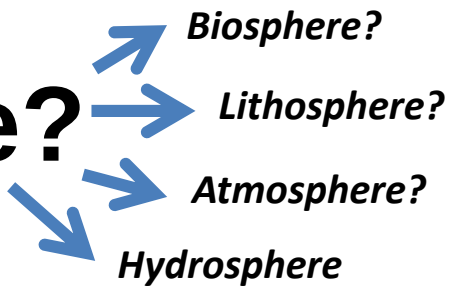
Carbon Transfer	**Explanation/definition**	**Which sphere is C moving from and to?**
Respiration (natural)	When humans use up energy which is stored as carbohydrates ($CaCO_3$), carbon dioxide is released as a result. The more humans, the more respiration occurring.	Carbon las left the biosphere (living things) and entered the atmosphere
Photosynthesis		

Which Sphere?



Carbon Transfer	Explanation/definition	Which sphere is C moving from and to?
Hydrocarbon extraction and combustion		
Respiration (natural)	When humans use up energy which is stored as carbohydrates ($CaCO_3$), carbon dioxide is released as a result. The more humans, the more respiration occurring.	Carbon las left the biosphere (living things) and entered the atmosphere
Photosynthesis		

Which Sphere?



As stated in the previous exercise, a sphere is a large scale store of carbon. For each of the transfers below, decide what happens to carbon (it will change from one compound to another) and decide which sphere this will transfer carbon from and to, you will also need to note whether it is a human or natural transfer or carbon. You will need to do some research to complete this task. The first one has been done for you.

Carbon Transfer	Explanation/definition	Which sphere is C moving from and to?
Deforestation		
Farming		
Wildfires		

Carbon Transfers and Stores Summary Questions

1. Looking at the previous activity, in which sphere is most of the carbon ending up?	2. Name two transfers that lead to carbon ending up in this sphere?
3. What does this lead to happening in our climate (you may need to revisit the Enhanced Greenhouse Effect here)?	4. Do you think HICs, LICs or NEEs are most responsible for the release of CO_2. Explain your answer (any answer is right as long as you can justify it)

Carbon Mitigation Strategies Research Task

Put websites in

***Your task: The following strategies are examples of how we can stop carbon from entering our atmosphere, at the moment, this is happening too quickly and we need to prevent it in order to keep global temperatures down. Choose <u>one</u>* of the strategies below and find out the following. You must submit your work in the form of a report (one A4 page).**

Carbon mitigation strategies:

1. ***Carbon capture***
2. ***Afforestation***
3. ***International agreements – see the Paris Agreement***
4. ***Small-scale farming***
5. ***Renewable energy***
6. ***Changes to transport***

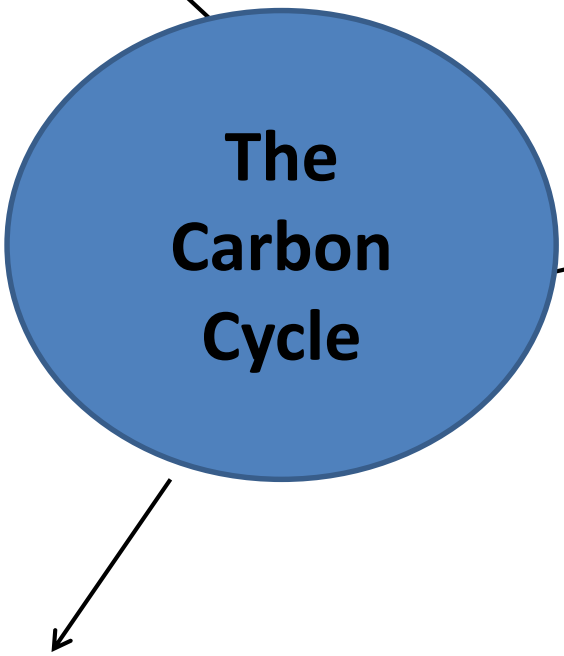
For your chosen strategy find out:

1. ***How exactly does this strategy work and reduce the amount of carbon in our atmosphere? You need to go into detail here and write about 5 lines.***
2. ***What countries have implemented this successfully? Give three key facts about this mini case study.***
3. ***What are the limitations of this strategy ie what might prevent countries or people carrying these strategies out? Aim for at least 3 limitations.***

Carbon Cycle – Reflection Task

Answer the questions below:

Which task did you enjoy doing the most and why?



Which topic did you find the most challenging and why?

Which topic did you already know the most about?

Congratulations!

You have completed your Physical Geography Project.

Please bring your completed work when we begin the new term.