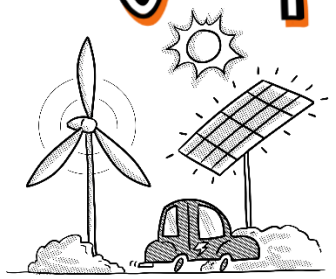
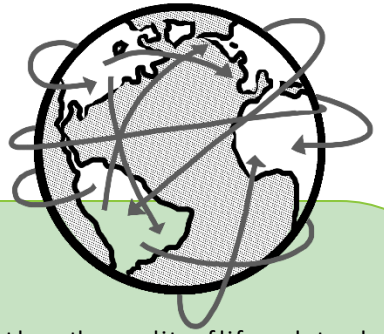
PiXL

Geography



KS3 Spine

Geographical Connections



Making ***Geographical Connections*** is all about looking at key concepts that stretch across many topics in geography. If you can understand the many links there are between these four concepts and the topics you study in geography, you will do well!

Two of these key concepts are often linked to human geography:
sustainability
development

Two of these key concepts are often linked to physical geography:
processes and landforms
global atmospheric circulation

Sustainability

This word gets everywhere in geography! It was first used widely after a report called the Brundtland Report in 1987.

It was defined as ***"meeting the needs of the present, without compromising the ability of future generations to meet their own needs".***

What does this actually mean?
It suggests that the people living in the present (us!) need to be able to get things from planet earth that we require – e.g. coal, wood, food, water, etc., so that we can live well now. However, we should only do this if it doesn't stop future generations being able to do the same.

It is sometimes useful to think of a series of questions to consider if you want to know if something is sustainable:
- Does it protect or conserve the environment?
- Does it help local people now?
- Does it ensure future generations are not negatively affected?

Connection

Development is better if it is sustainable!

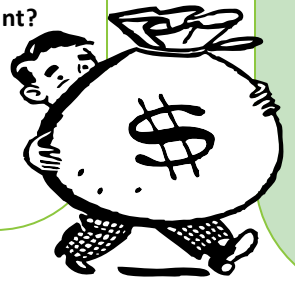
An example of sustainable development

In Sri Lanka, there were many rural areas that had no water in the dry season. To develop the area, the World Bank helped develop 'pumpkin tanks'.

These were large tanks that villagers could build themselves, and maintain, with little cost. In the wet season, they filled up and collected water that could be used in the dry season.

How do we know it is sustainable development?

Did it improve people's standard of living?
Did it conserve the environment?
Did it help local people now?
Are future generations negatively affected?



Development

Development is about how the quality of life and standard of living is improving in an area. Some areas are very well developed and their populations have an excellent standard of living and quality of life. However, some areas in the world are not so well developed.

Development could be considered in many ways, such as economic development (how well the economy is doing) or social development (how well people are doing).

We often categorise countries by their ***economic development*** level by referring to them in the following ways:
- lower income country (LIC) /developing – e.g. Afghanistan
- newly emerging economy (NEE) – e.g. Nigeria
- higher income country (HIC) /developed – e.g. the UK

You can judge the development of a country by using ***indicators of development.*** These are things that tell us how developed a country is. Some indicators tell us how socially developed an area is, such as life expectancy. Other indicators tell us how economically developed an area is, such as gross national income (GNI), a measure of wealth.

Processes and landforms

You have probably already studied many processes and landforms without even realising it!

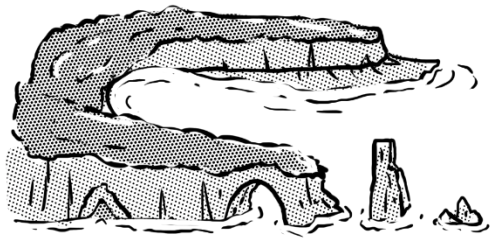
- ***A process*** is a sequence of actions that shape and change environments. An example would be ***erosion.***
- ***A landform*** is a natural feature of the earth's surface. An example would be ***a bay.***

Connection

Often many processes occur in a sequence of events that leads to the creation of one of the earth's landforms.

For example, the process of erosion occurs on cliffs at a coast. Softer rock erodes more quickly than hard rock. This eventually leads to the softer rock eroding further backwards on a coastline, into a C-shaped inlet. We call this a bay and it is one of the earth's wonderful landforms!

There are many more examples of links between processes and landforms, which you will learn about further in the activity booklet!



Global atmospheric circulation

Global atmospheric circulation sounds complicated but, when you break it down, it is simple:

global – the whole world
atmospheric – to do with the air above us
circulation – moving in circles

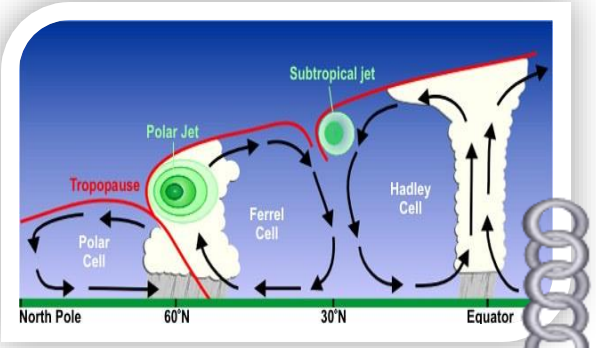
So… global atmospheric circulation ***is the movement of the air above our heads in circles around the whole world!***

On the diagram you can see three circular movements of air, shown with black arrows. They are spread across the earth from the equator to the poles.
The Hadley Cell is closest to the equator, the Polar Cell is closest to the poles and the Ferrel Cell lies in between the two. These movements are continually happening in the atmosphere on both sides of the equator.

1. Firstly, the equator is very hot as the sun shines directly on it. This heats up the air on the equator, and when air is hot, it rises.
2. Air rises in low air pressure areas, and because the air is rising, there is no pressure put on the planet by the air.
3. As it rises, the moisture in the air cools and condenses to form large rain clouds on the equator. It rains a lot here.
4. Eventually the air hits a 'ceiling' in the atmosphere called the tropopause.
5. As the air can no longer rise, it spreads out sideways.
6. Once it has cooled sufficiently, it begins the move downwards as cold air sinks.
7. These areas have high air pressure because air is pushing down on the earth's surface.
8. This sinking air hits down at around 30^0N and S of the equator.
9. Sinking air cannot create clouds as moisture is not rising, so these areas tend to have calm and stable weather.
10. The sinking air then reaches the earth's surface and spreads out in either direction. This is because air moves from high to low pressure!
11. As you can see in the diagram, this movement is repeated again in the Ferrel Cell and the Polar Cell.

PiXL Geography

KS3 Spine
Geographical Connections



Connection

Global atmospheric circulation links to many things!

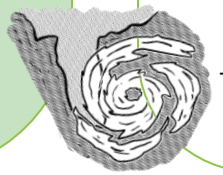
Did you know that tropical rainforests are found surrounding the equator?

Think about it…

They are hot and wet all year round. Look back at the diagram and notice how there are huge rain clouds on the equator. All that rising air and low pressure creates the rainforest we love to learn about!

Did you know that tropical storms always tend to move in the same direction in each world ocean?

Think about it…



They are driven by all that air moving around the global atmospheric circulation model you see above!