

Geography – South America Oil/Gas Rigs & Mining and Settlements

Oil/Gas Rigs and Mining



Greenhouse gases – gases such as carbon dioxide, which contribute to the greenhouse

Ecosystem – a community of living things and their interaction with the environment

Mineral – a chemical substance formed naturally in the ground

Resource – any materials or assets that humans can make use of
Urbanisation – The growth of population and building in towns, in comparison to rural areas; in the UK, 90% of the population lives in urban areas.

Rural to urban migration – The movement of people into towns, usually to find work and affordable homes.

How the extraction of minerals from the earth impact on the environment



The children will be learning that mineral extraction is associated with a diverse range of potentially adverse impacts on environmental and human health. **Mineral extraction** (mining) and **petroleum** and **gas production** are major resource extraction activities that provide the raw materials to support our economic infrastructure. The children will look at what these consist of strip mines, quarries, and underground mines, contribute to surface water and groundwater pollution, erosion, and sedimentation.

Impact of gold mining in the Yanomami Reserve in Brazil:



The consequences of the rapid growth of Rio de Janeiro's population.

They will explain that this has led to severe crowding and a shortage of housing. This resulted in crowded favelas found on the edges of Rio, close to industry where people look for work. Many are in the steep hills around the city as it is the only available land to build on within the city limits.

The children will be analysing photographs that show areas where the miners have obliterated the dense, pine-green forest and replaced it with immense bronze-coloured gashes littered with felled trees and pools of stagnant water. They will particularly look into The Yanomami Reserve, which is Brazil's largest reserve for the indigenous people .

A comparative study of the open cast mining Oil Sands in Alberta and gold mining in the Yanomami Reserve in Brazil



The children will be comparing the causes and effects in both Alberta and gold mining in the Yanomami Reserve in Brazil. They will explain that in June of 2021, United Nations human rights experts brought attention to the recent increase in violence in the region, as a result of clashes between the Indigenous population and the 20,000 illegal miners searching for gold.

Impact of open cast oils and mining in Alberta:

The children will be learning about the effects of open cast oils. They will be learning that because it takes energy to mine and separate oil from the sands, oil sands extraction releases more greenhouse gases than other forms of oil production. The children will be looking at the consequences one of them being the number of toxins that can leak into the groundwater. The

Rio de Janeiro



The children will be using a variety of maps, satellite images to locate Rio de Janeiro. The children will explain how and why Rio has grown in the last 100 years. They will locate Rio and understand that it sits on the Atlantic Coast and is one of the world's leading tourist beach areas.

World War II

The children will explain that after World War II, Rio shifted from an agricultural economy to an industrial economy. They will learn that bridges were built between important cities, skyscrapers were constructed, and freeways were developed. They will learn that the population of the city increased in gigantic proportions, which turned out to be a curse.



Causes and consequences of this war in the population's growth

World War II produced great change in Brazil. Its war effort improved its port facilities, left it with new modern airfields from Belém to Rio de Janeiro, as well as refurbished railroads, and stimulated manufacturing, agriculture, mining, and a burgeoning steel complex. They will be learning that the war era laid the foundations upon which Brazil's remarkable development in the next half century took place. However, they will understand that the city cannot grow because of physical factors - there are mountains to the north and west, and sea to the south and east.



How does this compare with the development of London?

Rio has experienced rapid growth because of rural to urban migration. Huge numbers of people have moved from countryside areas into the city, mainly in search of jobs. This has put a great deal of pressure on services and amenities. Huge numbers of people have moved from countryside areas into the city, mainly in search of jobs. The children will learn that the UK is in Europe, in the northern hemisphere, whilst Brazil is in South America and lies mostly in the southern hemisphere. Due to its position over the Equator, most parts of Brazil are much warmer than the UK. The UK has a temperate climate, whilst many parts of Brazil do not have clear seasons. They will learn that Brazil is much larger than the UK – 8.51 million sq. km compared to 243,610sq km, and that more people live in Brazil, 209 million people compared to 66 million in the UK. However, Brasilia has a smaller population than London: 2.4 million people compared to 8.4 million. They will learn that Brazil is situated on its continent, whereas the United Kingdom is an island country.

forests have to be cleared for mining. They will explain the process of mining; the environmental impacts of mineral extraction varies according to the type of mineral and the extent of its deposit, with the significance of the impact changing throughout the working life of a mine or quarry. The children will look at the negative impacts related to its exploitation continue long after the deposits have been worked and are no longer economically viable.

Project for Home Learning

Can you find out all about the Oil/Gas rigs and Mining (inc open cast mining Oil Sands, Alberta) and Rio de Janeiro

-A 3D model of the Rio de Janeiro or Alberta Oil/Gas rigs & Mining

-A leaflet

-A poster

- Create maps

- Fact file