



Oxford Cambridge and RSA

Friday 16 June 2023 – Afternoon

**GCSE (9–1) Geography B
(Geography for Enquiring Minds)**

J384/03 Geographical Exploration

Resource Booklet

Time allowed: 1 hour 30 minutes



INSTRUCTIONS

- Do **not** send this Resource Booklet for marking. Keep it in the centre or recycle it.

INFORMATION

- This document has **12** pages.

Fig. 1

Map of Mexico



Fig. 2

Development statistics for Mexico and the UK, 2020

Statistic	Mexico	UK
Population (millions)	127.6	67.5
Population of capital city (millions)	Mexico City 21.8	London 9.3
Gross National Income per capita (GNI US\$)	19 160	46 071
Life expectancy (years)	75	81.3
Internet users (% of population)	66.6	94.9
Literacy rate (% of adults)	95.4	99.7
Fertility rate (births per woman)	2.13	1.68

Fig. 3

Climate graph for Mexico City

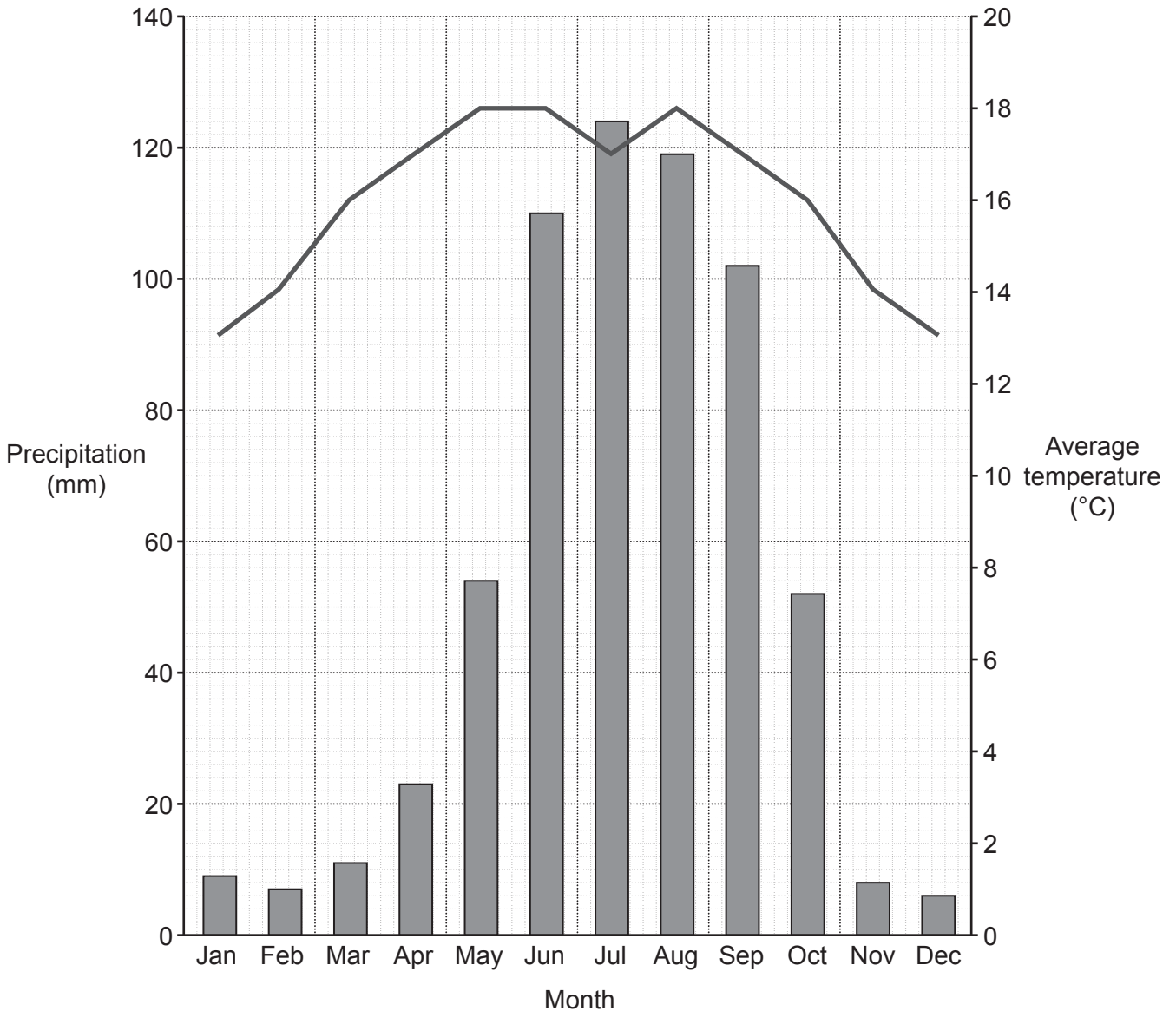


Fig. 4

Water resource fact file for Mexico City

- About 20% of Mexico's total population live in the city
- About 40% of the clean water is lost through leaks in the water network
- Climate change has led to more extreme rainfall events in recent years
- 40% of the clean water comes from underground reservoirs but these are drying up due to overuse
- Sewage and water pipes often burst as they are old and not regularly maintained
- The city is 2000 m above sea level which leads to high levels of rainfall in the wet season
- The population creates 40 000 litres of sewage every second

Fig. 5

Newspaper article about life in Mexico City

Mexico City: one city, two different stories

Mexico City is a bright and exciting city with lots of fantastic sights to see. But, as well as the rich and expensive side, there are also areas of extreme poverty.

To the west of the city lies the district of Polanco. Within this green and vibrant area, you could be in any developed country around the world. The beautifully landscaped parks are full of people enjoying the many cafes and leisure facilities.

1% of Mexico's population earn 21% of the nation's total income and a lot of this wealth is in Polanco.

People live in modern houses and apartments. They work in modern offices and shop in malls. The schools and hospitals in this area are the best in Mexico.

There is a very different story to the east of the city where Neza-Chalco-Itza is one of the largest informal housing developments in the world, with over 4 million people living there. Informal settlements have been growing since the early 1900s, many built on sloping or swampy land.

In these areas, houses have been poorly built, close to each other, without planning regulations. It is very rare to find any green space or leisure facilities.

Many of the people living here do informal or low-paid formal jobs.



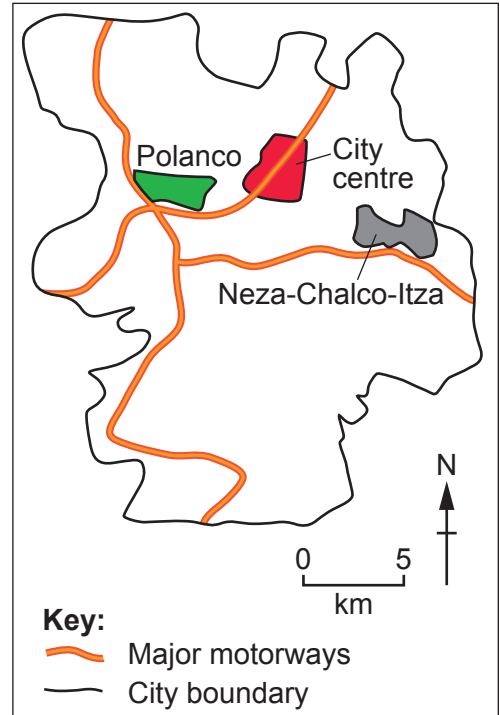
Above: Polanco is a wealthy area.



Above: a shopping mall and restaurant in Polanco



Above: Neza-Chalco-Itza is one of the largest informal developments in the world



Above: The locations of Polanco and Neza-Chalco-Itza in Mexico City

The people living in Neza-Chalco-Itza only have basic amenities, for example in some parts clean water is delivered by trucks and donkeys are used to carry it through narrow and steep paths twice a week.

Mexico City Authorities have suggested removing some informal settlements due to the risk of landslides and flooding, which may increase due to climate change. However, many people disagree.

People living in both Polanco and Neza-Chalco-Itza can both say they live in Mexico City, but their lives could not be more different.



Above: a market and informal housing in Neza-Chalco-Itza

Fig. 6

Mexico City's risk index, 2015 – 2025

A risk index shows the potential economic impact of natural hazards.

The Gross Domestic Product (GDP) at risk is the total amount of money it could take to repair and rebuild Mexico City after a natural disaster.

Threat	GDP at risk US billion dollars (\$)	Percentage of Mexico City's total GDP at risk (%)
Strong winds	16.34	27
Volcano	11.65	19
Earthquake	5.93	10
Flood	5.60	9

Fig. 7

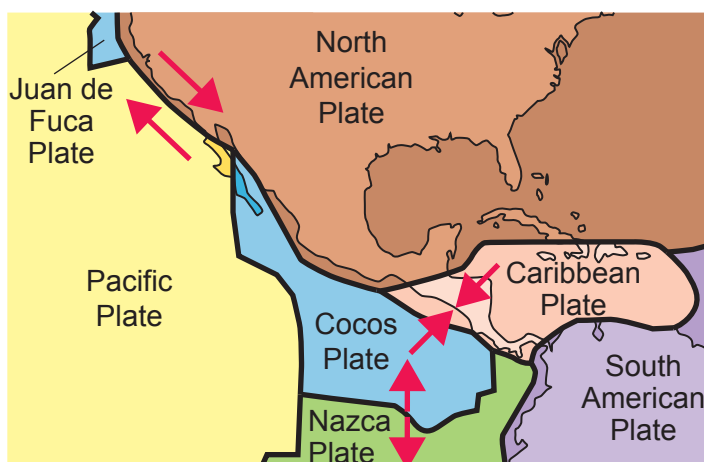
Information about Mexico City's tectonic events

Earthquakes

On the morning of 19th September 1985, an earthquake struck Mexico City at 7:17 am. It was magnitude 8 on the Richter Scale and caused a huge amount of damage. There were at least 5000 deaths and lots of the houses that were built in the informal settlements collapsed.

This earthquake was made worse because Mexico City is built on a drained lake bed. This made the waves of energy from the earthquake much larger, causing more damage.

Mexico City often feels the aftershocks of earthquakes and it is very likely that another large earthquake, with Mexico City at the centre, will happen soon.



Map showing plate boundaries in Central America. The red arrows show the direction of plate movement.

Volcanoes

Popocatepetl, North America's second highest volcano, is located just 70 km south-east of Mexico City. Although it was a dormant volcano for many years, it erupted in 1994 causing huge amounts of gas and ash to spread in the air to Mexico City.

Since 1994 the volcano has been active regularly, causing some powerful explosions releasing ash and rock 3000m into the sky. If the wind is in the right direction, this could lead to large amounts of volcanic ash mixing with high precipitation to create mudflows on steep slopes.



Above: A photo of Mexico City at the bottom of the mountains, snow covers the highest peaks. Popocatepetl is the snow covered volcano on the right of the photo.

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