College Board AP® Human Geography

Population Distribution

Contents

Summary

This unit addresses changes in populations over time. It looks at how and why populations change in composition over time, as well as why groups and individuals move and settle where they do.

Physical & human factors affecting population distribution

- **Population distribution** refers to the **spatial distribution** of people on Earth's surface

- **Population density** measures the number of people living in a particular area

  - This is typically expressed as the number of people per square mile or the number of people per square kilometre

- **Demography** is the study of population characteristics

  - Examples include age, sex ratio, size, birth rate, and death rate

- People are distributed **unevenly** across the Earth's surface

- There are both physical and human factors that influence the distribution of the population

Physical factors	Human factors
- Climate and weather - Relief and landforms - Soil types and quality - Vegetation - Natural resources - Natural hazards	- Economic development - Political stability - Cultural diversity - Social services - Historical

- People tend to:

  - live in areas which are hospitable, such as river valleys, near fertile agricultural land, along the coast, in **temperate** climates, and at low elevation

  - avoid areas that are too dry, wet, cold, or at high elevations

  - live in areas with access to social goods and services, such as education, health care, and entertainment

  - live where human societies have historically been sustainable

- **Ecumene** refers to the portion of the Earth's surface occupied by permanent human settlement

Factors illustrating patterns of population distribution

- As the scale of analysis changes, the relevance of certain factors affecting population distribution also changes:

  - For example, most people within a country might live near the coast. However, the majority of people in a particular city within that country might live away from the coast

  - Similarly, the majority of people at a national scale of analysis may live in cities; but in a particular region within the country, most people might live in rural areas

Examiner Tips and Tricks

Roughly 30–40% of the multiple-choice questions on the AP Exam reference what is known as a stimulus. A stimulus might be a map, graph, image, chart, or quotation. Stimulus-based questions will ask you to choose your answer based on the information presented in the stimulus. For example, you may need to analyze a chart and correctly interpret the data presented to answer the question.

Methods of calculating population density

- The methods for calculating **population density** are **arithmetic**, **physiological**, and **agricultural**

- Density is expressed as the number of people per square mile or per square kilometre

  - **Arithmetic density** is the measure of the total number of people divided by the total amount of land

  - **Physiological density** is the measure of the total number of people divided by the amount of **arable land**

  - **Agricultural density** gives the ratio of the number of farmers to the amount of arable land

Differences between methods of calculating population density

Arithmetic density

- **Arithmetic density**, also known as **crude population density**, can be misleading depending on the scale of analysis

- Due to its limitations, arithmetic density is not a particularly meaningful indicator on its own

  - The population density of Australia is three people per square kilometre

  - The Australian population is not evenly distributed over the whole country

  - People are heavily concentrated in a few cities and along the coast

  - The arithmetic density does not give an accurate representation of Australia's population distribution

Physiological density

- **Physiological density** is a more useful measure of population

- It reflects the number of people supported by a unit of **arable** land

- Physiological density will give a more accurate representation of population density for countries with large areas of land that are not arable, such as deserts

- A large difference between a country's arithmetic and physiological densities indicates the country has a small percentage of land suitable for agriculture and very densely concentrated populations

- Australia's physiological density is 43 people per square kilometre of arable land

- This is a better representation of how densely the population lives than the three people per square kilometre reflected in the country's arithmetic density

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Examiner Tips and Tricks

You are likely to encounter a question on the exam that asks you to distinguish between **arithmetic population density** and **physiological density**. You should be able to separate population density, using total land area, from physiological density, which relies on arable land area.

The exam may also ask you to demonstrate knowledge of the difference in a real-world context. For example, a question might ask "What variable would give you a better understanding of the population density of two countries with roughly the same population?" The answer would rely on the amount of arable land per country.

Agricultural density

- **Agricultural density** offers an indication of the efficiency and technology available to the country's farmers

  - Highly-developed countries tend to have lower agricultural density because technology allows for sufficient food resources to be produced without a lot of workers

  - Developing countries tend to have higher agricultural densities because more workers are required to produce sufficient amounts of food