GRADE 9 · AP HUMAN GEOGRAPHY

AP Human Geography Readiness Guide

What a 9th grader should know, practice, and be able to do to succeed in AP Human Geography — often your first AP exam.

"Travel is fatal to prejudice, bigotry, and narrow-mindedness."

— Mark Twain, The Innocents Abroad (1869)

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How to use this guide: sections marked CORE are the most-tested, must-know content — learn these first. Sections marked GO DEEPER are the details that separate a 4 from a 5 — add them once the core is solid.

Name: _____ Class / Period: _____

1 The Road to AP Human Geography

Human geography is the study of **the why of where**: why people, languages, religions, farms, cities, and factories are where they are, and how places connect. For many students it is the first AP class, taken in 9th grade.

Grade 9

AP Human Geography · often your first AP

- Seven units, about 25 models
- Read maps, graphs, and tables
- Write 7-part FRQs
- Take the AP exam in May

Grade 10

AP World History: Modern (or AP European History)

- Empires, trade, and diffusion
- Industrialization and imperialism
- Document-based essays

Grade 11

AP U.S. History and AP English Language

- Migration, cities, and industry in the U.S.
- Sourcing and argument
- Longer timed writing

Grade 12

AP U.S. Government and Politics / AP Macroeconomics

- Federalism and redistricting
- GDP, trade, and development
- Policy and data analysis

Schools order these courses differently. APHG's diffusion, borders, migration, cities, and development return in all of them.

What APHG actually tests

The exam is not a vocabulary quiz. It asks you to **use** geography's ideas on real places and real data. The College Board names five skills:

Skill	What it means	On the exam
Concepts and processes	Explain theories, models, and processes	How did the Green Revolution change India?
Spatial relationships	Explain why things cluster or spread	Why do factories cluster near a border?
Data analysis	Read numbers in maps, tables, and graphs	Identify a DTM stage from a data table
Source analysis	Interpret maps, photos, and landscapes	Describe what a street photo shows
Scale analysis	See how patterns change with scale	Explain a limit of national-scale data

The habits that matter most this year

- **Draw every model from memory.** If you can sketch the DTM, von Thünen's rings, and the Burgess model on a blank page, you understand them.
- **Keep an examples notebook.** For every term, write one real place: "Fragmented state: Indonesia." Specific examples earn FRQ points.
- **Read the news like a geographer.** For every story ask: Where is this? Why there? What connects it to other places?
- **Practice the task verbs.** Most lost points come from describing when the question says explain.

2 The AP Exam at a Glance

The exam is given in May and scored from 1 to 5. Many colleges award credit or placement for a 3 or higher. It is digital: you take it in the College Board's Bluebook app.

Section	Questions	Time	Share of score
Section I — Multiple Choice (1 hr)			
Multiple-choice questions; many use a map, graph, table, or image	60	1 hr	50%
Section II — Free Response (1 hr 15 min)			
FRQ 1: no stimulus	1 (parts A–G)	1 hr 15 min total (about 25 min each)	50% total
FRQ 2: one stimulus (a map, graph, table, image, or text)	1 (parts A–G)		
FRQ 3: two stimuli	1 (parts A–G)		

Format per the College Board's Course and Exam Description. Details can change: check AP Central (apcentral.collegeboard.org) during the year you take the exam.

The seven units

Unit	Title	Exam weight
1	Thinking Geographically	8–10%
2	Population and Migration Patterns and Processes	12–17%
3	Cultural Patterns and Processes	12–17%
4	Political Patterns and Processes	12–17%
5	Agriculture and Rural Land-Use Patterns and Processes	12–17%
6	Cities and Urban Land-Use Patterns and Processes	12–17%
7	Industrial and Economic Development Patterns and Processes	12–17%

How the FRQs are scored — and the 9th-grade takeaway

Each FRQ is worth 7 points, one per part (A–G), and each part stands alone. No thesis or introduction: answer the part and move on. "Explain" needs a how or a why, and a real, named place beats a general idea. You do not need big words. You need to **know the terms**, **give real examples**, and **explain why** — plenty of 9th graders earn 4s and 5s that way.

3 Unit 1: Thinking Geographically

The tools every other unit uses: maps, data, scale, and the language of space and place.

Maps and projections CORE

Every flat map distorts **shape**, **area**, **distance**, or **direction**. Conformal projections keep shapes; equal-area ones keep sizes.

Projection	Keeps	Distorts	Best for
Mercator	Shape and direction (conformal)	Area near the poles: Greenland looks as big as Africa, but Africa is about 14 times larger	Navigation at sea
Peters (Gall–Peters)	Area (equal-area)	Shape: continents look stretched north–south	Comparing country sizes fairly
Robinson	Nothing exactly — a compromise	A little of everything, most near the poles	General world maps
Goode homolosine	Area (equal-area)	Continuity: the oceans are cut apart	Mapping data on land

Kinds of thematic maps

Choropleth	Areas shaded by value: GNI per capita by country
Dot density	One dot = a set number: 1 dot = 10,000 people
Graduated symbol	Bigger symbol = bigger value: city populations
Isoline	Lines join equal values: elevation contours
Cartogram	Countries resized by data, such as population

Two meanings of "scale"

Map scale is the ratio of map distance to real distance. A large-scale map shows a **small area** in great detail (a city map, 1:10,000). A small-scale map shows a **large area** with little detail (a world map).

Scale of analysis is the level you study: local, regional, national, or global. Patterns change with scale: a wealthy country can still have very poor neighborhoods.

Location, place, and space CORE

Term	Meaning · *example*	Term	Meaning · *example*
absolute location	Exact spot by latitude and longitude. The White House: about 38.9° N, 77.0° W	relative location	Location compared with other places. Chicago is on the southwestern shore of Lake Michigan.
site	Physical features of the place itself: land, water, climate. Paris began on an island in the Seine.	situation	Location relative to other places — its connections. Singapore on the Strait of Malacca, a major shipping route
place	A location's unique human and physical character. New Orleans: jazz, Creole food, the delta	space	The area between places and how things are arranged in it. The spacing of gas stations on a highway

Term	Meaning · *example*	Term	Meaning · *example*
toponym	A place name, which can reveal history. Leningrad became St. Petersburg again in 1991.	**distance decay**	Interaction declines as distance increases. You visit nearby friends more often.
time-space compression	Places feel closer as transport and communication speed up. Weeks by ship across the Atlantic; now hours by plane	**sustainability**	Meeting today's needs without harming future generations' ability to meet theirs

Patterns and regions CORE

Density is **how many** per unit of area (people per km^2). **Distribution** is **how they are arranged**: clustered (agglomerated), dispersed, or linear. Two countries can have the same density but very different distributions.



Clustered · Dispersed · Linear (along a river)

Region type	Defined by
Formal (uniform)	A shared trait everywhere inside it: a country, or French-speaking Québec
Functional (nodal)	Connections to a central node: a pizza delivery area, a city's commuter zone
Perceptual (vernacular)	People's feelings; borders vary by who you ask: "the South," "the Midwest"

Geospatial tools and human–environment ideas CORE

GIS stacks layers of data on a map — a city layering flood zones over housing. **GPS** uses satellites to find an exact location — phone maps, precision farming. **Remote sensing** gathers data from a distance with satellites, planes, or drones — tracking deforestation in the Amazon.

Geographers also use field observation, census data, interviews, and photos. Numbers are *quantitative* data; descriptions and images are *qualitative*.

Environmental determinism: the physical environment controls how people live. Geographers **reject** it — it was used to justify racism and colonialism.

Possibilism: the environment sets limits, but people choose and adapt. The Netherlands built dikes and polders to farm land below sea level.

4 Unit 2: Population and Migration

Where people live, how fast populations grow, and why people move. This unit is full of numbers and models — and most students find it easy to score on once the formulas click.

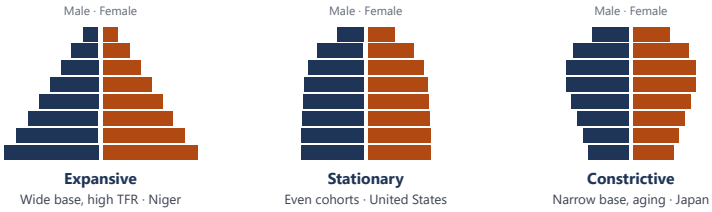
Where people live and three kinds of density CORE

The world passed **8 billion** people in 2022. Most live in a few clusters — East Asia, South Asia, Southeast Asia, and Europe — on lowlands, near water, in mild climates.

Density	Formula	What it tells you
Arithmetic	total people ÷ total land area	General crowding; hides where people actually live.

Density	Formula	What it tells you
Physiological	total people ÷ **arable** (farmable) land	Pressure on farmland. Most Egyptians live along the Nile, so Egypt's physiological density is far higher than its arithmetic density.
Agricultural	number of **farmers** ÷ arable land	Farming technology. High = many farmers on small plots (less developed). Low = mechanized farms, as in the U.S.

Population pyramids CORE

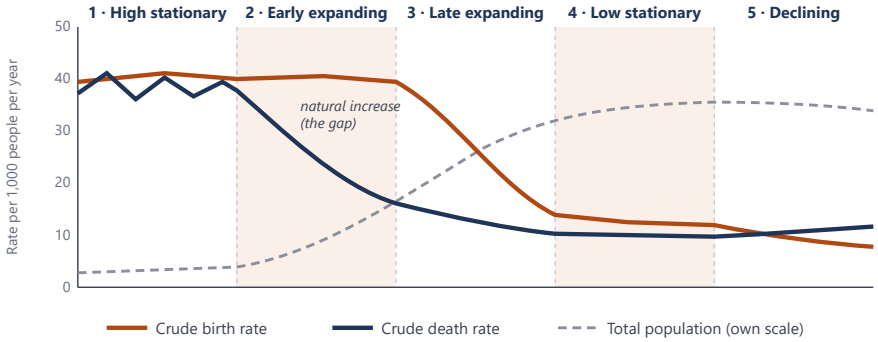


Each bar is a 5-year age group, youngest at the bottom. A bulge is a baby boom; a dent can mean war, famine, or a policy that cut births (such as China's one-child policy). The **dependency ratio** = (ages 0–14 + ages 65+) ÷ ages 15–64 × 100: a wide base means many dependent children, a wide top many dependent elders.

The numbers you must know CORE

Measure	Meaning	Example
Crude birth rate (CBR)	Births per 1,000 people per year	CBR 30 = 30 births per 1,000
Crude death rate (CDR)	Deaths per 1,000 people per year	CDR 10 = 10 deaths per 1,000
Rate of natural increase (RNI)	(CBR − CDR) ÷ 10 = percent growth per year, not counting migration	(30 − 10) ÷ 10 = **2.0%**
Total fertility rate (TFR)	Average children per woman in her lifetime. **Replacement level is about 2.1.**	Niger is near 6; South Korea is under 1.
Infant mortality rate (IMR)	Deaths of babies under age 1 per 1,000 live births — a strong sign of health care	Very low in Japan; high where clinics are scarce
Doubling time	**Rule of 70:** 70 ÷ RNI (as a percent) ≈ years to double	70 ÷ 2.0 = **35 years**

The Demographic Transition Model (DTM) CORE



Stage	CBR	CDR	Growth	Why	Examples
1	High	High, swinging	Very low	Famine and disease; no modern medicine	No country today; pre-industrial societies
2	High	Falling fast	Very high	Better food supply, clean water, sanitation, medicine	Niger, Chad
3	Falling	Falling slowly	Moderate	Urbanization (children cost more in cities), women's education and jobs, contraception	India, Egypt
4	Low	Low	Near zero	Families choose fewer children	United States, France
5	Very low	Low, rising	Negative	TFR far below 2.1; many elderly people (added to the original model)	Japan, Italy, South Korea

Limits of the DTM

It is based on Western Europe's history, assumes one path for every country, and ignores migration. Stage 2 came much faster in poorer countries after 1950, because medicine diffused from abroad.

Health and population theories CORE

Epidemiologic Transition (Omran)

Causes of death change as a country develops, matching the DTM: **(1) pestilence and famine** — infectious disease such as the Black Death; **(2) receding pandemics** — sanitation and nutrition cut infectious deaths; **(3) degenerative diseases** — heart disease and cancer lead; **(4) delayed degenerative diseases** — medicine pushes them to older ages; **(5) possible reemergence** of infectious disease — drug-resistant bacteria and new viruses such as COVID-19.

Malthus and the neo-Malthusians

Thomas Malthus (1798): population grows *exponentially* (2, 4, 8, 16), food only *arithmetically* (1, 2, 3, 4), so famine, disease, or war will check growth. **Criticism:** he did not foresee technology; today hunger comes mostly from poverty, conflict, and distribution.

Neo-Malthusians (such as Paul Ehrlich, *The Population Bomb*, 1968) warn that growth will strain water, energy, and other resources.

GO DEEPER **Ester Boserup (1965)** argued the opposite: population growth **causes** farmers to innovate and farm more intensively. Cite her as a counterargument to Malthus.

Population policies CORE

Antinatalist policies aim for fewer births. **China's one-child policy** (1980–2015) cut births sharply but left an aging population and more boys than girls; China now allows three children. **India** ran family-planning and sterilization campaigns in the 1970s.

Pronatalist policies aim for more births. **France** offers family allowances, parental leave, and tax breaks. **Singapore** switched from "Stop at Two" in the 1970s to paying baby bonuses. Fertility falls fastest when **girls and women get more education and paid work**.

Why people move CORE

Push factors make people leave; **pull factors** draw them in. Both come in four kinds: **economic** (unemployment vs. jobs and higher wages), **political** (war and persecution vs. safety and freedom), **environmental** (drought and floods vs. fertile land and a pleasant climate), and **social or cultural** (discrimination vs. family already there or a shared language). **Intervening obstacles** make a move harder: mountains, oceans, border walls, visa laws, and cost. An **intervening opportunity** is a closer place that attracts the migrant first.

Migration type	Meaning · *example*	Migration type	Meaning · *example*
forced	People are made to move. The Atlantic slave trade; refugees	**voluntary**	People choose to move, usually for opportunity. Moving for a job
internal	Within one country. The Great Migration of African Americans to Northern cities (about 1910–1970)	**international**	Across a national border. Mexicans moving to the United States
chain migration	Migrants follow relatives who moved earlier. One village's families in one neighborhood	**step migration**	Moving in stages toward bigger places. Village → town → city
transnational migration	Migrants keep strong ties to both countries. Sending money, visiting, voting	**guest workers**	Temporary legal workers. Turks in West Germany from 1961; South Asians in Qatar

Ravenstein's laws of migration (1885)

- Most migrants move a **short distance** (distance decay); long-distance migrants usually head to **big cities**.
- Every migration flow produces a **counterflow**.
- Most migration happens **step by step**; city people migrate less than rural people.
- **Economic** reasons are the main cause.
- In his time, long-distance migrants were mostly young adult men; women moved more often over short distances.

Who moves, and what it does

refugee	Forced by war or persecution to flee their **country**; protected by the 1951 Refugee Convention. Syrians in Türkiye, Lebanon, and Jordan	**asylum seeker**	Has asked another country for protection; the claim is not yet decided.
internally displaced person (IDP)	Forced to flee but still **inside** their own country. Millions in Sudan and Syria	**remittances**	Money migrants send home. India receives the most; a large share of GDP in Nepal and Tajikistan
brain drain	Skilled, educated people emigrate. Nurses from the Philippines, doctors from Nigeria	**emigration / immigration**	Leaving a country / arriving in one. A nurse emigrates from the Philippines and immigrates to the UK.

Go deeper: Zelinsky's migration transition

Migration changes with the DTM. In **Stage 2**, people leave the countryside for cities and emigrate abroad. **Stage 3 and 4** countries attract immigrants, and people move from cities to suburbs.

Real-world examples to know

Egypt and the Nile · Niger (Stage 2) · Japan and Italy (Stage 5) · China's one-child policy · France and Singapore · Syrian refugees · Turkish guest workers · the Great Migration · remittances to India.

5 Unit 3: Cultural Patterns

Culture is a group's shared way of life: its beliefs, language, religion, food, and customs. Unit 3 asks where culture starts, how it spreads, and what happens when cultures meet.

Culture and the landscape CORE

Term	Meaning · *example*	Term	Meaning · *example*
culture trait	A single element of culture. Eating with chopsticks	**ethnic enclave**	A neighborhood where one ethnic group clusters. Chinatown in San Francisco
folk culture	Traditional culture of a small, often rural group; changes slowly. Amish clothing and farming	**popular culture**	Culture of large, diverse societies; spreads fast through media. K-pop, fast-food chains
cultural landscape	The visible imprint of people on the land (Carl Sauer). Rice terraces in the Philippines	**placelessness**	Places lose their uniqueness and look the same. The same chain stores in every city
sequent occupance	Successive cultures leave layers on one place. Hagia Sophia, Istanbul: a church (537), then a mosque, a museum, and a mosque again	**ethnocentrism / cultural relativism**	Judging other cultures by your own / understanding a culture on its own terms — the geographer's habit

How culture spreads: diffusion CORE

Every trait starts in a **hearth**, its place of origin, and then diffuses in one of two big ways.

Type	How it works	Example
Relocation diffusion — the people move		
Relocation	Migrants carry the trait to a new place	Immigrants bring their food and festivals to a new city
Expansion diffusion — the trait spreads while the hearth stays strong		
Contagious	Person to person, quickly, to everyone nearby	A video going viral; slang spreading through a school
Hierarchical	From the most connected people or places down	Fashion moving from New York and Paris to smaller cities
Reverse hierarchical	From lower levels up	Hip-hop, from the Bronx to the global mainstream

Type	How it works	Example
Stimulus	The idea spreads, but the trait changes to fit local culture	McDonald's potato McAloo Tikki burger in India, where many Hindus do not eat beef

When cultures meet CORE

Acculturation: a group adopts some traits of another culture but keeps its own — kids speaking English at school and their parents' language at home.

Assimilation: a group gives up its original culture for the dominant one. It can be forced: Native American boarding schools in the U.S.

Syncretism: cultures blend into something new — Vodou in Haiti mixes West African religions and Catholicism; Día de los Muertos blends Indigenous and Catholic traditions.

Multiculturalism: many cultures live side by side, each keeping its identity — Canada made it official policy in 1971.

Language CORE

Languages are grouped like a family tree: **family** → **branch** → **group** → **language**. The **Indo-European** family is spoken by nearly half the world's people.

Family	Examples	Family	Examples
Indo-European	Germanic: English, German · Romance: Spanish, French · Balto-Slavic: Russian · Indo-Iranian: Hindi, Persian	**Sino-Tibetan**	Mandarin and other Chinese languages, Tibetan, Burmese
Afro-Asiatic	Arabic, Hebrew, Amharic	**Niger-Congo**	Swahili, Yoruba, Zulu
Austronesian	Indonesian and Malay, Tagalog, Malagasy (Madagascar)	**Dravidian**	Tamil, Telugu (southern India)

Lingua franca: a shared language for people with different native languages — English in business, science, and aviation; Swahili in East Africa.

Pidgin: a simplified mix used for trade, with no native speakers. **Creole**: a pidgin that became a community's first language — Haitian Creole.

Dialect: a regional version of a language. An **isogloss** is the boundary of a word or sound — where "soda" turns into "pop." Languages can die out or be revived: Hebrew became an everyday spoken language again in Israel.

> **Go deeper: where did Indo-European begin?**
>
> **Anatolian hypothesis**: it spread peacefully from Anatolia (Türkiye) with farming. **Kurgan (steppe) hypothesis**: horse-riding peoples from the steppes north of the Black and Caspian Seas carried it by conquest. Two competing diffusion theories make a strong FRQ example.

Religion CORE

Religion	Hearth	Spread and branches
Universalizing — seek converts worldwide		
Christianity	The Levant (Bethlehem, Jerusalem)	Missionaries, the Roman Empire, colonialism · Roman Catholic, Protestant, Eastern Orthodox

Religion	Hearth	Spread and branches
Islam	Mecca and Medina, Arabian Peninsula	Trade, conquest, missionaries · Sunni (most Muslims) and Shia (majority in Iran and Iraq)
Buddhism	Northern India and Nepal	Monks, trade routes, Emperor Ashoka · Mahayana (East Asia), Theravada (Southeast Asia), Vajrayana (Tibet)
Sikhism	Punjab region (about 1500)	Mostly Punjab, India; relocation to the UK and Canada
Ethnic — tied to one people or place; few converts		
Hinduism	Indus River valley, South Asia	Mostly India and Nepal; pilgrimage to Varanasi on the Ganges
Judaism	The Levant	Spread by relocation (the diaspora); most Jews live in Israel and the U.S.
Shinto	Japan	Nature spirits (kami); shrines with torii gates

Globalization and cultural forces CORE

Globalization and time-space compression spread popular culture fast. Results can be **convergence** (cultures become more alike) or **divergence** (groups protect what makes them different). France, for example, requires radio stations to play a minimum share of French-language songs.

Centripetal forces pull a society together: a shared language, religion, national holidays, a flag. **Centrifugal forces** pull it apart: language divides (Dutch-speaking Flanders and French-speaking Wallonia in Belgium), religious conflict (Northern Ireland's Troubles), ethnic separatism.

> **Real-world examples to know**
>
> Hagia Sophia (sequent occupance) · McAloo Tikki (stimulus) · hip-hop (reverse hierarchical) · Vodou (syncretism) · Canada (multiculturalism) · English and Swahili (lingua franca) · Haitian Creole · Mecca, Jerusalem, Varanasi, and Bodh Gaya (sacred sites) · Belgium (language divide).

6 Unit 4: Political Patterns

How the world is divided into states, how borders are drawn, and why some countries hold together while others pull apart. Precise vocabulary matters more here than anywhere else.

States and nations CORE

Term	Meaning · *example*	Term	Meaning · *example*
state	A country: territory, permanent population, government, and **sovereignty**. The UN has 193 members. France, Brazil	**nation**	A **people** with a shared culture, history, and identity, who often want self-rule. The Kurds, the Basques
nation-state	A state whose borders roughly match one nation. Japan, Iceland	**multinational state**	A state with two or more nations. The United Kingdom (English, Scots, Welsh, Northern Irish), Russia
multistate nation	One nation spread across two or more states. Koreans (North and South Korea)	**stateless nation**	A nation with no state of its own. The Kurds (in Türkiye, Iraq, Iran, and Syria)

Term	Meaning · *example*	Term	Meaning · *example*
sovereignty	A state's supreme control over its own territory and affairs	**self-determination**	A nation's right to choose its own government. South Sudan's independence (2011)

Colonialism: a state takes direct control of a territory and its people — Britain in India, Belgium in Congo. **Imperialism** is broader: extending power over others by force, money, or culture. At the **Berlin Conference (1884–85)** European powers divided Africa with little regard for the people living there.

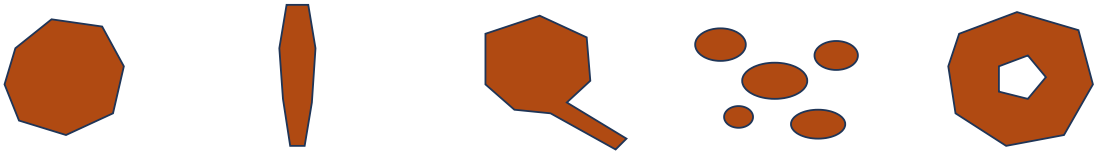
> **Go deeper: choke points and shatterbelts**
>
> **Choke points** are narrow passages vital to trade: the Strait of Hormuz, the Strait of Malacca, and the Suez and Panama Canals. A **shatterbelt** is a region split inside and caught between outside powers, such as Eastern Europe in the Cold War.

Boundaries CORE

Boundary	Meaning · *example*	Boundary	Meaning · *example*
antecedent	Drawn **before** many people settled the area. U.S.–Canada border along the 49th parallel	**subsequent**	Drawn **after** settlement, shaped by the cultures there. The China–Vietnam border, adjusted over centuries
consequent	A subsequent boundary drawn to separate cultural groups. India–Pakistan (1947), largely along religious lines	**superimposed**	Forced on an area by an **outside power**. Many African borders from the Berlin Conference
relic	No longer works as a border but is still visible. Remains of the Berlin Wall; Hadrian's Wall	**geometric**	Straight lines, often of latitude or longitude. Egypt–Sudan along 22° N
physical	Follows a river, mountains, or a lake. The Rio Grande (U.S.–Mexico); the Pyrenees (France–Spain)	**demilitarized zone**	A border strip where military forces are banned. Between North and South Korea

Dispute	Over… · *example*	Dispute	Over… · *example*
definitional	The **wording** of the boundary treaty. Iran and Iraq over the Shatt al-Arab waterway	**locational**	Where the border **is** on the ground. The Rio Grande shifted: the Chamizal dispute (settled 1963)
operational	How the border should **work**: migration, trade, smuggling. U.S.–Mexico border control	**allocational**	**Resources** that cross it. Iraq accused Kuwait of drilling into a shared oil field before invading in 1990.

The shape of states CORE



Compact
Poland

Elongated
Chile

Prorupted
Thailand, Namibia

Fragmented
Indonesia, Philippines

Perforated
South Africa (Lesotho)

Compact	Roughly round; easy to govern, connect, and defend.	**Elongated**	Long and narrow; hard to connect the ends. Chile: over 4,000 km long, on average under 200 km wide
Prorupted	Compact with a long extension, often to reach water. Namibia's Caprivi Strip; Thailand's Malay Peninsula	**Fragmented**	Separate pieces; hard to unify. Indonesia has about 17,000 islands.
Perforated	Completely surrounds another state. South Africa around Lesotho; Italy around Vatican City and San Marino	**Landlocked**	No coastline; depends on neighbors for trade. Bolivia (lost its coast to Chile, 1879–1884); Ethiopia (since 1993)

Go deeper: an **enclave** is surrounded by another state (Lesotho); an **exclave** is a piece of a state cut off from the main part (Kaliningrad, Russia; Alaska).

How states organize power CORE

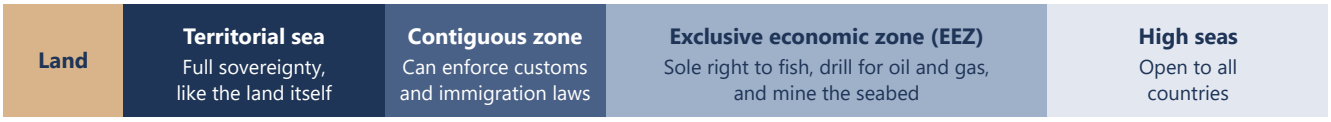
Unitary state: power is concentrated in the national government; works best with few internal divisions — France, Japan. **Federal state**: power is shared with states or provinces; suits large or diverse countries — the United States, Germany, India, Nigeria.

Devolution: the central government transfers power to regions. Its causes are **ethnic and cultural** (Scotland, Catalonia), **economic** (wealthy Catalonia does not want to support poorer regions), and **spatial** (distance from the capital, islands). It can end in self-rule — Scotland's parliament (1999) — or breakup: the Soviet Union (1991), Yugoslavia (1990s), South Sudan (2011).

Supranationalism: three or more states give up some sovereignty to cooperate. It brings trade, peace, and security, but some resent losing control — the UK voted to leave the EU in 2016 and left in 2020 ("Brexit").

Organization	Purpose	Organization	Purpose
UN (1945)	Peace, security, and cooperation; 193 members	**EU**	Economic and political union of 27 countries; most use the euro
NATO (1949)	Military alliance: an attack on one is an attack on all	**African Union (2002)**	Cooperation, development, and peacekeeping in Africa
ASEAN (1967)	Economic and political cooperation in Southeast Asia	**USMCA (2020)**	U.S.–Mexico–Canada trade deal; replaced NAFTA (1994)

The law of the sea (UNCLOS) CORE



Not to scale · nm = nautical miles from the coastline (baseline) · 1 nm = 1.852 km

Where EEZs overlap, disputes follow: China's claims in the South China Sea overlap those of Vietnam, the Philippines, Malaysia, and Brunei.

Redistricting and gerrymandering CORE

After each U.S. census (every 10 years), House seats are reapportioned among the states, and states **redistrict** — redraw district lines. **Gerrymandering** is drawing those lines to help one party or group; the name comes

from Massachusetts governor Elbridge Gerry's salamander-shaped district (1812). **Cracking** spreads the other side's voters thin across many districts; **packing** crowds them into a few districts they win by huge margins.

Plan 1: compact districts

Orange
Orange
Orange
Navy
Navy

Orange 3, Navy 2 — matches the vote

Plan 2: crack navy

Orange
Orange
Orange
Orange
Orange

Orange 5, Navy 0

Plan 3: pack orange

Orange
Orange
Navy
Navy
Navy

Navy 3, Orange 2 — with 40% of voters

The same 25 voters (15 orange, 10 navy) in five districts of five. Only the lines change.

> **Real-world examples to know**
>
> The Kurds (stateless nation) · Japan (nation-state) · the Berlin Conference (superimposed borders) · Chile, Indonesia, South Africa and Lesotho (shapes) · Bolivia (landlocked) · Scotland and Catalonia (devolution) · South Sudan · Brexit · the South China Sea (UNCLOS).

7 Unit 5: Agriculture and Rural Land Use

What people grow, where, and why — from the first farms about 10,000 years ago to today's global food system. Climate, distance to market, and technology explain most of the map.

Where farming began and how it changed CORE

Hearth	Early crops and animals	Hearth	Early crops and animals
Fertile Crescent (Southwest Asia)	Wheat, barley, lentils; sheep, goats, cattle	**Mesoamerica**	Maize (corn), beans, squash, chili peppers; turkeys
East Asia (Yellow and Yangtze Rivers)	Millet, rice, soybeans; pigs	**Andes (Peru, Bolivia)**	Potatoes, quinoa; llamas, alpacas
Southeast Asia	Taro, yams; chickens	**Sahel and West Africa**	Sorghum, pearl millet, yams, African rice

Revolution	When and where	What changed	Effects
First (Neolithic)	About 10,000–12,000 years ago	Plants and animals domesticated; farming replaces hunting and gathering	Villages, food surplus, population growth, the first cities
Second	1700s–1800s, Western Europe	Seed drill, crop rotation, enclosure; later tractors, railroads, refrigeration	Fewer farmers needed, so people moved to cities and fed the Industrial Revolution

Revolution	When and where	What changed	Effects
Third (Green Revolution)	1960s–1970s, Asia and Latin America	High-yield wheat and rice (Norman Borlaug; "miracle rice" IR8), fertilizer, pesticides, irrigation	Output soared (India became self-sufficient in grain), but water and chemical use rose, crop diversity fell, richer farmers gained most, and Africa gained less

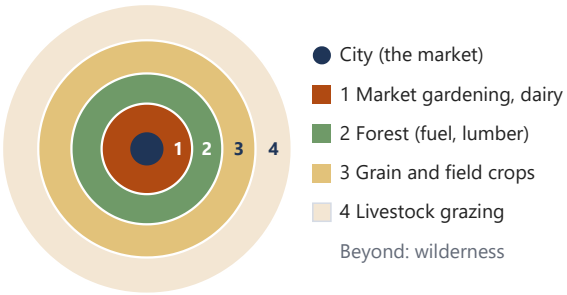
The **Columbian Exchange** (after 1492) moved crops, animals, diseases, and people between hemispheres. From the Americas: maize, potatoes, tomatoes, cacao. To the Americas: wheat, sugarcane, coffee, horses, cattle — and diseases such as smallpox, which killed huge numbers of Indigenous people.

Types of farming CORE

Intensive farming puts much labor or money on a small area for high output per acre; **extensive** farming spreads little labor or money over a large area. **Subsistence** farmers grow food mainly for their own families; **commercial** farmers grow it to sell for profit.

Type	Category	How it works	Where
Shifting cultivation (slash-and-burn)	Extensive subsistence	Cut and burn forest, farm until the soil wears out, then move on and let it recover	Rain forests: Amazon, Congo basin, Southeast Asia
Pastoral nomadism	Extensive subsistence	Herders move camels, goats, sheep, or cattle seasonally for grass and water	Dry lands: the Sahel, Central Asia, Mongolia
Intensive subsistence	Intensive subsistence	Dense populations farm small plots by hand; terraces; often two crops a year	Wet rice in East, South, and Southeast Asia
Plantation	Intensive commercial	Large tropical farms grow one cash crop for export, often foreign-owned — a legacy of colonialism	Bananas in Central America; palm oil in Indonesia; cacao in Côte d'Ivoire
Mixed crop and livestock	Intensive commercial	Crops such as corn are grown mostly to feed animals, which earn most of the money	The U.S. Corn Belt, much of Europe
Market gardening (truck farming)	Intensive commercial	Fruits, vegetables, and flowers grown for nearby city markets	Near large cities; California, the U.S. Southeast
Ranching	Extensive commercial	Cattle or sheep graze over very large areas	The American West, Argentina's Pampas, Australia

Von Thünen's model (1826) CORE



The idea: farmers choose what to grow by weighing land rent against the **cost of transport to market**. Perishable, heavy, or bulky goods go near the city; goods that keep, or animals that walk, go farther out.

Assumptions: one isolated city, a flat plain, the same soil and climate everywhere, no roads or rivers, and profit-seeking farmers.

Today: trucks, refrigeration, and air freight stretch the rings worldwide — fresh flowers fly from Kenya

to Europe — but dairy and vegetables still cluster near cities.

Rural land use and today's food system CORE

Survey method	How land is divided	Where
Metes and bounds	Irregular lots marked by natural features (trees, streams, rocks) and distances	The original 13 colonies
Township and range	A grid (Land Ordinance of 1785): 6 × 6-mile townships of 36 one-square-mile sections	Most of the U.S. west of the Appalachians
Long lot	Narrow strips running back from a river, so every farm touches the water	French areas: Québec's St. Lawrence valley, Louisiana

Rural settlements can be clustered (houses in a village, fields around it), dispersed (farmhouses spread out, as in the Midwest), or linear (along a road or river).

Term	Meaning · *example*	Term	Meaning · *example*
agribusiness	Large corporations control many steps: seeds, farming, processing, shipping, selling. One company owns the chickens, the feed, and the plant.	**commodity chain**	Every step a product takes from farm to consumer. Coffee: Ethiopian farm → exporter → roaster → café
GMOs	Crops whose DNA is changed to resist pests, weed killers, or drought. Higher yields vs. corporate control of seeds	**organic farming**	No synthetic pesticides, fertilizers, or GMOs. Higher prices; growing demand in rich countries
food desert	An area with little access to affordable, fresh, healthy food. Low-income areas far from a supermarket	**desertification**	Dry land turning desert-like from overgrazing, deforestation, and drought. The Sahel
other effects	Soil erosion, salt from irrigation, pesticide runoff, draining aquifers. The Ogallala Aquifer	**deforestation**	Clearing forest for farms and ranches. Amazon land cleared for cattle and soybeans

Women in agriculture

In developing countries women are on average about 43 percent of farm workers (UN Food and Agriculture Organization), yet they own far less land and get less credit and training. Closing that gap raises harvests and incomes.

Real-world examples to know

The Fertile Crescent · Borlaug and India's Green Revolution · the Columbian Exchange · the Corn Belt · palm oil in Indonesia · flowers from Kenya · long lots in Québec · the Sahel.

8 Unit 6: Cities and Urban Land Use

Why cities grow where they do, how cities rank against each other, and how land is used inside them. Expect at least one model diagram or city photo on the exam.

Cities and how they grow CORE

A city's **site** (fresh water, defensible hills, a harbor) explains where it began; its **situation** (trade routes, rivers, railroads) explains why it grew — Chicago became a rail hub linking the Great Lakes and the Mississippi River system.

Urbanization is the growth in the share of people living in cities. Since about 2007, more than half the world's people have lived in urban areas; the fastest growth today is in Africa and Asia.

Megacity: 10 million or more people — Tokyo, Delhi, Shanghai, Lagos, São Paulo. **World city**: a command center of the global economy — New York, London, Tokyo.

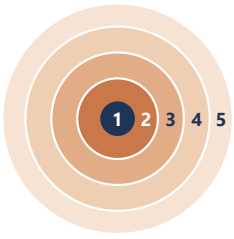
Urban hierarchy: settlements ranked by size and services, from hamlet to village, town, city, and metropolis. A **megalopolis** is a chain of metro areas that grew together — "BosWash," Boston to Washington, D.C.

How cities relate to each other CORE

Model	What it says	Example
Central place theory (Christaller)	Towns are market centers serving the area around them, drawn as hexagons. **Threshold** = the fewest customers needed to support a service. **Range** = the farthest people will travel for it.	Many small towns sell **low-order** goods (gas, groceries); a few big cities far apart sell **high-order** goods (specialist surgeons, pro sports).
Rank-size rule	The *n*th largest city is 1/*n* the size of the largest.	6 million → 3 million → 2 million. The U.S. roughly fits.
Primate city	The largest city is more than twice the size of the next and dominates the country.	Paris, Bangkok, London
Gravity model	Interaction = (population 1 × population 2) ÷ distance^2. Big cities close together interact most.	Predicts migration, trade, traffic, and store sites.

Models of the inside of cities CORE

Bid-rent theory: land costs most in the central business district (**CBD**), where access is best, and less with distance. Businesses outbid homes for central land, so downtowns grow tall.



Burgess concentric zone (1925)

1. CBD
2. Zone of transition: factories, poor housing, newest immigrants
3. Working-class homes
4. Middle-class homes
5. Commuter zone (suburbs)



Hoyt sector (1939)

1. CBD
2. Industry and wholesale, along a rail line or river
3. Low-income housing, beside the industry
4. Middle-income housing
5. High-income housing, along the best corridor

Model	Key idea
Multiple nuclei (Harris and Ullman, 1945)	A city has several centers — CBD, airport, university, industrial park, suburban business district — and like activities cluster. Fits car-based cities such as Los Angeles.
Galactic city / peripheral model (Harris)	A central city ringed by a beltway; suburbs and **edge cities** of offices and malls grow along it, and the CBD matters less — Atlanta, Houston.
Latin American city (Griffin and Ford, 1980)	CBD plus a **commercial spine** lined by an elite residential sector; housing quality falls with distance; squatter settlements on the edge; **disamenity zones** on unsafe land. The wealthy live near the center, the opposite of the U.S.
African city (de Blij)	Often three CBDs — colonial, traditional, and an open-air market zone — with ethnic neighborhoods, a mining or factory zone, and informal settlements on the edge.
Southeast Asian city (McGee, 1967)	Built around the old colonial **port zone**, not a CBD, with Western and Chinese commercial zones, a government zone, and market gardens at the edge — Jakarta, Bangkok.

Change inside cities CORE

Term	Meaning · *example*	Term	Meaning · *example*
suburbanization	People and businesses move to suburbs, helped by cars, highways, and home loans. U.S. after World War II	sprawl	Low-density, car-dependent growth spreading over farmland. Subdivisions and strip malls
edge city	A big node of offices and stores at a metro's edge, near highway interchanges. Tysons, Virginia	gentrification	Wealthier people renovate an older, poorer area; rents rise and longtime residents are pushed out. Harlem, New York
redlining	Refusing loans in certain, often Black or immigrant, neighborhoods marked red on 1930s maps. Banned by the Fair Housing Act (1968)	informal settlements	Housing without legal ownership or services, often on the edge or unsafe land. Favelas in Rio; Dharavi in Mumbai
smart growth	Limits sprawl: mixed-use zoning, density, transit, greenbelts. Portland, Oregon's urban growth boundary	new urbanism	Walkable neighborhoods with homes, shops, and parks close together. Seaside, Florida

Go deeper: blockbusting and sustainability

Blockbusting: agents scared white owners into selling cheaply by claiming Black families were moving in, then resold at higher prices — pair it with redlining to explain segregation. **Sustainable cities** fight sprawl, traffic, and heat islands with transit (Curitiba's bus rapid transit), brownfield cleanup, and green roofs.

Real-world examples to know

Chicago (situation, Burgess) · Paris and Bangkok (primate cities) · BosWash (megalopolis) · Los Angeles (multiple nuclei) · Tysons (edge city) · Harlem (gentrification) · Rio's favelas · Portland (smart growth) · Curitiba (transit).

9 Unit 7: Industry and Development

Why some places are rich and others poor, how we measure the difference, and how factories, jobs, and money move around the world.

Economic sectors and the Industrial Revolution CORE

Sector	What workers do	Example (follow the chocolate)
Primary	Take resources from the earth: farming, fishing, mining, forestry	A cacao farmer in Côte d'Ivoire
Secondary	Manufacture and process raw materials into products	A chocolate factory
Tertiary	Provide services: retail, transport, health care, tourism	The store that sells the bar
Quaternary	Handle information and knowledge: research, finance, IT	A researcher studying chocolate sales
Quinary	Make top-level decisions: executives, senior officials	The company's CEO

As a country develops, most workers shift from the primary sector to the secondary and then the tertiary. The **Industrial Revolution** began in **Great Britain in the late 1700s** (textiles, steam engines, coal, and iron), helped by coal and iron ore, trade wealth, colonies, and workers freed by the Second Agricultural Revolution. It spread to Western Europe and the U.S. in the 1800s and then worldwide, driving urbanization, colonialism, and pollution.

Measuring development CORE

GDP	Value of all goods and services produced **inside** a country in a year	**GNI per capita**	Gross national income (GDP plus income earned abroad) ÷ population. The World Bank sorts countries into income groups by it.
PPP	Purchasing power parity adjusts for the cost of living: a dollar buys more in India than in Switzerland.	**HDI**	The UN's Human Development Index: **health** (life expectancy), **education** (years of schooling), and **income** (GNI per capita, PPP), scored 0 to 1
Gender Inequality Index (GII)	The UN's measure of gaps in reproductive health, empowerment (seats in parliament, education), and jobs. Higher = more inequality.	**Other signs**	Literacy, IMR, life expectancy, energy use per person, share of workers in farming

The **formal economy** is taxed, regulated, and counted in GDP. The **informal economy** — street vendors, day laborers, unregistered taxis — is not, and it employs more than half of the world's workers.

Theories of development CORE

Rostow's stages of growth (1960)

1. **Traditional society** — subsistence farming
2. **Preconditions for takeoff** — roads, schools, technology
3. **Takeoff** — a few industries grow fast

Wallerstein's world-systems theory (1974)

The world is **one connected capitalist economy**: the **core** is wealthy and high-tech (U.S., Germany, Japan); the **semi-periphery** is industrializing, exploited by the core and exploiting the periphery (China, Brazil, India, Mexico); the **periphery** is

4. **Drive to maturity** — industry diversifies; skills spread
5. **High mass consumption** — services and consumer goods dominate

poorer, low-wage, and exports raw materials (Chad, Niger, Haiti). Countries can move: South Korea rose to the core.

Dependency theory: former colonies stay poor because they export cheap raw materials and import expensive manufactured goods.

Where factories locate: Weber's least-cost theory (1909) CORE

- A factory locates where **total costs are lowest**: mostly transport, plus labor and agglomeration.
- **Weight-losing (bulk-reducing)** industries locate near raw materials — copper smelters, lumber mills.
- **Weight-gaining (bulk-gaining)** industries locate near the market — soft-drink bottlers add water.
- **Cheap labor** can outweigh higher transport costs.
- **Agglomeration**: firms cluster to share workers, suppliers, and ideas — Silicon Valley.
- A **break-of-bulk point** is where goods switch transport modes (ship to train or truck), such as Rotterdam — a cheap place to process goods.

Globalization and development today CORE

Term	Meaning · *example*	Term	Meaning · *example*
outsourcing	Hiring another company, often abroad, for part of the work. Call centers in India and the Philippines	**deindustrialization**	Factory jobs decline as plants close or move. The U.S. Rust Belt — Detroit, Pittsburgh — after the 1970s
export processing zone (EPZ)	Low tariffs and few rules for assembling imported parts for export. Maquiladoras in northern Mexico	**special economic zone (SEZ)**	Business-friendly laws to attract foreign investment. Shenzhen, China (1980): a small town grown into a megacity
newly industrialized country (NIC)	A country that industrialized rapidly. The "Asian Tigers": South Korea, Taiwan, Hong Kong, Singapore	**microloans**	Small loans, often to women, to start a business. Grameen Bank, Bangladesh (Muhammad Yunus, Nobel Peace Prize 2006)
sustainable development	Growth that meets today's needs without harming future generations. The UN's 17 Sustainable Development Goals (2015)	**ecotourism**	Nature tourism that protects the environment and helps local people. Costa Rica's rain forests

Go deeper: comparative advantage

A country gains by specializing in what it produces at a lower opportunity cost and trading for the rest. It explains trade agreements and global supply chains — and why some workers lose when jobs move.

Real-world examples to know

Britain (Industrial Revolution) · the Rust Belt · maquiladoras · Shenzhen · the Asian Tigers · Grameen Bank · Costa Rica · Silicon Valley · Rotterdam (break-of-bulk).

10 Models and Theories Cheat Sheet

Every model on one page. Know what it says, draw it if it has a picture, and have one strength or criticism ready — FRQs love "explain a limitation."

Model	Unit	What it says	Strength or criticism
Demographic Transition	2	Birth and death rates fall in stages	Based on Europe; ignores migration
Epidemiologic Transition	2	Causes of death shift as a country grows	Matches the DTM's death rates
Malthus (1798)	2	Population outgrows food and resources	Missed new farm technology
Boserup (1965)	2, 5	Population growth drives farm innovation	Counterargument to Malthus
Ravenstein's laws (1885)	2	Most moves are short and economic	Written for 1800s Britain
Zelinsky's transition	2	Migration changes with DTM stage	Links migration to development
Gravity model	2, 6	Interaction = pop × pop ÷ distance^2	Ignores borders and culture
Indo-European hearths	3	Anatolian (farming) vs. Kurgan (conquest)	Two kinds of diffusion
Von Thünen (1826)	5	Farm rings set by transport cost	Assumes a flat, roadless plain
Bid-rent theory	5, 6	Land costs most at the center	Explains tall downtowns
Christaller (1933)	6	Central places with hexagon market areas	Assumes flat land, even population
Rank-size rule	6	The *n*th city is 1/*n* of the largest	Fails where a primate city rules
Primate city	6	Top city is over twice the next	Common in former colonies
Burgess (1925)	6	Concentric rings around the CBD	One city (Chicago), before cars
Hoyt (1939)	6	Sectors along transport routes	Still has only one center
Harris–Ullman (1945)	6	Multiple nuclei, each with its own role	Fits car-based cities
Galactic city	6	Edge cities along a beltway	Fits modern U.S. metros
Griffin–Ford (1980)	6	Latin American city: spine and squatters	Generalizes many different cities
De Blij	6	African city with three CBDs	Shows the colonial layer
McGee (1967)	6	Southeast Asian city around a port	Fits port cities best
Rostow (1960)	7	Five stages to mass consumption	Western bias; ignores colonialism
Wallerstein (1974)	7	Core, semi-periphery, and periphery	Categories can seem fixed
Dependency theory	7	Colonial trade keeps poor countries poor	Explains lasting gaps
Weber (1909)	7	Factories minimize transport costs	Transport matters less today

Units 1, 3, and 4 rely on concepts more than models: projections, regions, diffusion types, boundaries, and state shapes.

11 Skills for the Exam

Knowing the content is half the job. The other half is answering exactly what each question asks, in the time you have.

FRQ task verbs CORE

Every FRQ part starts with a task verb. All the examples below are about rural-to-urban migration in China.

Verb	What it requires	A one-point answer
Identify	Name or point to something. No explanation needed.	"One push factor is low farm wages in rural China."
Define	Give the meaning of a term.	"Rural-to-urban migration is the movement of people from the countryside to cities, usually within one country."
Describe	Give the relevant characteristics — the what, where, or how.	"Most migrants move from interior provinces to coastal cities such as Shenzhen and Shanghai."
Explain	Show **how or why** it happens, with reasoning or evidence: cause → effect.	"Coastal special economic zones like Shenzhen drew foreign factories, which created jobs paying more than farming, so young rural workers moved there."
Compare	Give similarities and/or differences — talk about **both** things.	"Like the Great Migration in the U.S., China's migration moved rural workers to factory cities; unlike it, China's was limited by the hukou registration system."

Go deeper: "explain the degree to which" and "explain a limitation"

For **degree**, take a position (to a large / limited degree) and back it with evidence — it is not a yes or no. For a **limitation**, say what the model or data cannot show and why: "National data hide differences between regions."

How to write an APHG FRQ CORE

- **Answer parts A–G in order, and label each one** so the reader finds it fast.
- **No thesis, no introduction.** Start answering in the first sentence.
- **Write complete sentences.** A list or outline alone is not enough.
- **Give a specific, real example** — a named country, city, or policy.
- **Connect to the stimulus**: "The map shows…," "According to the table…"
- **Use course vocabulary** — "physiological density," not "crowded farms."
- **Give one clear answer.** Listing several guesses rarely helps.
- **Pace yourself**: about 25 minutes per FRQ. Skip a stuck part and come back.

Worked mini-example. Prompt: *Explain one challenge a country faces when its total fertility rate is far below replacement level.*

Describes — 0 points

"Japan has a very low TFR of about 1.2, and it has a lot of old people."

True, but it only states facts. It never says *why* this is a challenge.

Explains — 1 point

"Japan's TFR of about 1.2 means fewer young people enter the workforce each year while the share over 65 grows. With fewer workers paying taxes for each retiree, the government struggles to pay for pensions and health care."

Multiple-choice strategies CORE

- **Read the question first**, then the stimulus, so you know what to look for.
- **Predict the answer** before you read the choices.
- **Eliminate** choices that are wrong, off-scale, or true but irrelevant. Watch for EXCEPT and NOT.
- **Pace:** 60 questions in 60 minutes — about one a minute.
- **Answer every question.** There is no penalty for guessing.
- Use Bluebook's tools to **mark questions for review** and cross out choices.

Reading a stimulus and using scale CORE

Stimulus	Check first	Then ask
Map	Title, legend, scale, date, map type	Where are the clusters and outliers? Why there?
Graph or table	Units (per 1,000? percent?), years, extremes	What is the trend? What can it **not** show?
Photo or landscape	Buildings, signs, religious sites, land use	Which process made it: diffusion, gentrification?
Text	Author, date, and purpose	Which course concept does it describe?

Scale words: **local** = a neighborhood or city (zoning, gentrification) · **regional** = part of a country or a world region (the Midwest, Southeast Asia) · **national** = one country (laws, census data) · **global** = the whole world (trade, climate change). Answer at the scale the question names.

12 Mistakes to Avoid

APHG students lose points on the same few mix-ups every year. Fix these now and they will never cost you.

Not this	This	Why
~~The Kurds are a state.~~	**The Kurds are a stateless nation.**	Nation = a people; state = a sovereign country.
~~"Many people move to cities." (for an Explain prompt)~~	**People move to cities because factory jobs pay more than farming, so…**	Explain needs a how or a why.
~~Push factors include war and poverty.~~	**War pushed millions of Syrians to flee to Türkiye after 2011.**	A specific, real example earns the point.
~~Immigrants opening restaurants is expansion diffusion.~~	**It is relocation diffusion.**	Relocation = the people move and carry the trait.
~~Singapore's site on a major shipping route…~~	**Singapore's situation on the Strait of Malacca…**	Site = the place itself; situation = its connections.
~~The density is clustered along the coast.~~	**The distribution is clustered along the coast.**	Density is a number per area; distribution is the arrangement.
~~The average income is high, so everyone there is wealthy.~~	**The average is high, but income may be very unequal.**	An average does not describe each person (the ecological fallacy).

Not this	This	Why
~~The Mercator map is the most accurate.~~	**The Mercator keeps shape but enlarges areas near the poles.**	Every projection distorts something.
~~Many nurses immigrate from the Philippines.~~	**Many nurses emigrate from the Philippines.**	Emigrate = exit; immigrate = come in.
~~Egypt's arithmetic density shows pressure on farmland.~~	**Egypt's physiological density shows pressure on farmland.**	Physiological = people per unit of arable land.
~~In Stage 2 the birth rate falls.~~	**In Stage 2 the death rate falls; the birth rate stays high.**	Birth rates fall in Stage 3.
~~The Green Revolution was eco-friendly farming.~~	**It spread high-yield seeds, fertilizer, pesticides, and irrigation.**	"Green" means crops, not environmentalism.

13 Study Plan and Resources

Twenty minutes a day beats a weekend cram. Here is one way to spread the year so May feels like review, not panic.

Months	Units	Make sure you can…
Aug–Sep	Unit 1, start Unit 2	Name map types and projections; calculate the three densities
Oct–Nov	Units 2 and 3	Draw the DTM; classify diffusion; know the religion hearths
Dec–Jan	Units 4 and 5	Classify boundaries and shapes; draw von Thünen's rings
Feb–Mar	Units 6 and 7	Draw all the city models; compare Rostow and Wallerstein
Apr–May	Review and practice exams	Finish a full timed exam; fix your weakest unit

Schools pace the course differently. Match the rows to your teacher's calendar.

When	What to do	Time
Every day	Flashcards with a real example for each term · sketch one model · ask "why there?" about one news story	15–20 min
Every week	One timed FRQ (25 min), scored part by part · 15 multiple-choice questions · one map quiz	About 1 hr
Every unit	Redraw the unit's models · write a one-page summary · take the AP Classroom progress check	1–2 hr
Spring review	A full timed practice exam · two FRQs a week · review every missed question	More each week

Free and widely used resources

- **AP Central** (apcentral.collegeboard.org) — the exam description, past FRQs, and scoring guidelines.
- **AP Classroom** — AP Daily videos and progress checks your teacher assigns.
- **PRB World Population Data Sheet** (prb.org) — CBR, CDR, TFR, and IMR for every country, updated yearly.
- **Our World in Data** (ourworldindata.org) — charts on population, food, energy, and

- **Seterra** — free online map quizzes for countries, capitals, and regions.
- **National Geographic Education** — maps, articles, and lessons on every unit.

development.

- **Gapminder** (gapminder.org) — animated charts and Dollar Street photos of family life at different incomes.
- **World Bank Open Data** (data.worldbank.org) — GNI per capita and other development numbers.

14 End-of-Year Self-Check

Check off each statement when it is true for you. Anything unchecked in April is what to review before the exam.

Unit 1 · Thinking geographically

- [ ] I can say what Mercator and Peters distort.
- [ ] I can tell site from situation.
- [ ] I can name three kinds of regions.

Unit 2 · Population

- [ ] I can calculate density, RNI, and doubling time.
- [ ] I can draw the DTM with real examples.
- [ ] I can read and explain a population pyramid.
- [ ] I can define refugee, asylum seeker, and IDP.

Unit 3 · Culture

- [ ] I can give an example of each type of diffusion.
- [ ] I can name the hearth of five major religions.
- [ ] I can explain assimilation and syncretism.

Unit 4 · Political

- [ ] I can define state, nation, and nation-state.
- [ ] I can classify boundary types and state shapes.
- [ ] I can explain devolution and gerrymandering.

Unit 5 · Agriculture

- [ ] I can explain all three agricultural revolutions.
- [ ] I can draw and explain von Thünen's rings.
- [ ] I can match each farming type to a climate.

Unit 6 · Cities

- [ ] I can draw the Burgess and Hoyt models.
- [ ] I can describe the three regional city models.
- [ ] I can explain central place theory.

Unit 7 · Development

- [ ] I can give an example of each economic sector.
- [ ] I can explain HDI, GNI per capita, and the GII.
- [ ] I can compare Rostow and Wallerstein.

Skills

- [ ] I know what each FRQ task verb requires.
- [ ] I can finish a 7-part FRQ in 25 minutes.
- [ ] I have a real example for every key term.

15 Practice

Answers and model responses are in section 16. Try everything first without looking.

A. Vocabulary matching

1. _____ situation
2. _____ stimulus diffusion
3. _____ physiological density
4. _____ sequent occupance
5. _____ devolution
6. _____ agribusiness
7. _____ gentrification
8. _____ remittances
9. _____ lingua franca
10. _____ break-of-bulk point

A. Money migrants send home
B. Where goods switch transport modes
C. Power moves from the center to regions
D. Location relative to other places
E. People per unit of arable land
F. Cultures leaving layers on one landscape
G. A common language between different groups
H. An idea spreads but changes to fit local culture
I. Wealthier people renovate a poorer area
J. Corporations control food from seed to shelf

B. Which DTM stage?

Write the stage (1–5) for each country, then calculate its rate of natural increase as a percent.

Country	CBR	CDR	TFR	Stage	RNI (%)
P	44	18	6.1		
Q	11	10	1.7		
R (estimates for the 1700s)	38	36	6.5		
S	7	12	1.2		
T	22	7	2.6		

C. Calculations

Country X has 50,000,000 people, 400,000 km² of land, 40,000 km² of arable land, and 10,000,000 farmers.

1. Densities (per km²) — arithmetic: _____ physiological: _____ agricultural: _____
2. What does the gap between the arithmetic and physiological densities tell you about Country X?

   _____

3. Country Y: CBR 31, CDR 9. RNI = _____ %; doubling time ≈ _____ years.
4. A country growing at 0.5% a year will double in about _____ years.
5. The largest city has 9,000,000 people. Rank-size rule: 3rd-largest ≈ _____ ; 5th-largest ≈ _____
6. Gravity model: City A (4 million) is 200 km from City B (1 million) and 100 km from City C (2 million). Which pair should interact more, and by how many times? _____

D. Name the type boundary, state shape, diffusion type, or dispute

1. _____ Border along a line of latitude
2. _____ Old wall kept as a memorial
3. _____ Border imposed by colonial powers
4. _____ Border drawn before settlement
5. _____ Country of thousands of islands
6. _____ Compact state with a long strip
7. _____ Country that surrounds another
8. _____ Menu adapted to local religion
9. _____ Slang spreads student to student
10. _____ Trend spreads down from big cities
11. _____ Refugees bring food to a new land
12. _____ Fight over oil under a border

E. Stimulus-style multiple choice

1. A country's population pyramid has a narrow base, its widest bars at ages 45–59, and large bars above age 65. Which challenge is this country most likely to face?

   A. Too few schools for many children
   B. A shrinking workforce and rising pension costs
   C. High infant mortality from poor sanitation
   D. A population doubling in about 25 years

2. A map of the United States shows where people call a sweet carbonated drink "soda," "pop," or "coke." The lines that separate these regions are best described as

   A. isoglosses
   B. antecedent boundaries
   C. isolines of elevation
   D. lines of latitude

3. Use the table. Which conclusion is best supported by the data?

Share of people living in urban areas	1980	2020
Country A	22%	55%
Country B	74%	82%
Country C	15%	21%

   A. Country B urbanized faster than Country A.
   B. Country C is now mostly urban.
   C. Country A had rapid rural-to-urban migration.
   D. All three countries are in Stage 5 of the DTM.

4. A photo shows a busy shopping street with a global fast-food chain, an international coffee chain, and a clothing chain store. It could be in almost any large city in the world. Which concept does it best show?

   A. Sequent occupance
   B. Folk culture
   C. Environmental determinism
   D. Placelessness

5. A dot map shows hundreds of factories just south of the U.S.–Mexico border, in cities such as Tijuana and Ciudad Juárez. Which best explains this pattern?

   A. It was a Mesoamerican farming hearth.
   B. Von Thünen puts factories in the outer ring.
   C. Cheap labor plus low-tariff access to the U.S.
   D. Devolution gave border states trade powers.

F. Full FRQ (one stimulus) — 25 minutes

Country	Total fertility rate	Population under age 15	Population age 65 and older
Japan	1.2	11%	29%
United States	1.6	18%	18%
Nigeria	about 5	43%	3%

Rounded estimates, mid-2020s. Answer in complete sentences; use the back of the page if you need room.

A. Identify the country in the table whose population pyramid would have the widest base.

B. Describe the age structure of Japan shown in the table.

C. Explain one economic challenge Japan faces because of its age structure.

D. Describe one pronatalist policy a country like Japan could adopt.

E. Explain one reason a pronatalist policy may have only limited success.

F. Explain one reason Nigeria's total fertility rate is higher than that of the United States.

G. Explain the degree to which immigration could reduce the challenges of an aging population in a country like Japan.

16 Answer Key

For the open-ended questions there are many correct answers; the models show one strong way to earn each point.

A. Vocabulary matching

1	**D**
2	**H**
3	**E**
4	**F**
5	**C**
6	**J**
7	**I**
8	**A**
9	**G**
10	**B**

B. DTM stage · RNI

P	**Stage 2 · 2.6%** (high births, falling deaths)
Q	**Stage 4 · 0.1%** (both low)
R	**Stage 1 · 0.2%** (both high)
S	**Stage 5 · −0.5%** (deaths exceed births)
T	**Stage 3 · 1.5%** (births falling, deaths low)

D. Name the type

1	**geometric**
2	**relic**
3	**superimposed**
4	**antecedent**
5	**fragmented**
6	**prorupted**
7	**perforated**
8	**stimulus**
9	**contagious**
10	**hierarchical**
11	**relocation**
12	**allocational**

C. Calculations

1	**Arithmetic 125 people per km²** (50,000,000 ÷ 400,000) · **physiological 1,250 people per km²** (50,000,000 ÷ 40,000) · **agricultural 250 farmers per km²** (10,000,000 ÷ 40,000)
2	**Only 10% of the land is arable, so the pressure on farmland is ten times what the arithmetic density suggests.** (Like Egypt)
3	**2.2%; about 32 years** ((31 − 9) ÷ 10 = 2.2; 70 ÷ 2.2 = 31.8)
4	**140 years** (70 ÷ 0.5)
5	**3,000,000 and 1,800,000** (9,000,000 ÷ 3 and ÷ 5)
6	**A and C, 8 times as much** (A–B: 4 × 1 ÷ 200^2; A–C: 4 × 2 ÷ 100^2 — twice the population product and one-quarter the distance squared, so 2 × 4 = 8)

E. Stimulus-style multiple choice

1	**B** A top-heavy pyramid means an aging population: fewer workers, more retirees.
2	**A** An isogloss marks the boundary of a word or pronunciation.
3	**C** A rose 33 points; B only 8. C is still 79% rural, so B is wrong too.
4	**D** Global chains make places look alike: placelessness from popular culture.
5	**C** Maquiladoras: cheap labor plus access to the U.S. market (NAFTA, now USMCA).

F. Model FRQ answer

A. Nigeria.

B. Japan's population is old: only 11% of people are under 15, while 29% are 65 or older, so its pyramid is narrow at the base and wide at the top.

C. Because so few young people are entering the workforce, Japan has fewer workers paying taxes for each retiree. This makes it hard for the government to pay for pensions and health care for its growing elderly population.

D. Japan could pay families a monthly allowance for each child and provide free or low-cost childcare, so that having children costs parents less.

E. A pronatalist policy may have limited success because the cost of housing and raising children in large cities stays high, and many women do not want to give up careers. A small payment does not change those bigger reasons, so couples still choose to have few children.

F. Nigeria's TFR is higher because many families still farm, and on farms children help with work and support parents in old age. In the U.S., most people live in cities where children are expensive and women have more education and careers, so families choose to have fewer children.

G. Immigration could reduce the challenges only to a limited degree. Immigrants are mostly working-age, so they could fill labor shortages and pay taxes that support retirees. However, Japan has long had strict immigration policies and public resistance to large-scale immigration, and it would need very large numbers of immigrants every year to balance its aging — and immigrants grow old too. So immigration can help, but it cannot solve the problem alone.

Why it works: every part is labeled and starts answering in the first sentence · B and C use the numbers from the table · every "explain" has a because and a so (cause → effect) · E and G name real limits · G takes a clear position on degree ("limited") and supports both sides · course vocabulary throughout: TFR, pronatalist, aging population.

You are ready for this

AP Human Geography trains you to look at any place on Earth and ask why it is there and how it connects to everywhere else. Keep collecting real examples, keep drawing the models, and keep asking "why there?" Mark Twain was right: seeing the world clearly is **fatal to narrow-mindedness** — and that is exactly what this course, and this exam, reward.