

Demand Under Pressure

Trace how growth and production can strain land, water, food, and ecosystems.

10.9c "Population pressures, industrialization, and urbanization have increased demands for limited natural resources and food resources, often straining the environment."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline causes of resource demand. Circle resources under pressure, then mark two environmental effects with E.

Growing Needs, Limited Resources

- ① Population growth and urbanization change demand for resources. Expanding cities need housing, roads, electricity, water, and food. Construction may replace forests or wetlands, while factories consume water and energy. Growth can improve jobs and services but also strain land and water supplies. Population and resource use are unevenly distributed: consumption per person, technology, and wealth matter as well as population size. Moving into a city changes where demand occurs; it does not by itself increase the world's population.
- ② Farmers can raise harvests through irrigation, improved crop varieties, fertilizers, pesticides, and machinery. Producing more on existing farmland can help supply cities without clearing additional land. Yet intensive methods can cause harm when poorly managed. Excessive irrigation can deplete rivers and groundwater. Fertilizer runoff supplies nutrients that trigger algal growth; as dead algae decompose, microbes consume oxygen needed by fish. Overgrazing, erosion, and poorly managed irrigation can degrade soil. In drylands, land degradation is called desertification; it does not simply mean sand dunes spreading.
- ③ Population alone does not determine environmental damage. Planning, industrial practices, farming, and consumption shape outcomes. Deforestation removes habitat and can increase erosion. Vehicles, industry, and farms can pollute air and water. Responses include protecting forests, conserving water, improving public transport, and reducing waste. Farmers can protect soil and use nutrients more efficiently. These measures involve costs but can reduce pressure while meeting human needs.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How does urbanization increase demand for natural resources, according to the first paragraph?

2 Identify one way intensive food production can increase food supplies and one way it can strain the environment.

3 Explain the chain of effects from fertilizer runoff to fish harm.

4 Why does the passage say that environmental strain is not caused by population alone?

3 YOUR TURN _____ Your own words

Invent a rapidly growing city beside a farming region. In exactly three sentences, explain one population, industrialization, or urbanization pressure; connect it to one limited resource and one environmental effect; then propose one specific action that could reduce the strain.

PART 1 • READ AND MARK

Underline causes of resource demand. Circle resources under pressure, then mark two environmental effects with E. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How does urbanization increase demand for natural resources, according to the first paragraph?	Expanding cities need housing, roads, electricity, clean water, and food. Building and supplying these needs uses land, water, and energy.
2	Identify one way intensive food production can increase food supplies and one way it can strain the environment.	Methods such as irrigation, improved crop varieties, fertilizers, pesticides, and machinery can raise harvests. Heavy irrigation can reduce water supplies, fertilizer runoff can harm waterways, and poor practices can damage soil.
3	Explain the chain of effects from fertilizer runoff to fish harm.	Runoff adds nutrients, causing algal growth. When algae die, microbial decomposition consumes dissolved oxygen, leaving less for fish.
4	Why does the passage say that environmental strain is not caused by population alone?	Population growth raises demand, but decisions about city expansion, factory operations, and farming methods determine how much environmental damage results.

PART 3 • YOUR TURN (SAMPLE ANSWER)

As Lakeview grows, new apartment buildings and a nearby food-processing plant demand more water from the same river used by farms. During dry months, lower river levels leave less water for irrigation and can damage fish habitat. The city could repair leaking pipes and require the plant to reuse water, reducing the amount taken from the river.

Accept equivalent cause-and-effect explanations that accurately connect growth or production to pressure on a limited resource and an environmental result. For Part 3, accept varied realistic actions if the response has exactly three sentences and includes all required connections.