3 Human populations – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	**Write it 3 times** (English)
age-structure diagram	
total fertility rate	

Recall

The human population has grown very fast, but not evenly everywhere:

- Some countries have many young people; others have an ageing population.
- Birth rates are higher in some countries than others.

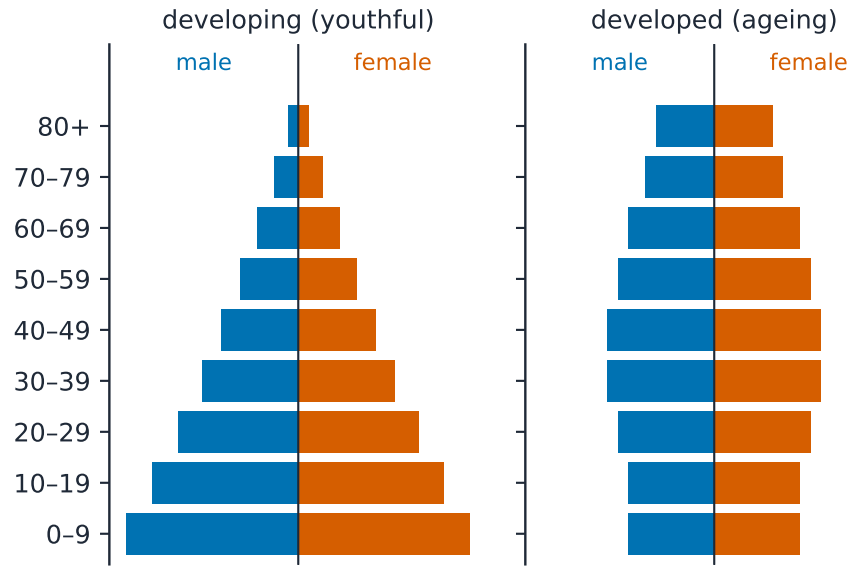
Each idea has a short worked example before the Practice.

New ideas

■ 1 Age-structure diagrams

An **age-structure diagram** shows how many people are in each age group. A **wide base** (many children) predicts rapid growth; even bars predict a stable population.

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2 Total fertility rate

The **total fertility rate** (TFR) is the average number of children per woman. A **replacement level** of about 2.1 keeps a population steady; above it grows, below it shrinks.

3 Doubling time (rule of 70)

A population's doubling time is found from the **rule of 70**: divide 70 by the growth rate (as a percent).

Worked example. A country grows at 2.0% per year, so it doubles in about $\dfrac{70}{2.0} = 35$ years. At 3.5% it would double in only 20 years.

4 The demographic transition

As a country develops, its growth changes in stages: (1) high birth and death rates, (2) death rate falls (fast growth), (3) birth rate falls (slowing), (4) both low (stable).

Watch out: a falling **growth rate** does not mean the population is shrinking – it is still growing, just more slowly. The population only shrinks when births fall below deaths.

Practice

Try these in order. The methods are all above.

2.1 State what a wide-based age-structure diagram tells you about a population. [1]

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2.2 State the replacement-level total fertility rate and what it means. [2]

2.3 A population grows at 1.4% per year. Use the rule of 70 to find its doubling time. [2]

2.4 A population grows at 5.0% per year. Find its doubling time. [2]

2.5 Name two factors that tend to lower a country's birth rate as it develops. [2]

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