Population Pyramids Worksheet

Grade 9 – 10 geography · population

Name: Date: Score: / 26

Reading a shape

A **population pyramid** shows how a population is divided by age and sex. Each bar is an age group, usually in five-year bands, with the youngest at the bottom. Males are shown on the left and females on the right.

The shape is a summary of a country's recent history and a forecast of its near future at the same time. A very wide base means a high **birth rate** and a young population, and it means growth will continue for decades even if birth rates fall tomorrow, because those children have not yet had children of their own.

A narrow base with heavy upper bands means the opposite: an **ageing population**, with fewer working-age people supporting more retired ones. Neither shape is good or bad on its own, but each creates a different set of problems — schools and jobs at one end, pensions and health care at the other.

Part A — Vocabulary match each term to its meaning (8 marks)

1. Population pyramid	_____	A. A graph showing the age and sex structure of a population
2. Birth rate	_____	B. A population where the share of older people is rising
3. Death rate	_____	C. Live births per 1,000 people per year
4. Natural increase	_____	D. Deaths per 1,000 people per year
5. Life expectancy	_____	E. People not of working age compared with those who are
6. Dependency ratio	_____	F. The average number of years a person is expected to live
7. Ageing population	_____	G. The shift from high birth and death rates to low ones
8. Demographic transition	_____	H. Birth rate minus death rate

Part B — Fill in the blanks (6 marks)

1. On a population pyramid the youngest age group is at the _____.

2. A pyramid with a very wide base shows a high _____ rate.

3. Natural increase is the birth rate minus the _____ rate.

4. A pyramid that is narrow at the base and wide at the top shows an _____ population.

5. The ratio of non-working to working age people is the _____ ratio.

6. The shift from high birth and death rates to low ones is the demographic _____.

Part C — What the shape tells you (4 marks)

Shape of the pyramid	What it tells you
Very wide base, narrowing sharply with age	
Wide base, straighter sides, more people surviving to old age	
Roughly even bars until the oldest groups	
Narrow base, widest in the middle and upper bands	

Part D — Calculate show your working (4 marks)

1. A country has a birth rate of 28 and a death rate of 9 per 1,000. Calculate its natural increase per 1,000 people.

2. In a population of 60 million, 18 million are under 15 and 9 million are over 64. Calculate the dependency ratio as a percentage of the working-age population.

Part E — Think it through (4 marks)

1. A country’s birth rate falls sharply this year. Explain why its population will probably keep growing for decades anyway.

2. Name one policy a government with an ageing population might consider, and one drawback of it.

Population Pyramids Worksheet — Answer Key

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Part A — Vocabulary

1. **Population pyramid** → A
2. **Birth rate** → C
3. **Death rate** → D
4. **Natural increase** → H
5. **Life expectancy** → F
6. **Dependency ratio** → E
7. **Ageing population** → B
8. **Demographic transition** → G

Part B — Fill in the blanks

1. **bottom**
2. **birth**
3. **death**
4. **ageing**
5. **dependency**
6. **transition**

Part C — What the shape tells you

1. Very wide base, narrowing sharply with age → **High birth rate, high death rate, young population, rapid growth**
2. Wide base, straighter sides, more people surviving to old age → **Birth rate still high, death rate falling, rapid growth**
3. Roughly even bars until the oldest groups → **Low birth and death rates, slow or stable growth**
4. Narrow base, widest in the middle and upper bands → **Low birth rate, long life expectancy, ageing and possibly shrinking**

Part D — Calculations

1. **19 per 1,000**
   28 − 9 = 19. That is 1.9% a year from natural increase alone, before any migration.
2. **about 82%**
   Working age = 60 − 18 − 9 = 33 million. Dependants = 18 + 9 = 27 million. 27 ÷ 33 = 0.818, so roughly 82 dependants for every 100 people of working age.

Part E — Think it through

1. **Because the large young generation has not had its children yet — population momentum.**
   Even at a lower rate per woman, far more women are reaching childbearing age than are dying, so total births stay high for decades.
2. **Any sensible policy with a real drawback.**
   Raise the retirement age: unpopular, and hard on people in physical work. Encourage immigration: politically contested and needs housing and services. Encourage higher birth rates: slow, expensive and historically not very effective. Mark the pairing, not the choice.