

3.7 Total Fertility Rate

Name: _____ Class: _____ Date: _____

Total: 9 marks

Objective

Build the skills to answer exam questions on **total fertility rate (TFR)**.

You must be able to:

- define **total fertility rate** 总和生育率
- compare TFR to **replacement level** 更替水平 (~2.1)
- link TFR to population growth or decline

1 Worked examples

Study these first. Each one shows the method for a question type used later —follow the steps and you can do the Practice and Exam-style questions yourself.

■ Total fertility rate

TFR is the average number of children a woman is expected to have in her lifetime.

■ Replacement level

Replacement-level fertility is about **2.1** (two to replace the parents, plus a bit for child mortality). At replacement, the population is roughly **stable** long-term.

■ TFR and growth

- **TFR** > 2.1 → population grows.
- **TFR** = 2.1 → roughly stable.
- **TFR** < 2.1 → population eventually declines.

■ Factors that lower TFR

TFR falls with **education of women, access to family planning**, urbanization, and higher child survival. Developed countries tend to have lower TFRs.

2 Practice

Now apply the methods above.

2.1 Define total fertility rate.

[1]

2.2 What is the approximate replacement-level TFR? [1]

2.3 A country has a TFR of 1.5. Will its population grow or decline (long-term)? [1]

3 Exam-style questions

3.1 A TFR above 2.1 leads to a population that [1]

- **A** grows
 - **B** stays exactly constant
 - **C** declines
 - **D** disappears
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3.2 Country X has a TFR of 4.5; country Y has a TFR of 1.8.

(a) State which population is growing and which is declining. [2]

(b) State one factor that lowers TFR. [1]

3.3 Explain why the replacement-level TFR is slightly above 2, not exactly 2. [2]

4 Go further

You are now ready for the real exam questions on this subtopic:

- work through the **3.7 Total Fertility Rate** lesson on the **Learn** page;
- read the **Total Fertility Rate** section of the AP Environmental Science handout on the **Know** page.

Solutions

2.1 The average number of children a woman is expected to have in her lifetime.

2.2 About 2.1.

2.3 Decline.

3.1 A —grows.

3.2 (a) Country X (TFR 4.5) is growing; country Y (TFR 1.8) is declining. (b) Any one: education of women, family planning access, urbanization.

3.3 Two children replace the two parents, but some children die before reproducing, so a little above 2 is needed to keep the population stable.