

Section 13.1: Human Population: Past and Present

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1. A population can increase despite a decrease in growth rate. The population growth rate is a measure of change in a fixed time period. The actual population numbers can increase even if its rate of growth decreases. The amount of increase in a population decreases as the rate decreases but the actual population continues to increase.

3. When determining the rate of natural population growth, increasing birth rates show an increase in the rate of population growth, and increasing death rates show a decrease in the rate of population growth. If birth rates exceed death rates, then the population will increase. If the death rates exceed birth rates, the population will decrease. If both rates are equal, there will be ZPG (zero population growth).

5. Answers may vary. Sample answer: In order to model population growth in this family, the mathematical models must identify their assumptions and limitations. In both models portrayed on the graph below, it is assumed that each female has one child, the model is for five generations, no female dies, and all children are female.

