

A.P.E.S. ~ AGE PYRAMID (POPULATION PROFILE) MINI-LAB

WHAT TO TURN IN: Graph Questions #1-4
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Background information

Population growth is affected by *age structure*— the number of individuals in different age groups—as well as by the numbers of births and deaths. Age structure is usually illustrated by an *age pyramid*, a graph in which horizontal bars represent the percentage of the population in each age group. Males are shown on the left and females on the right. The ages (or in some cases, the years of birth) for each bar are listed along the vertical axis of the graph, usually in five-year intervals. Each age group is called a cohort. The longer a bar is, the greater the proportion of individuals in that age group. Age pyramids are useful for tracing the history of a population and for projecting future population trends. An age pyramid with more long bars for the younger age groups would indicate a growing population; when these large numbers of young begin to reproduce, they will add even more offspring to the population than did the older age groups. For great population pyramids you should visit www.census.gov, and navigate to the international section, where you can get population pyramids for many different countries, with data from 1995, and projections to 2050.

Objectives

- To collect data on individual families and pool the data to produce an age pyramid diagram
- To interpret age pyramids
- To understand the relationship between age structure and population growth

Procedure

- 1) Fill in the birth years to correspond to the age ranges in the data table.
- 2) Collect information to complete the "Family Population Form." Find out the birth date and sex of each member of your family, beginning with your grandparents. Include all of the brothers and sisters of your parents and all of the people in your generation, i.e., your brothers and sisters and cousins. If you are not aware of your family background, feel free to construct one or to use that of a friend outside of the class.
- 3) Pool your data with that of your classmates. Construct an age pyramid diagram for the class data using graph paper with five squares to the inch. You will need to decide how many people are to be represented by one square. Use the examples in your text to guide you, with pink for females and blue for males.

Questions

- 1) What is the percentage of people under 20? Over 60? Is the population a young, growing one; an older, declining one; or a stable one?
- 2) Is there evidence in the diagram of the baby boom that followed World War II (1946-1964)? Is so, is there evidence of the effect of this baby boom in more recent years?
- 3) Describe any changes that have occurred in family size over the generations.
- 4) How does the pyramid for the class compare to that for the United States? If the United States is now at, or slightly below, the replacement level, why is the population of the country still growing?

TABLE 1 — FAMILY DATA

Individual Family Data			Pooled Class Data		
Age Range	Males	Females	Age Range	Males	Females
<1			<1		
1-5			1-5		
6-10			6-10		
11-15			11-15		
16-20			16-20		
21-25			21-25		
26-30			26-30		
31-35			31-35		
36-40			36-40		
41-45			41-45		
46-50			46-50		
51-55			51-55		
56-60			56-60		
61-65			61-65		
66-70			66-70		
71-75			71-75		
76-80			76-80		
81-85			81-85		
86-90			86-90		
91-95			91-95		
96-100			96-100		