

# LESSON FOUR: POPULATION CHANGE BY AGE AND SEX

## FOCUS:

If students can visualize the changes in our population, and predictions about those changes, they will better understand how our society will continue to assess and meet the needs of the increasing aging population.

### ***PRE-ACTIVITY: INTRODUCING PYRAMID GRAPHS***

Teacher may wish to discuss different types of graphs with the students, including pyramid graphs, before beginning the following activities. Students may experience difficulty in understanding the horizontal axis of a pyramid graph.

### **ACTIVITY 4: POPULATION PYRAMID ANALYSIS**

Ask students to look at the population pyramid, “Population, by Age and Sex: 1950, 1990, and 2025,” discuss the pyramid with them briefly, then ask them to answer the questions on the WORKSHEET — POPULATION PYRAMID ANALYSIS.

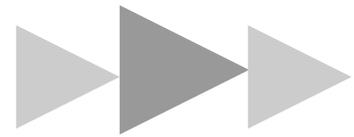
### ***\*\*ACTIVITY 4 EXTENSION: SUPPORTING TWO DEPENDENCY GROUPS***

As a possible extension activity, teachers may wish to include an economics unit and address the ramifications of the middle age group supporting the “dependency” groups of those younger than 15 and older than 65 years old.

#### Materials:

Population Pyramids — “Population by Age and Sex: 1950, 1990, 2025  
Worksheet — Population Pyramid Analysis  
Background Information For Teachers — Population

NAME \_\_\_\_\_



## WORKSHEET

### POPULATION PYRAMID ANALYSIS

Look at the population pyramids, "Population, by Age and Sex: 1950, 1990, 2025," to answer the following questions.

#### ***PART I. INTERPRETING GRAPHS: circle the letter which corresponds with the correct answer.***

- In 1950, in developed countries, which age category had the greatest number of females?
  - 35–39
  - 50–54
  - 0–4
  - 15–19
- In 1950, in developing countries, how many males were in the 10–14 age category?
  - less than 50 million
  - about 75 million
  - more than 100 million
  - about 125 million
- In 1990, in developed countries, which age category had the greatest number of males?
  - 40–44
  - 35–39
  - 30–34
  - 25–29
- In 1990, in developed countries, what was the total number of males and females, age 10–14?
  - about 80 million
  - about 40 million
  - about 180 million
  - about 140 million
- In 1990, in developing countries, which age category had the least number of females?
  - 0–4
  - 20–24
  - 75–79
  - 80+
- In 2025, in developing countries, how many males will be 50–54?
  - about 300 million
  - about 200 million
  - about 100 million
  - about 50 million
- In 2025, in developed countries, how many females are between 0 and 14 years old?
  - more than 250 million
  - about 120 million
  - less than 80 million
  - about 40 million
- In 2025, in developed countries, which age group will have the greatest number of females?
  - 60–64
  - 70–74
  - 75–79
  - 80+

# WORKSHEET — POPULATION PYRAMID ANALYSIS, *PART II. Making Generalizations*

For this section, students should focus only on developed countries.  
All answers should be comprehensive and in complete sentences.

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Use the following definitions of population groups to analyze your graphs:

65–80+..... “older”  
15–64..... “middle”  
0–14..... “younger”

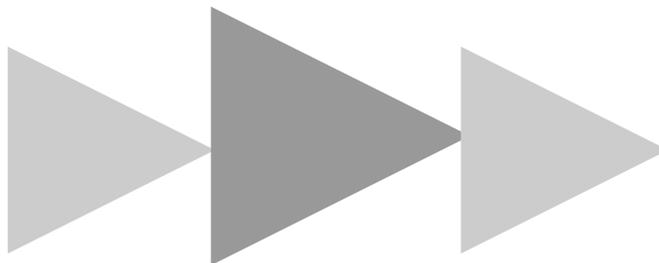
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1. Look at the “younger” population. What changes do you see from 1950 to 1990 to 2025?
2. Look at the “middle” population. What changes do you see from 1950 to 1990? — from 1990 to 2025?
3. Look at the “older” population. What changes do you see from 1950 to 1990 to 2025?
4. Which population group had the greatest increase from 1950 to 2025?

## **\*\*CHALLENGE:**

***What impact will this tremendous growth have on our society?***



## BACKGROUND INFORMATION FOR TEACHERS

### POPULATION

“[The population pyramids] illustrate the historical and projected transition in population age structure in developed and developing countries. At one time, most if not all countries had a youthful age structure similar to that of developing countries as a whole in 1950, with a large percentage of the entire population under the age of 15. Given the relatively high rates of fertility that prevailed in most developing countries from 1950 through the early 1970s, the overall pyramid shape had changed very little by 1990. However, the effects of fertility and mortality decline can be seen in the projected pyramid for 2025, which loses its strictly triangular shape as the elderly portion of the total population increases.”

“The picture in developed countries has been quite different. We expect it will continue to be different. In 1950, there was relatively little variation in the size of 5-year groups between the ages of 5 and 24. The beginnings of the post-World War II Baby Boom can be seen in the 0- to 4-year age group. By 1990, The baby Boom cohorts were 25 to 44 years old, and the cohorts under age 25 were becoming successively smaller. If fertility rates continue as projected through 2025, the aggregate pyramid will start to invert, with more weight on the top than on the bottom. The size of the oldest old (especially women) population will increase, and persons aged 80 and over will outnumber any younger 5-year age group.”  
U.S. Bureau of the Census, International Population Reports, P25, 92-3, *An Aging World II*. U.S. Government Printing Office, Washington D.C., 1992, p. 15.

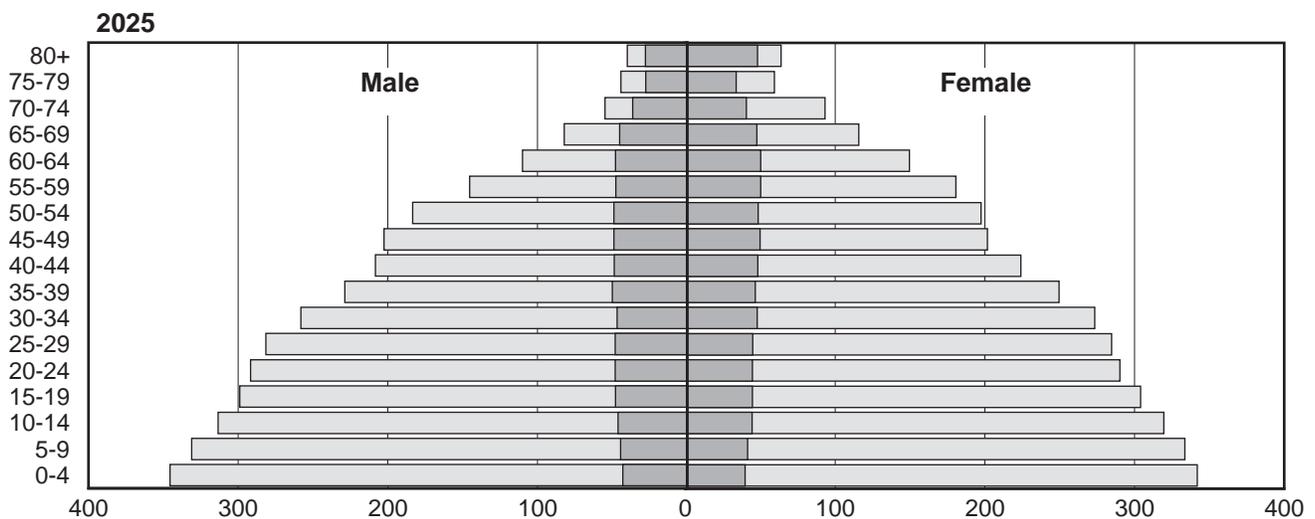
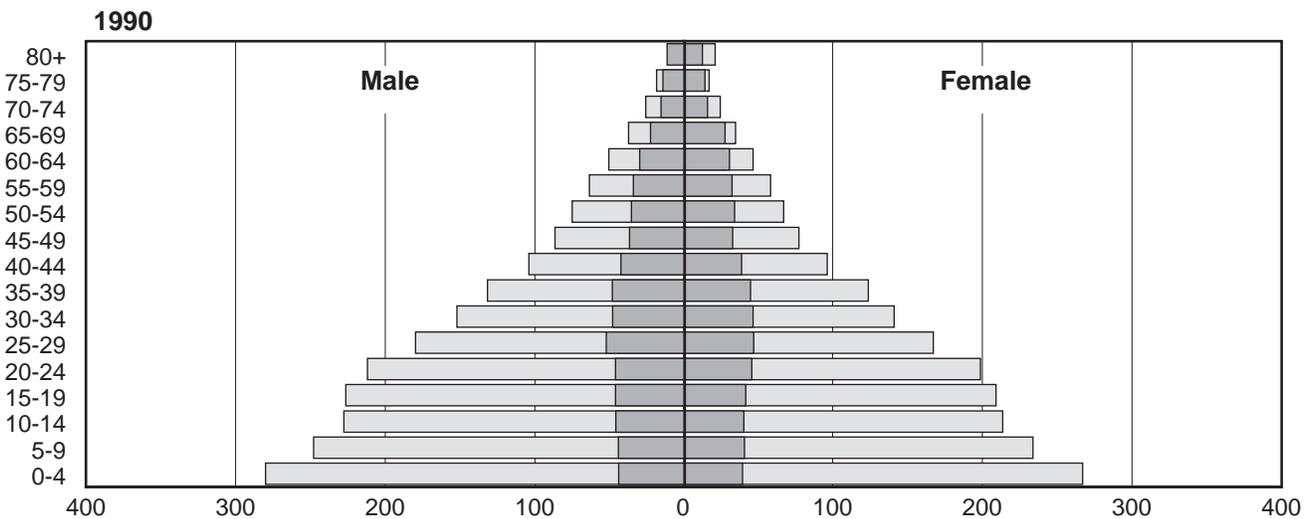
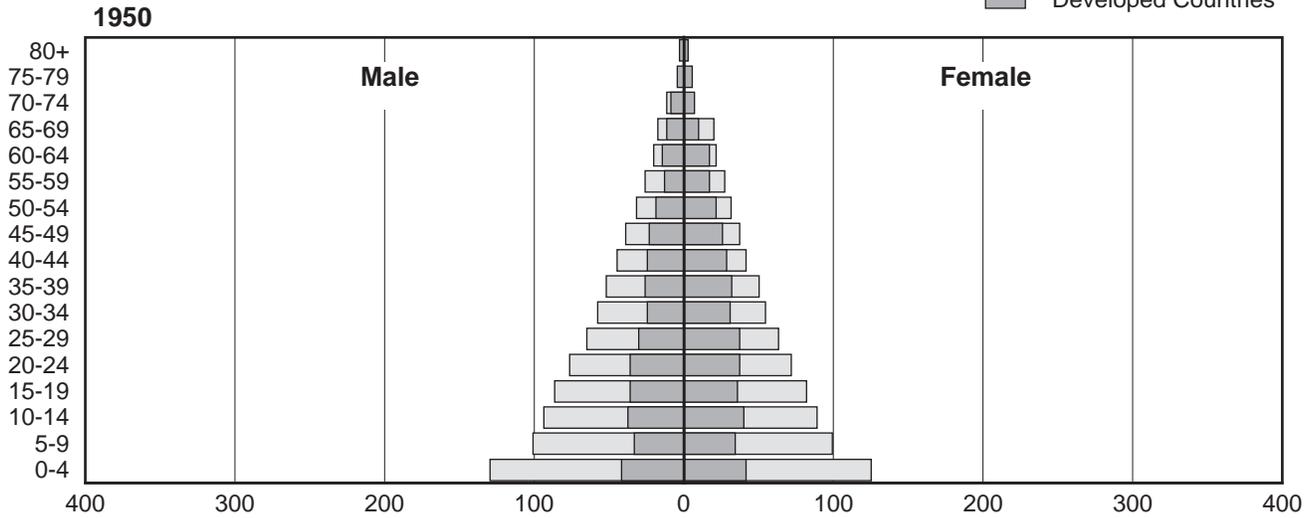
“Most people associate growth of the elderly population with developed countries only. Developed nations, in fact, may well have more grandparents than children before the middle of the next century. In the early 1990s, developed nations as a whole had about as many children under 15 years of age as persons over age 55 (approximately 22 percent of the total population in each category). The developing world, by contrast, has a high proportion of children (35 percent of all persons are under age 15) and a relatively low proportion of older persons (10 percent aged 55 and over). What is less appreciated, however, is that the absolute numbers of elderly in developing nations are large and increasing. More than half (55 percent, 176 million) of the world’s elderly (aged 65 and over) lived in developing nations in 1990. By 2025, this proportion is projected to increase to 68 percent (277 million).”

# Population, by Age and Sex: 1950, 1990, and 2025

(In millions)

Developing Countries

Developed Countries



Source: U.S. Bureau of the Census Center for International Research and UNDIESA, 1991d.