



# Population Density in Japan:

Life in a  
Crowded  
Country

Turn to Page 136 in your spiral.

Title it and

## Population Density in Japan

copy down these vocabulary terms.

**arable land** land suitable for growing crops

**arithmetic population density** the population of a country divided by its total land area

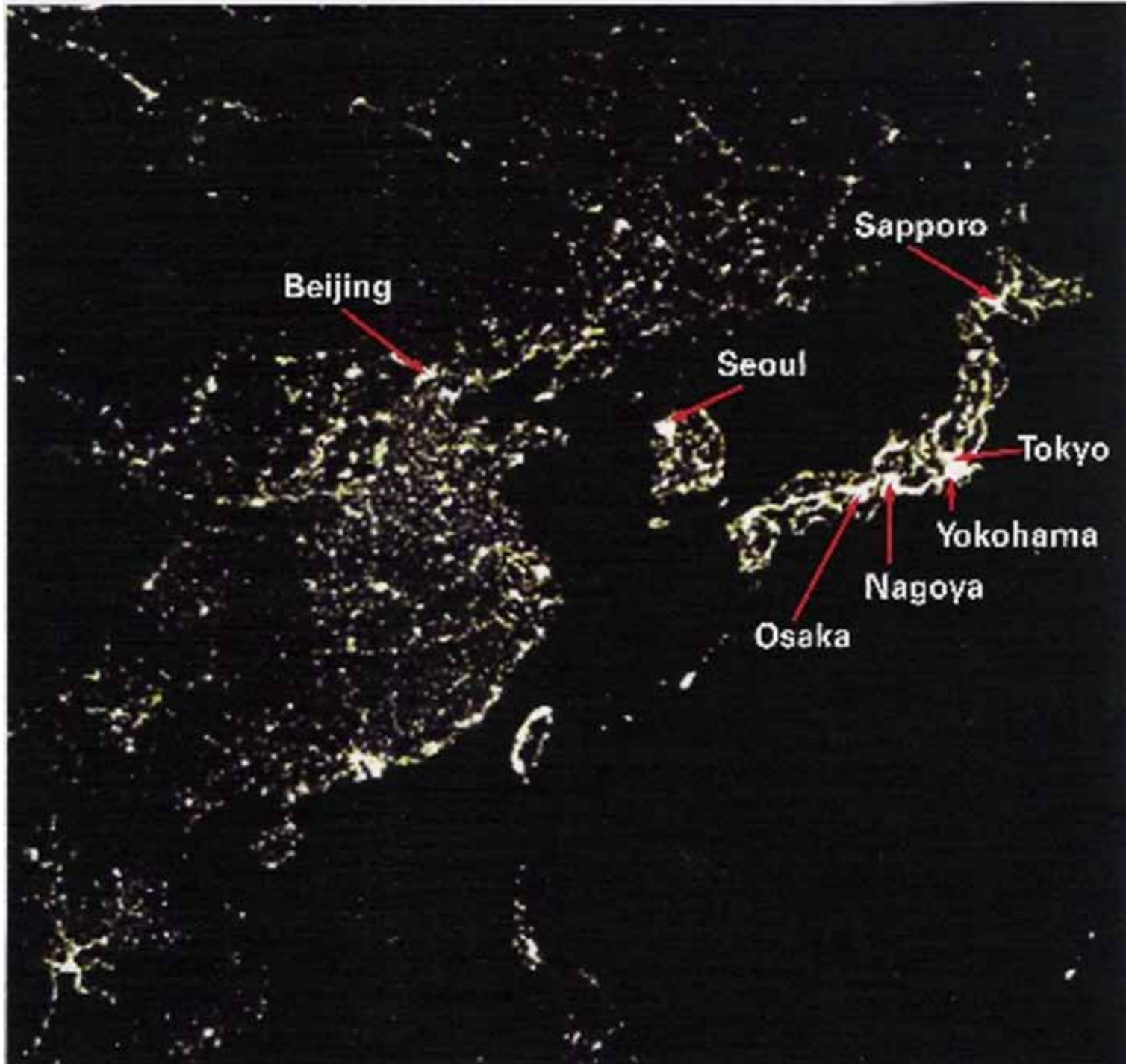
**physiologic population density** the population of a country divided by its arable land area

**population distribution** where people live in a country, whether crowded together in cities or spread out across the countryside

# Physical Features of Japan







Beijing

Sapporo

Seoul

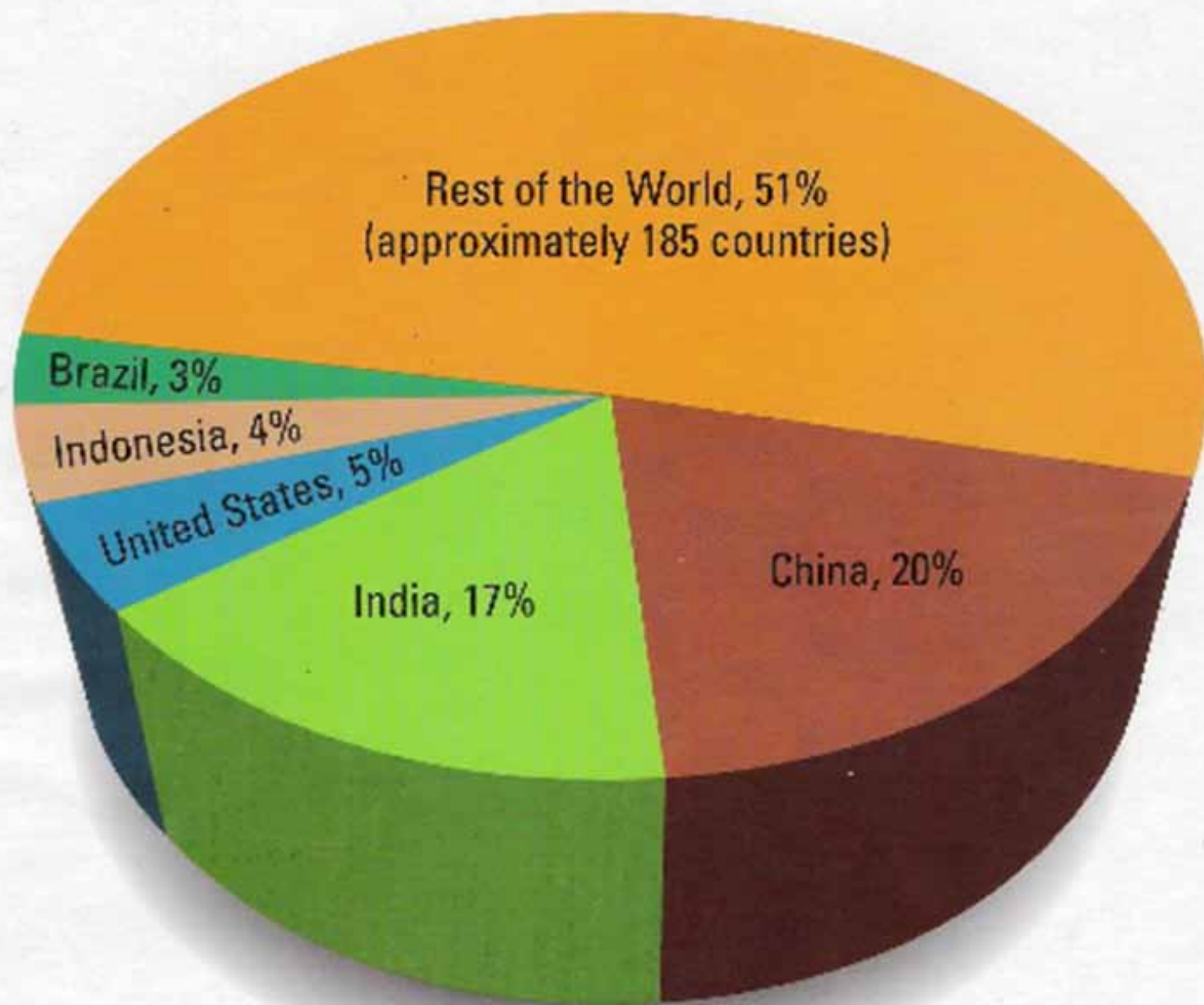
Tokyo

Yokohama

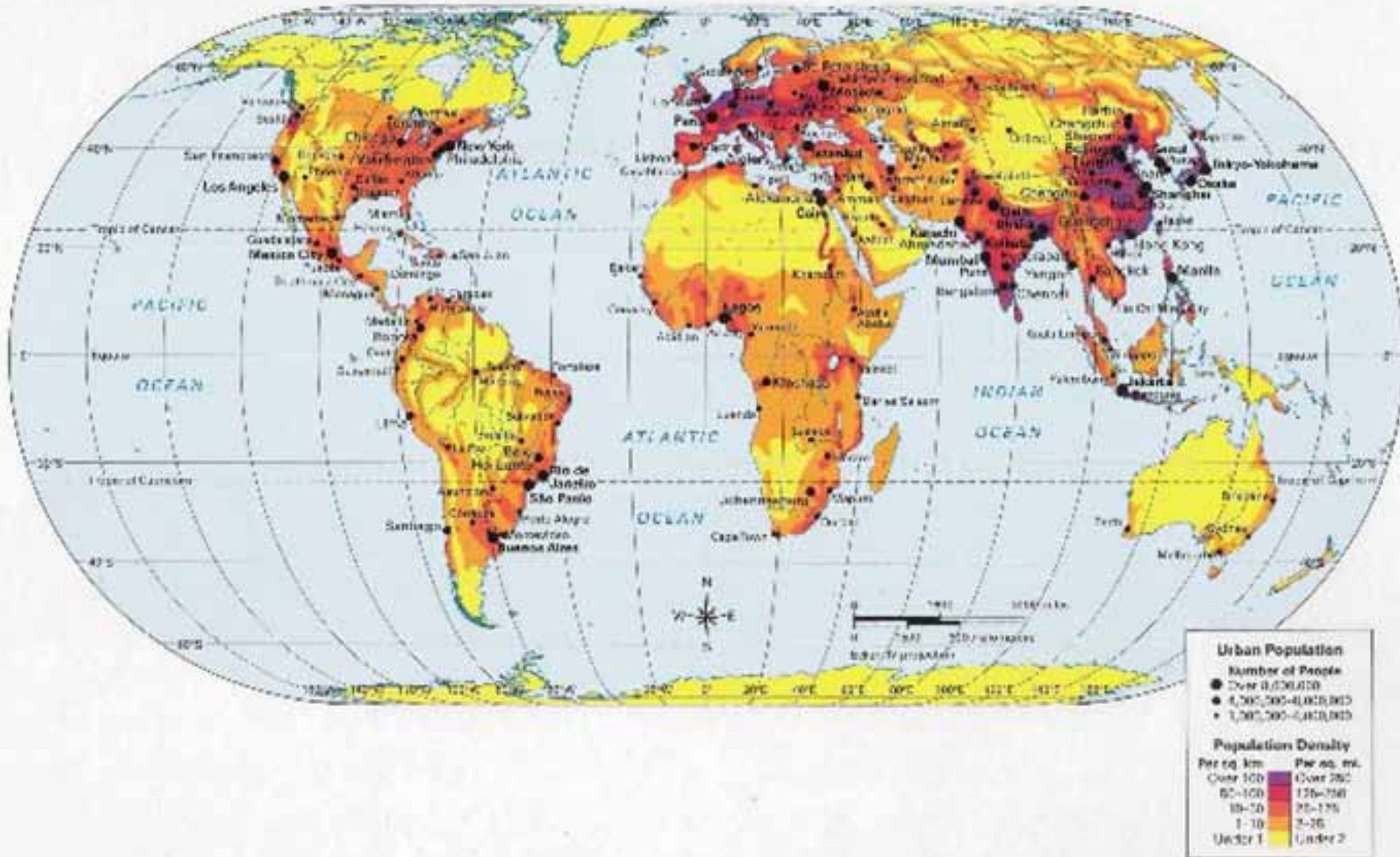
Nagoya

Osaka

## World Population, 2005

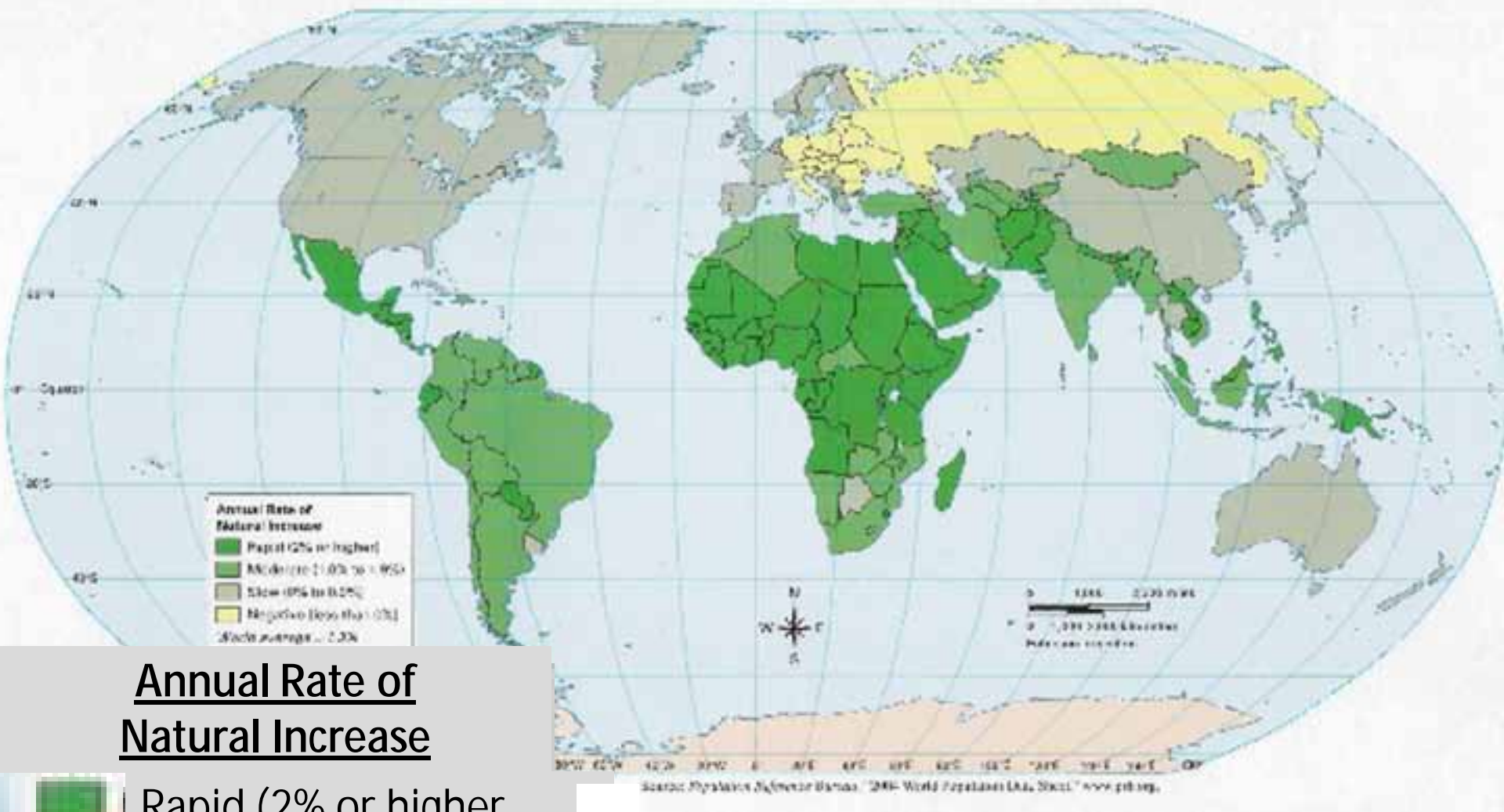


# Population Density Around the World









# Rate of Natural Increase Around the World, 2004



## Annual Rate of Natural Increase

-  Rapid (2% or higher)
  -  Moderate (1% - 1.9%)
  -  Slow (0% - .9%)
  -  Negative (less than 0%)
- World Average = 1.3%

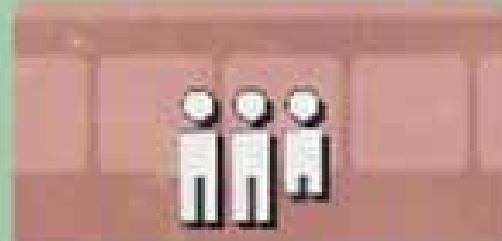
## 31.3 How Population Density Affects Transportation

What happens when millions of people, living together in a densely populated **megalopolis**, all head out for work at about the same time in the morning? It takes most of them a very long time to get there! The average **commute time** in Tokyo is an hour and a half each day. This adds up to a whopping 400 hours or more a year, which is enough time to watch 160 movies or take 40 flights from Tokyo to San Francisco.

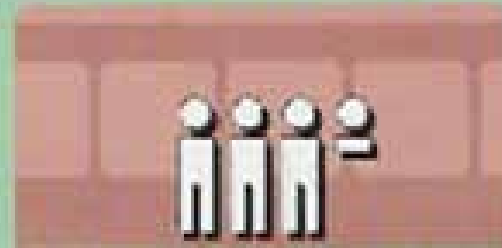


## Rush-Hour Subway Ridership in Five Countries

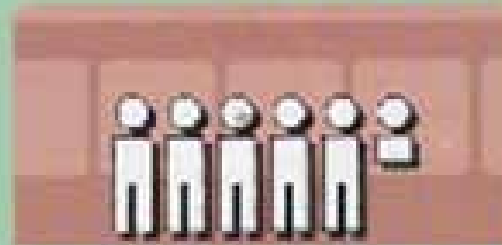
Hamburg, Germany  
2.8 passengers per square meter



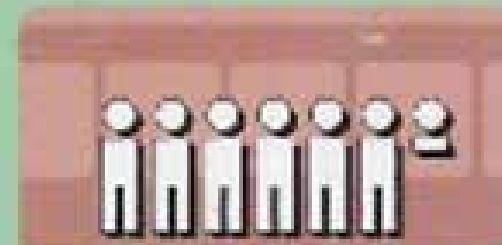
New York, United States  
3.4 passengers per square meter



London, England  
5.5 passengers per square meter

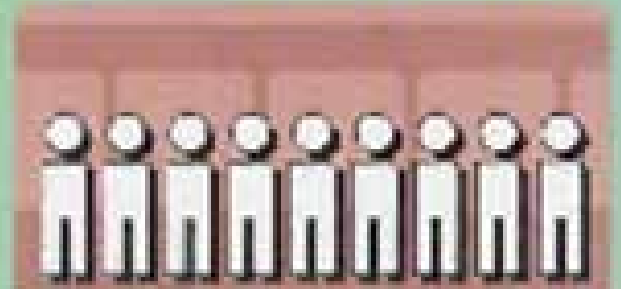


Paris, France  
6.4 passengers per square meter



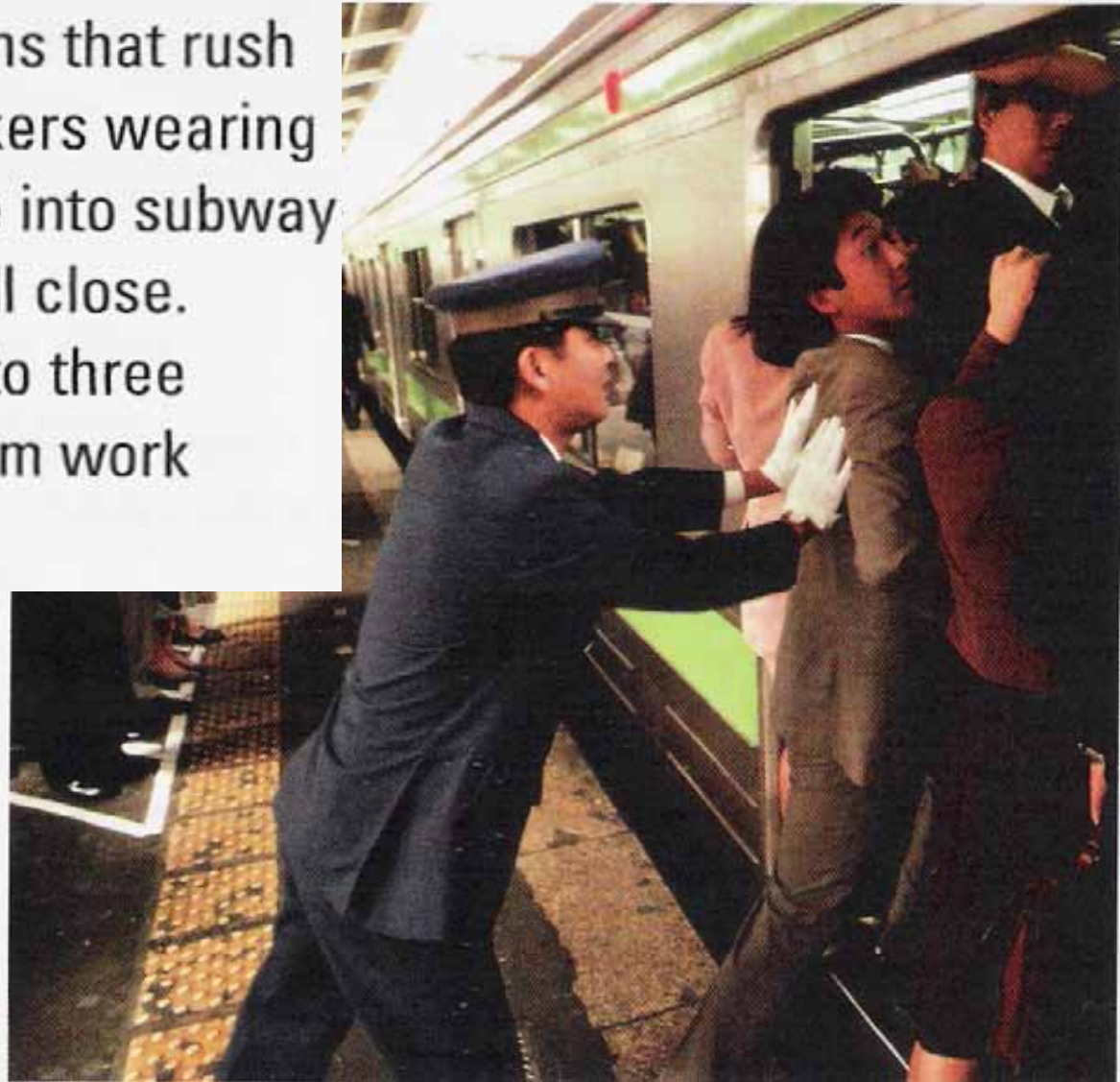
Tokyo, Japan

9.0 passengers per square meter



## Subway Pusher in Tokyo

Tokyo's high density means that rush hours are crowded. Workers wearing white gloves push people into subway cars so that the doors will close. Some people spend two to three hours traveling to and from work each day.



**Public Transportation** The Japanese have adapted to busy rush hours by creating an extensive and efficient **public transit system**. Underground subways whisk commuters from one part of a city to another, while passenger trains rush travelers from town to town. Japanese subways and trains run often and are almost always on time—to the minute. You can set your watch by them.

Rush hour in a Tokyo subway station is an amazing sight. Mobs of commuters bound for work mix with large groups of uniformed students heading for school. White-gloved subway workers called *pushers* stand on subway platforms waiting for the trains to roll in. Their job is to shove as many passengers as possible into the cars before the doors close.

The Japanese have developed some of the fastest passenger trains in the world. Bullet trains—so named for their shape and speed—called Shinkansen travel between many cities. The Shinkansen race across the Japanese countryside at speeds of up to 180 miles per hour. That's more than three times as fast as cars, which travel about 60 miles per hour on highways in those rare moments when there is no traffic congestion.



# Show Japan Bullet Train Video Clip!

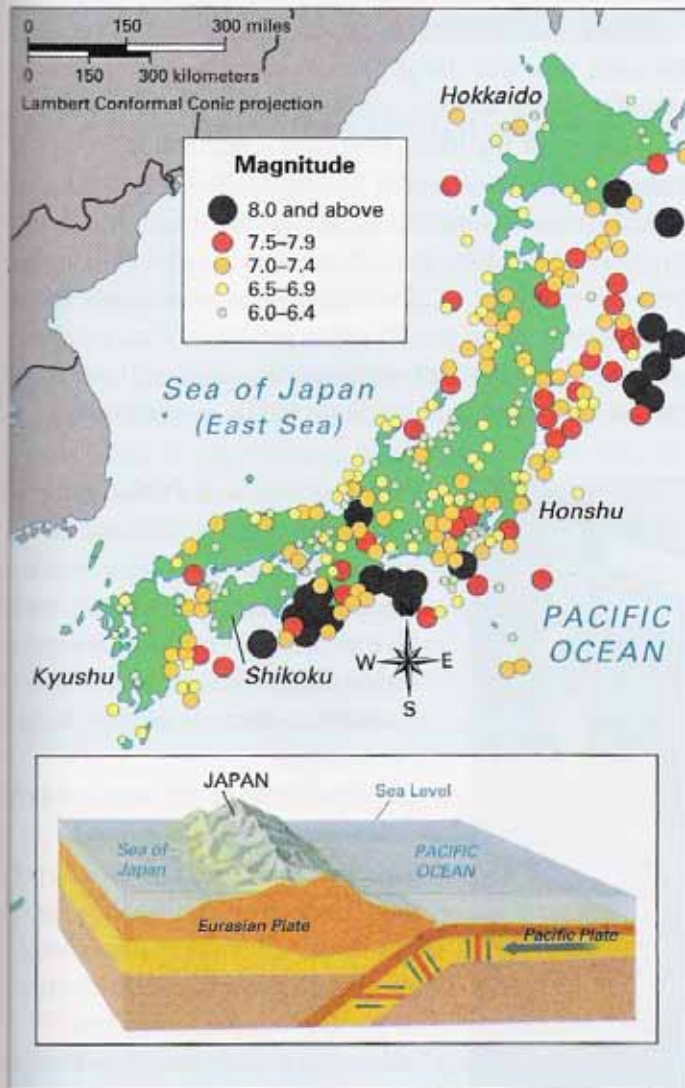


With parking space so limited, Tokyo has pioneered the use of high-rise parking lots that look something like giant shoe cabinets. These garages use computer-controlled elevators to stack cars on top of one another in narrow parking slots.

[https://www.youtube.com/watch?v=OEMGtH8cFdQ&safety\\_mode=true&persist\\_safety\\_mode=1&safety\\_mode=active](https://www.youtube.com/watch?v=OEMGtH8cFdQ&safety_mode=true&persist_safety_mode=1&safety_mode=active)



## Earthquakes in Japan



### When Two Plates Collide

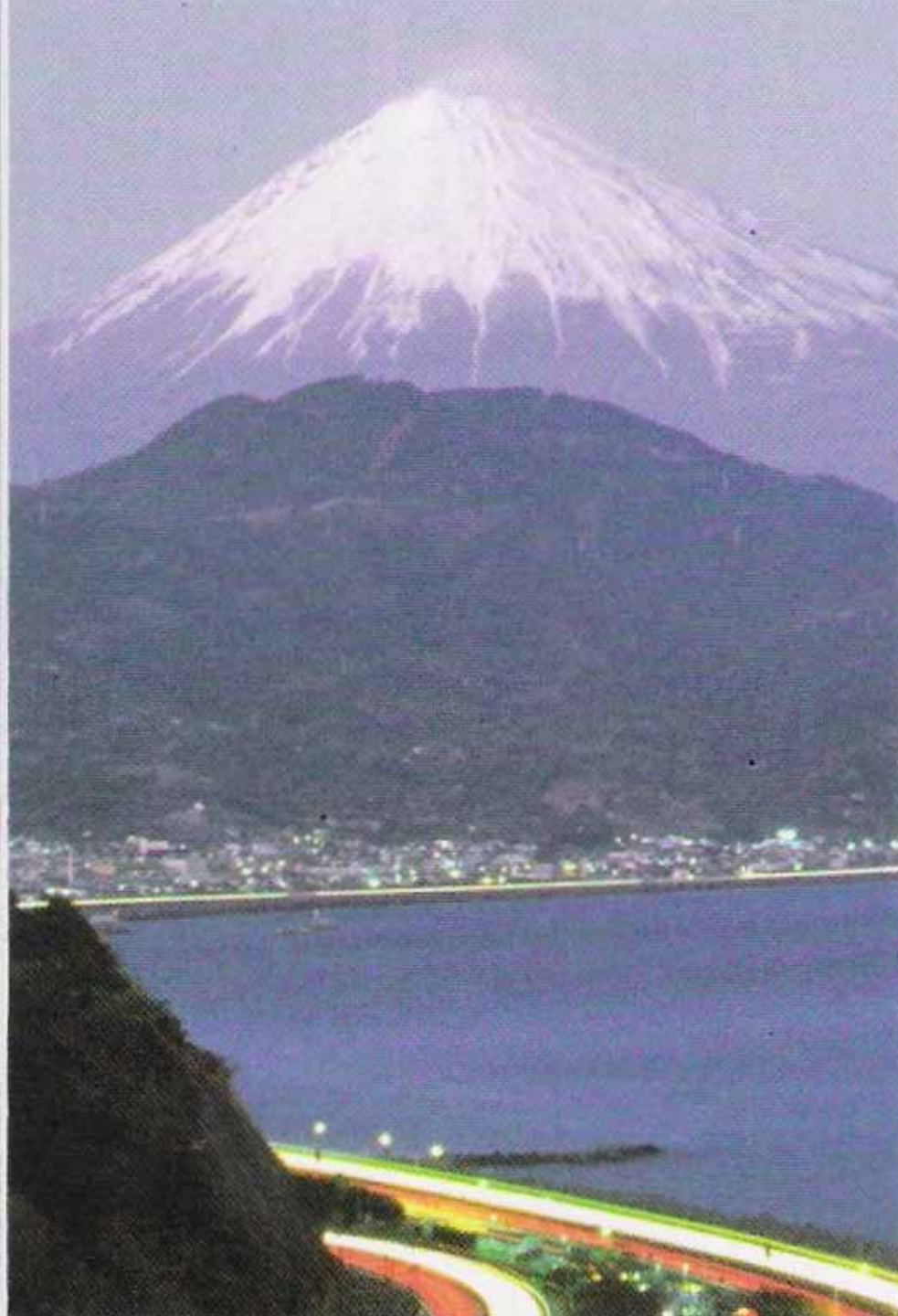
Earth's crust below the Pacific Ocean is called the Pacific Plate. It slides under the Eurasian Plate, which is Earth's crust below the continents of Europe and Asia. When these two tectonic plates rub against each other, Japan is hit with an earthquake.

## Physical Features of Japan



### A Mountainous Landscape

About 70 percent of Japan is covered with mountains. The rivers flowing out of these mountains are too short and steep for boat travel. But they do provide hydroelectric power to Japan.



## **Mount Fuji over Tokyo Bay**

Japan's mountains limit the amount of land that is suitable for living. Many of these mountains, like Mount Fuji, are volcanoes. Mount Fuji was once thought to be a sacred place. Today this beautiful volcano attracts weekend hikers eager to escape crowded cities.



## 31.2 The Geographic Setting

Japan occupies an **archipelago**, or chain of islands, that lies off the East Asian mainland. On a map, the Japanese archipelago forms the shape of a thin crescent moon. The land area of Japan consists of four large islands and about 3,900 smaller ones. Taken together, these islands form a country about the size of the state of Montana. To the west, the Sea of Japan (East Sea) separates Japan from its nearest neighbors, Korea and China. To the east lies the vast Pacific Ocean.



**A Mountainous Landscape** The Japanese archipelago was formed millions of years ago by mountains welling up from the sea. The mountains arose when tectonic plates collided deep beneath the Pacific Ocean. Volcanoes welled up in the cracks between the plates. Over millions of years, liquid rock flowing from the volcanoes built up into mountains that eventually emerged from the sea.

Today a chain of volcanic mountains forms the backbone of Japan. Many volcanoes are still active, although no one knows just when they might erupt again. The highest and most famous Japanese volcano is Mount Fuji, whose snowcapped cone towers above the city of Tokyo.

The tectonic plates that gave birth to Japan are still grinding against each other beneath the sea. Occasionally one of them slips, causing an earthquake to rattle the islands. Small tremors occur on an almost daily basis in Japan. Major earthquakes are less frequent but can cause extensive damage and loss of life. Undersea earthquakes can also trigger huge sea waves known as tsunamis. When one of these destructive waves hits the Japanese coast, entire villages can be washed out to sea.

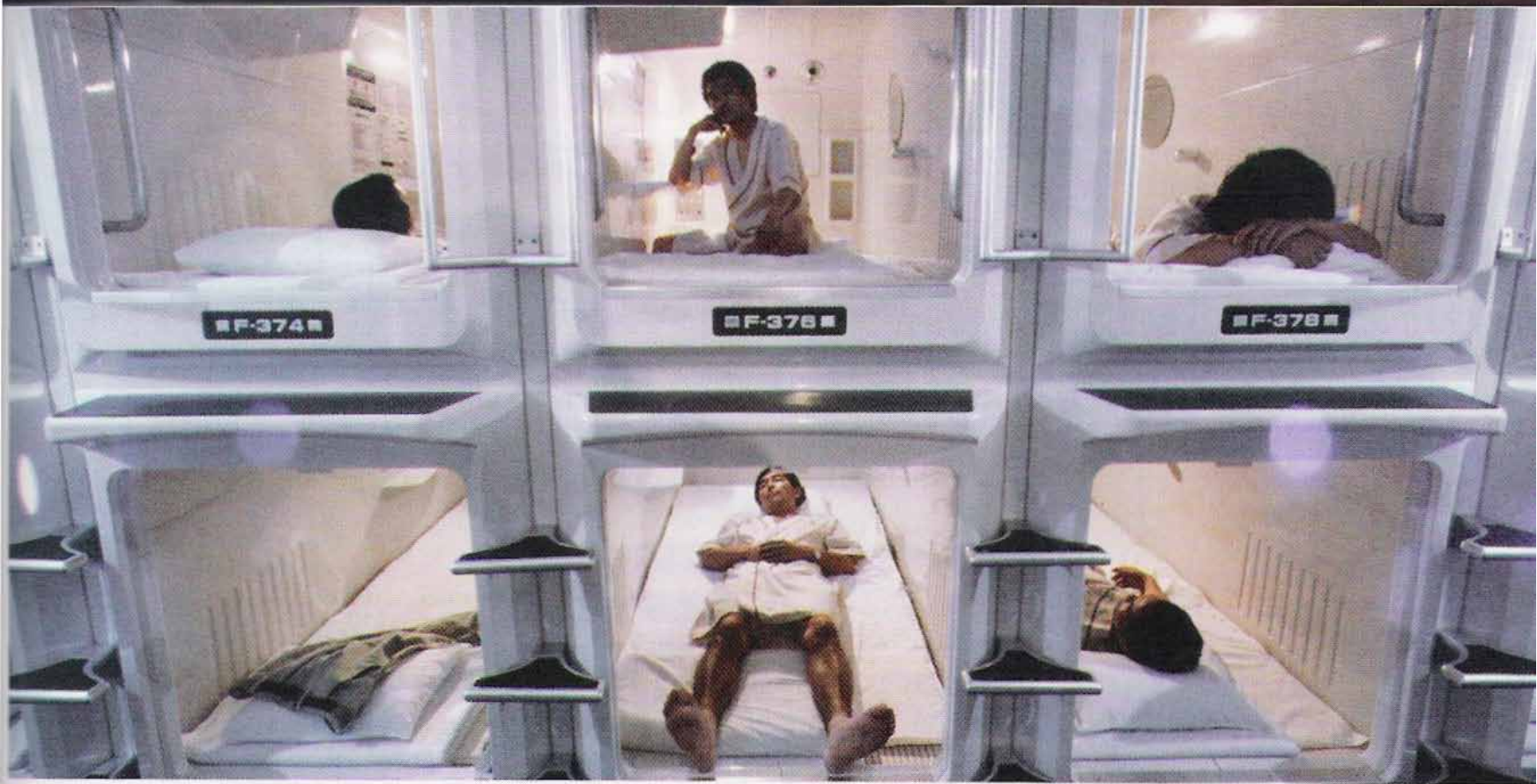
**Limited Land for Living** Only about an eighth of Japan is **arable land** or land suitable for agriculture. The remaining land is too steep to plow and plant. Much is also too mountainous to support large towns and cities.

The amount of arable land affects **population distribution**, or where people live. A large majority of Japan's 127 million people live on the four main islands of Hokkaido, Honshu, Shikoku, and Kyushu. But they are not evenly distributed across these islands. About 80 percent live on limited flat land near the coast or in narrow river valleys.

Because people tend to clump on arable land, geographers have developed two ways of measuring how crowded a country is. The first is by looking at a country's **arithmetic population density**. This measure is calculated by dividing the number of people in a country by its total land area. As you read in the introduction, Japan's arithmetic population density is about 880 persons per square mile.

The second way of measuring crowding is by looking at a country's **physiologic population density**. This measure is calculated by dividing the number of people in a country by the amount of *arable land*. With such limited land for living, Japan's physiologic population density is 7,219 persons per square mile. The United States, in comparison, has a physiologic population density of 433 persons per square mile. Both population density measures tell us that Japan is a crowded country.





<http://www.bing.com/videos/search?q=japanese+capsule+hotels&view=detail&mid=BE2E325E3E095EB8F16FBE2E325E3E095EB8F16F&first=0&FORM=NVPFVR&adlt=strict>

### **Capsule Hotel in Japan**

Hotels that rent sleeping capsules make good use of space in crowded Japanese cities. Each capsule has a mattress, a television with headphones, and a clock. Guests can spend time in the hotel's restaurants and public areas until they are ready for bed.



## 31.4 How Population Density Affects Housing

Because flat land for building is scarce in Japan, housing is expensive. Most homes in Japan are smaller than those in the United States. Many Japanese families live in apartments that are no larger than the typical family room in an American home.

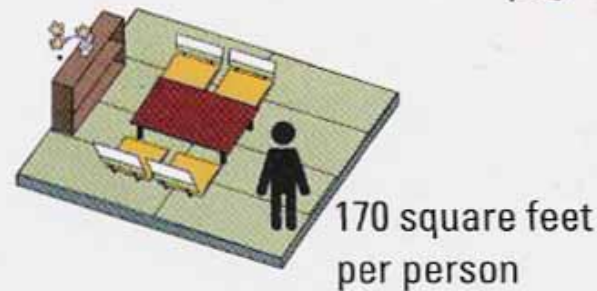
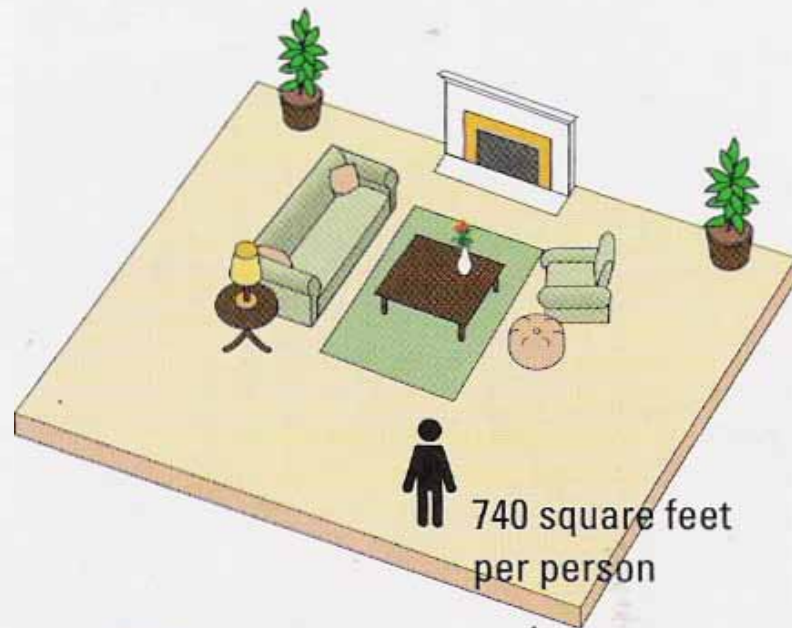
**From the Country to the City** The Japanese did not always live crowded into small homes. Fifty years ago, when Japan was largely **rural**, most people lived in spacious one-story homes. They also lived in **extended families**, with grandparents, parents, and children together under one roof.

In the 1950s, this pattern began to change. Many Japanese left the countryside to pursue educational or job opportunities in Japan's growing cities. The houses and apartments available in urban areas were cramped compared to rural homes. With space so tight, the number of people living in extended families began to shrink. Today a majority of Japanese live in **nuclear families**, or families with just parents and their children.

**Making the Most of Limited Space** The Japanese have developed a number of clever ways to make the most of their limited living space. One is to use rooms for more than one purpose. Many homes in Japan do not have separate bedrooms. At bedtime, mattresses called *futons* are taken from closets and spread on the floor of living rooms. In the morning, the futons are put away again.

The Japanese also make good use of limited space by shrinking almost everything that goes into a home. Japanese appliance makers produce small stoves and refrigerators to fit in tiny apartment kitchens. Gardeners who lack garden plots grow tiny trees called *bonsai* in shallow pots on windowsills. A 10-year-old bonsai tree might be only a few inches tall.

Japan's population density even affects where people rest after death. Most cemeteries in Japan are a jumble of family graves filling every inch of available space. "Unless we try something new," warns a Buddhist temple leader, "all of Japan will turn into a graveyard." To prevent this, many people are choosing to have their bodies cremated after death. A box of ashes requires much less space than a coffin.



### Homes in the U.S. and Japan

Japanese homes are smaller than those in the United States. A typical person in Tokyo has about 170 square feet of living space. A typical person in Washington, D.C., has about 740 square feet of living space.

## 31.4 How Population Density Affects Housing

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## **Terraced Rice Fields in Japan**

The Japanese have claimed new land for farming by building terraces into hillsides. Working these rice fields on steep slopes is hard work.





# Land use in a Japanese City

By building both up and down, the Japanese make efficient use of limited city land.



**Long Lives** High impact people's health. Automobile accidents on city streets that more quickly in countryside. Even **expectancy** that is world. In 2004, the a Japanese person



The Japanese overcome the health on any street corner

of them. People who are sick wear face masks to avoid spreading disease. More important, the Japanese have passed some of the world's strictest environmental laws to clean up the air and water. As a result, the air is safer to breathe and fish from the sea no longer poison people and their pets.

ZAPERO

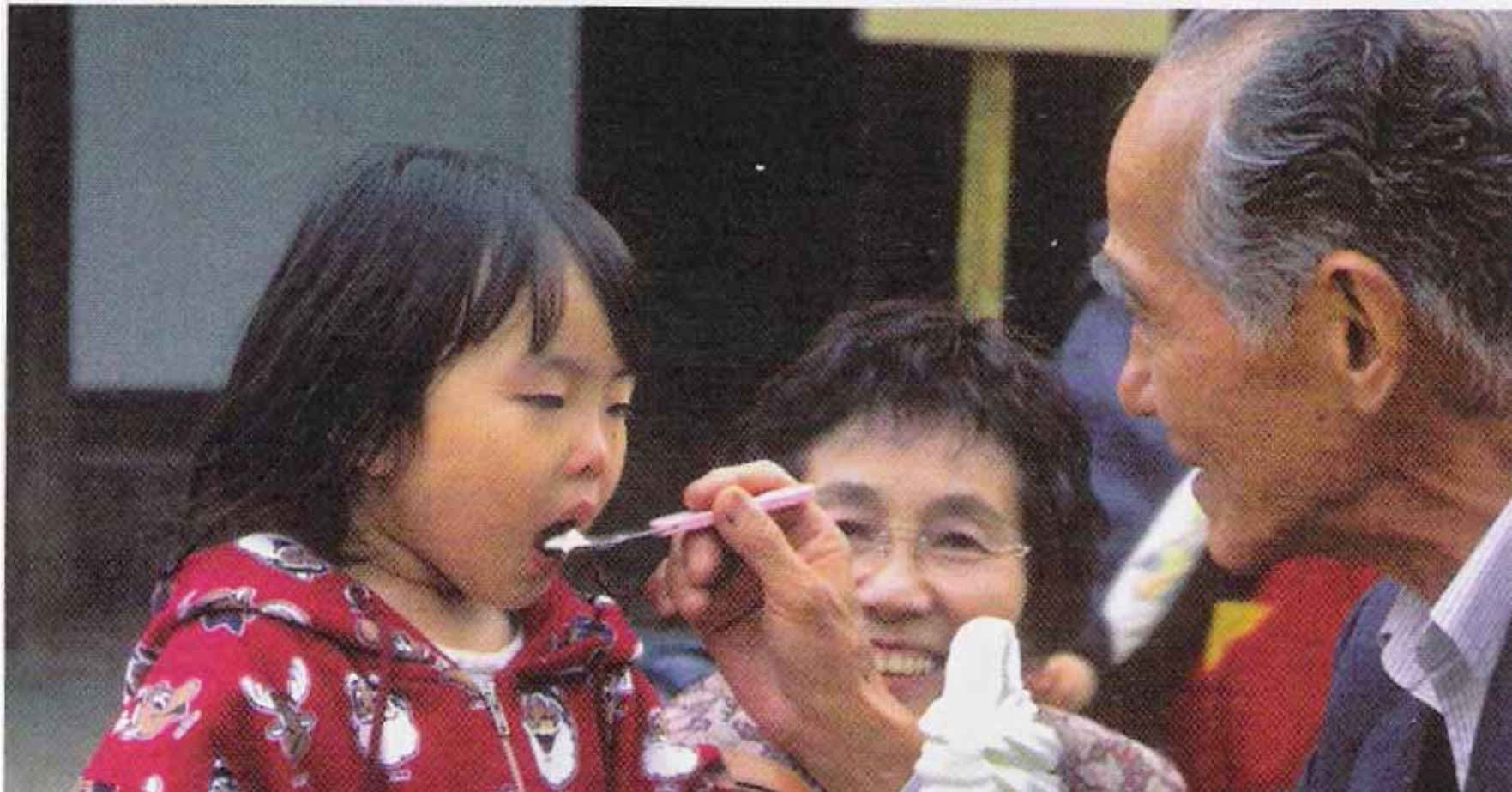
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# Life Expectancy in Japan and the United States

	Japan	United States
Women	85	80
Men	78	75





## Long Life Spans

The Japanese enjoy the world's longest life expectancy. A person born in Japan can expect to live to be more than 80 years old.



## Crowded Street in Tokyo

The Japanese in this street scene appear well dressed and well fed. People in other densely populated nations are not so fortunate. In many countries, crowding may add to people's misery.





Bottle Tops

キャップをはずして投入してください

キャップ

飲み残り専用  
Unfinished  
Drinks



ごみの持ち帰りをお願いします

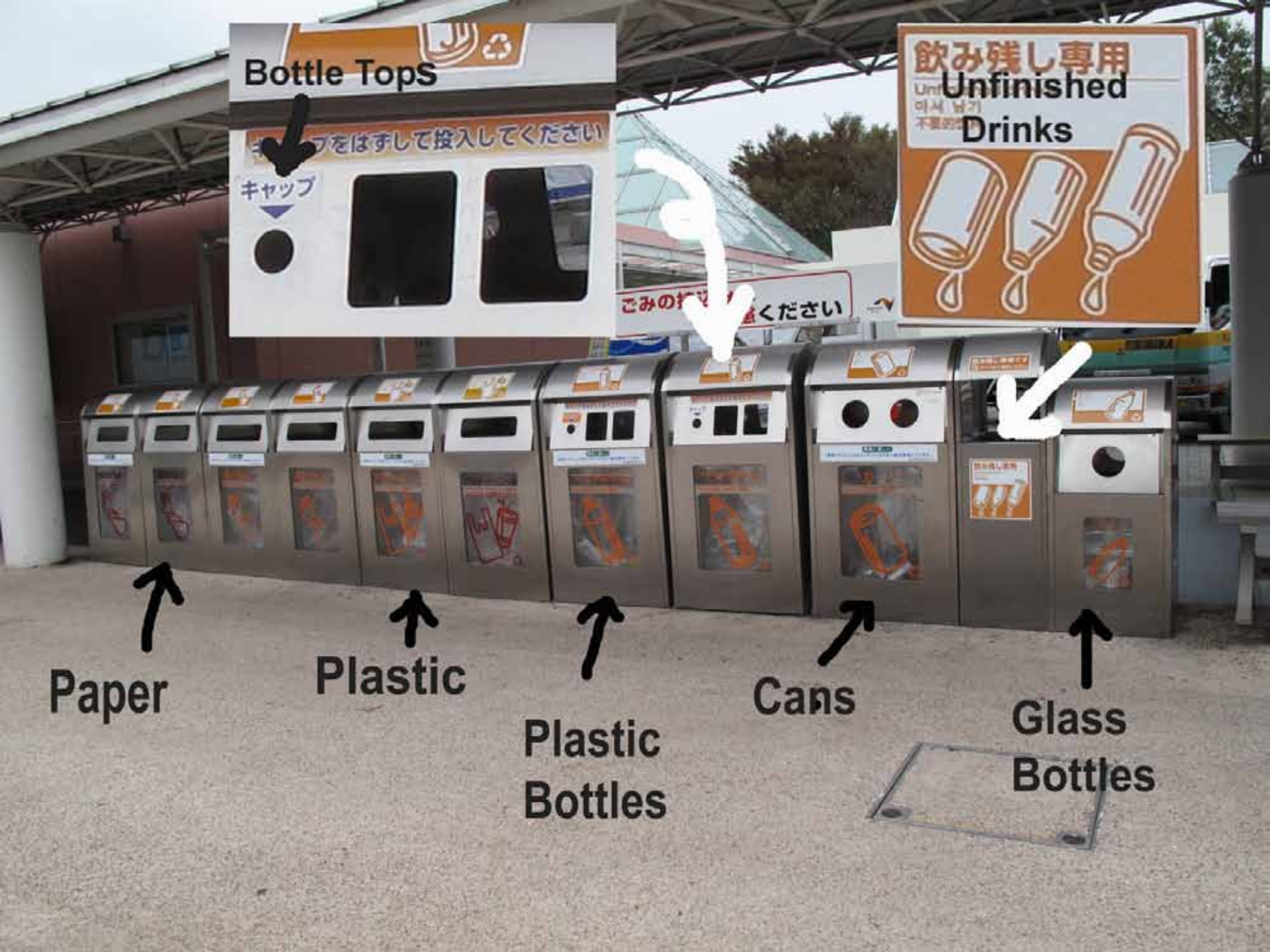
Paper

Plastic

Plastic  
Bottles

Cans

Glass  
Bottles





## 31.7 Beginning to Think Globally

In this chapter, you have seen how population density affects several aspects of life in Japan, including transportation, housing, land use, and health. You learned that despite their crowded cities and pollution problems, the Japanese enjoy long and healthy lives. Japan today enjoys a high life expectancy, in part due to strict environmental regulations.

Japan, however, is a wealthy, industrialized country. It can afford to build tall, earthquake-proof apartment and office buildings that make efficient use of limited city land. It can maintain an efficient public transit system to move people around quickly. It can also fund the costs of cleaning up dirty air and polluted water.

Other densely populated countries are not so fortunate. India, for example, has almost the same population density as Japan. It has more than four times as much arable land and is far richer in **natural resources** such as coal, minerals, and natural gas. Even so, India is a much poorer country. Life expectancy there is just 64 years compared to 81 years in Japan.

**Does High Population Density cause Low Life Expectancies or Low Standards of Living??? Explain!!!**