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| **LESSON 1****Physical Geography of East Asia****ESSENTIAL QUESTION : *How does geography influence the way people live?*** |
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| *East Asia is where some of the most densely populated areas inthe world are found. It also has vast areas where few people live. To understand why these extreme differences exist, it is necessary to understand the region’s physical geography.***Landforms and Waterways*****What are the main physical features and physical processes in East Asia?***The landscapes and physical features of East Asia are varied and sometimes unusual. East Asia is home to the world’s highest mountain range, as well as a vast plateau that sits miles high. It is also the site of islands created by volcanoes and fertile plains where hundreds of millions of people live.**A Regional Overview**East Asia covers much of the eastern half of the Asian continent. Its eastern boundary stretches along the Pacific Ocean. Bordering East Asia to the north are Russia and Central Asia. To the south are the regions of South Asia and Southeast Asia.East Asia is made up of six countries: China, Japan, Mongolia, North Korea, South Korea, and the de facto country of Taiwan. A **de facto** country is one not legally recognized by other countries. China is the largest country in the region. It has more than four-fifths of the region’s total land area. Slightly smaller than the United States, China is the world’s fourth-largest country in land area.  |  |

At the opposite extreme is Taiwan, the region’s smallest country.It is roughly the size of Massachusetts and Connecticut combined. China and Mongolia sit on the Asian mainland, while the other four countries occupy islands or a peninsula.

**The Mainland**

Geographers often divide mainland East Asia, which consists of China and Mongolia, into three broad geographic subregions. Because of differences in elevation, the subregions are like steps in a staircase. The highest step is the Plateau of Tibet, a vast area of mountains and uplands in southwestern China. The plateau is sometimes called “the roof of the world” because of its extremely high elevation. Much of the land sits more than 2.5 miles (4 km) above sea level.

Lofty mountains circle the Plateau of Tibet. The Kunlun Shan range runs along the northern edge, and the Himalaya—the tallest mountains in the world—rise along the southern edge. The Himalaya reach their highest point at Mount Everest, which soars higher than any other mountain in the world. When mountain climbers reach Everest’s peak, they stand nearly 5.5 miles (8.9 km) above sea level.

North and east of Tibet, land elevation drops sharply to the second step in the staircase. Mountains and plateaus **dominate** this subregion, too, but they are generally much lower than those of Tibet. Some of the mountain ranges lie along the edges of enormous basins, or natural land depressions. Much of the land in the northern part of the subregion is desert or near desert, with little or no vegetation.

Land along the southern part of the subregion is forested. Some of the steepest and deepest canyons in the world lie where the land descends from Tibet.

The third and lowest step in the staircase covers most of the eastern third of China. The main landforms in this subregion are low hills and plains. Most Chinese live on these plains.

**A Peninsula and Many Islands**

In addition to the mainland, East Asia includes a large peninsula and, running parallel to the eastern coast, a long string of islands.The Korean Peninsula is a thumb of land that juts southward from the mainland between the Yellow Sea and the Sea of Japan (East Sea). It is home to two countries: North Korea and South Korea. The peninsula is mountainous, especially in the northeast. In the south and west, broad plains stretch between the mountains and the coast.

Along the eastern edge of the Sea of Japan, an arc of islands stretches for roughly 1,500 miles (2,414 km). The islands—four large ones and thousands of much smaller ones—form the **archipelago** (ahr kuh PEH luh goh) of Japan. An archipelago is a group or chain of islands.

The islands of Japan are part of the Ring of Fire, which nearly encircles the Pacific Ocean. In this area, huge sections of Earth’s crust grind against each other and cause earthquakes and volcanic eruptions. The islands of Japan were formed by volcanic eruptions millions of years ago.

Forested mountains cover nearly three-fourths of the land on the islands. Plains are generally small and isolated. On Honshū, Japan’s largest island, a beautiful, cone-shaped volcano called Mount Fujiyama or Mount Fuji rises about 12,400 feet (3,780 m) above the Kanto plain. Snow-covered Mount Fuji is a well-known symbol of Japan. Although it has not erupted in nearly 300 years, scientists believe it could.

Japan is one of the most earthquake-prone countries in the world. More than 1,000 small earthquakes shake the country every year. Major quakes occur less often, but they can cause tremendous damage and loss of life. When an earthquake occurs below or close to the ocean, it can trigger a**tsunami** (soo NAH mee). This is a huge wave that gets higher as it approaches the coast. Tsunamis can wipe out coastal cities and towns. In 2011 the most powerful earthquake in Japan’s history produced massive tsunamis that devastated areas along the northeastern coast.

Hundreds of miles southwest of Japan’s main islands lies another large island, Taiwan. Like Japan, Taiwan was formed as a result of volcanic activity. Mountains form a rugged spine that stretches the length of this sweet-potato-shaped island. The spine is actually the edge of a huge, tilting block of Earth’s crust. The western face of the block slopes much more gradually than the steep eastern face. Broad plains spread across the western part of the island.

**Bodies of Water**

Bodies of water in East Asia provide food for its people, give them a place to live, move their goods, and power factories to light homes. Fish and other seafood caught in the seas and ocean make up an important part of the diet of many East Asians.

Four large seas sit along East Asia’s eastern edge. The largest is the South China Sea. It is partly enclosed by Taiwan, southeastern China, and islands of Southeast Asia. Because the South China Sea lies between important ports in the Pacific and Indian oceans, it has some of the busiest shipping lanes in the world.

The East China Sea lies between China and Japan’s Ryukyu Islands, a long archipelago extending southwestward toward Taiwan. In the north, this sea meets the Yellow Sea, which is shaped by the Korean Peninsula and the northeastern coast of China. Farther north, Japan, the Korean Peninsula, and the Asian mainland together are shaped like a corral that almost entirely encircles the Sea of Japan (East Sea).

**Rivers in China**

The water of East Asia’s two most important rivers, the Huang He (Yellow River) and the Chang Jiang (Yangtze River), flow across China. Both of these rivers begin high on the Plateau of Tibet in southwestern China and flow down the eastern slope of the plateau. The Huang He flows by twists and turns to the Yellow Sea far to the east. Along the way, it picks up a tremendous amount of yellow-brown silt called **loess** (LEHS). This silt gives the river and the sea their name and color.

In eastern China, silt deposited by floods over millions of years has created a broad, fertile plain called the North China Plain. This is one of China’s most productive farming areas. Throughout history, however, floods have regularly destroyed homes and crops and have drowned many people. For this reason, the Huang He is sometimes called “China’s sorrow.”

Like the Huang He, the Chang Jiang begins on the Plateau of Tibet. From its headwaters, it flows about 3,450 miles (5,552 km) to its mouth at the port city of Shanghai on the East China Sea. It is the longest river in Asia and the third longest in the world. Only the Nile and the Amazon are longer.

The Chang Jiang is China’s principal waterway. It also provides water for a fertile farming region where more than two-thirds of the country’s rice is grown. Nearly one-third of China’s people live in the river’s basin.

**Rivers in Japan and Korea**

Japan’s major rivers are relatively short, steep, and swift. They flow down from the mountains in the interior of the islands to low plains along the coast. Most of the rivers, including the two longest, the Shinano and the Tone, generate hydroelectric power.

The main rivers of the Korean Peninsula  flow from inland mountains westward toward the Yellow Sea. The Han River flows through South Korea’s capital, Seoul. North Korea’s longest river, the Yalu (or Amnok), forms the country’s border with China.

***Identifying*** What are some ways the people of East Asia depend on rivers?

**Climate**

***What are the main factors that affect climate in different parts of East Asia?***

A traveler to East Asia would encounter a great range of climates, from hot and rainy to cold and dry. This is partly due to the area’s vast size and partly because of its range of elevation.

**Climate Factors**

East Asia spans a tremendous distance north to south. The region’s southernmost lands lie within Earth’s hot tropical zone, while the northernmost lands sit closer to the frigid North Pole than to the Equator. Much of the climate variation results from these differences in latitude.

Another important factor is land elevation. Higher areas are generally colder than lower areas. Two areas at the same latitude can have very different climates if one area is much higher than the other. This situation is found in many parts of East Asia.

Air masses also play a major role in shaping East Asia’s climate zones. A cold, dry, polar air mass spreads southward from northern Asia during the colder months of the year. A warm, moist, tropical air mass spreads northward and eastward from the Pacific Ocean during the warmer months.

**Climates in the East**

Southeastern China stays hot and rainy through much of the year. Vegetation is lush, and conditions are ideal for growing grain, especially rice. Farther north in eastern China, more seasonal variation occurs. Summers are hot and rainy, but winters are cold and fairly dry. China’s capital, Beijing, lies in this part of the country. In the summer, temperatures in Beijing often soar above 90°F (32°C). In the winter, icy winds from the northwest whip through the city, and temperatures can drop below 0°F (−18°C).

Being surrounded or nearly surrounded by water affects the climates of East Asia’s island and peninsula countries: Taiwan, Japan, and North and South Korea. These countries are generally wetter and experience milder temperatures than mainland areas at the same latitudes.

**Climates in the North, Northwest, and Southwest**

Across north-central and northwestern China and neighboring Mongolia, the climate ranges from semiarid (somewhat dry) to arid (very dry). Winters are bitterly cold. This sparsely populated area includes the vast, rocky Gobi Desert and the sandy Taklimakan Desert. It also has great expanses of treeless grasslands.

The Plateau of Tibet in southwestern China also has a dry climate. This is mainly because the towering Himalaya block moist air flowing northward from the Indian Ocean. Because the plateau sits at such a high elevation, the weather is cold and windy throughout the year.

***Identifying*** How do the Himalaya affect the climate of the Plateau of Tibet?

**Natural Resources**

***What mineral resources are most abundant in East Asia?***

East Asia is rich in minerals, forests, and other natural resources. But the resources are not evenly distributed.

**Minerals**

China, which covers a large portion of East Asia, holds by far the greatest share of the region’s resources. China is a world leader in  the mining of tin, lead, zinc, iron ore, tungsten, and other minerals. Manufacturers use tungsten to make high-quality steel, lightbulbs, rockets, and electrical equipment.

Japan is one of the world’s leading industrial countries, but the islands of Japan have few mineral resources. Japan has coal, copper, some iron ore, and a few other minerals, but it must import a variety of raw materials. Taiwan, like Japan, is a major industrial country, but it has limited mineral reserves. As a result, Taiwan also has to import various minerals to meet increasing demand.

Cultured pearls are harvested in the seas surrounding the Japanese islands. They range in color from white to silver and pink. They are known for their beautiful, smooth, shiny appearance.

**Energy Resources**

East Asia has a variety of energy resources, including coal, oil, and natural gas. The largest deposits of these fossil fuels are in China. China is the world’s largest producer of coal. Its deposits are larger than those of any other country except the United States and Russia. China also has substantial oil and natural gas reserves under the South China Sea and in the Taklimakan Desert in the far west.

Despite these fossil fuel resources, China still cannot meet all of its energy needs. The country’s economy is growing rapidly. As a result, China is turning to energy-rich countries in Central and Southwest Asia for supplies of oil and natural gas. China also imports coal from Southeast Asia and Australia.

Several East Asian countries use hydroelectric power to help meet their energy needs. China produces electricity from the Three Gorges Dam on the Chang Jiang. This massive dam also helps control floods and provides water for irrigation. Hydroelectric dams in Japan harness the power of the country’s swift-flowing rivers.

**Forests**

Much of western and northwestern China is so dry that trees cannot grow. Forestland once blanketed the eastern part of the country, but over the centuries, forests became smaller as people cut down trees for heating, building, and to create farmland. Today, forested areas cover less than one-sixth of the country.

Other East Asian countries, however, still have extensive forested areas. More than half of Taiwan’s rugged landscape is covered by forests. The country used to be a major exporter of timber and wood products. Now much of the forested land is protected, so the country relies on imports to meet its need for wood products.

Thick forests cover the steep hillsides of Japan’s inland areas. Almost two-thirds of the country is forested. Logging is limited in parts of the country, however, because the Japanese consider many forest areas to be sacred.

In the Korean Peninsula, many trees have been cleared for farmland, but forests still cover mountainous areas. About three-fourths of North Korea’s rugged landscape is forested.

***Analyzing*** Why is it necessary for people in Taiwan and Japan to import wood products?