

HISTORY & GEOGRAPHY

STUDENT BOOK

▶ **4th Grade** | Unit 5

HISTORY & GEOGRAPHY 405

TROPICAL RAINFORESTS

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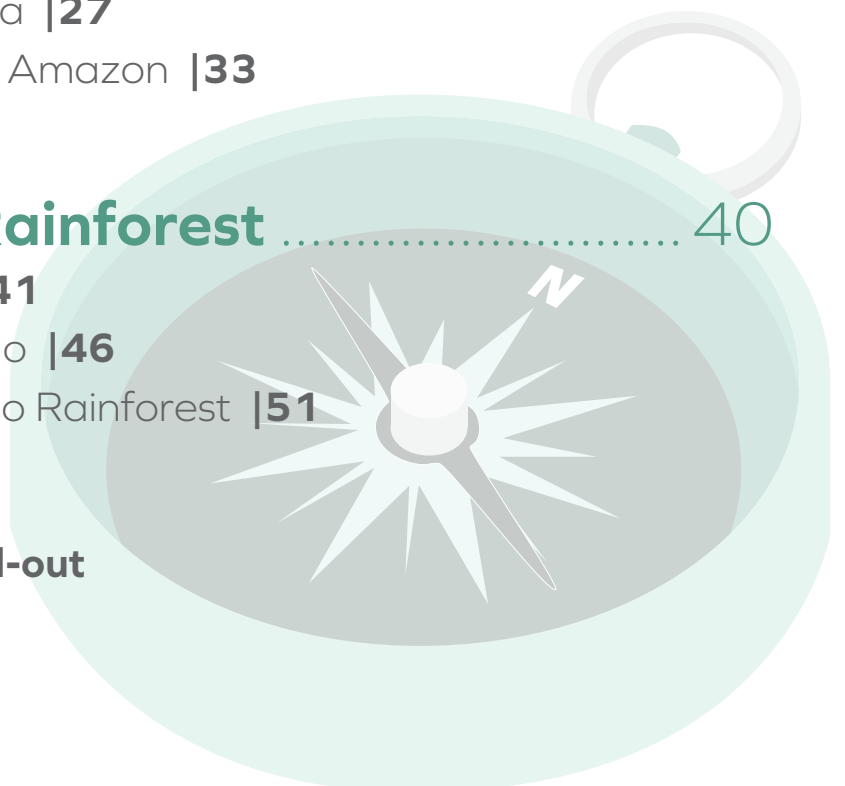
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LIFEPAC Test | **Pull-out**



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TROPICAL RAINFORESTS

In this LIFEPAC® you will learn about huge, warm forests on the earth where rain falls almost every day. You will discover what these forests are like. You will also learn about the animals and people who live there. You will learn how the things that grow in the forests are used today and why the forests are getting smaller.

Objectives

Read these objectives. The objectives tell you what you will be able to do when you have successfully completed this LIFEPAC. Each section will list according to the numbers below what objectives will be met in that section. When you have finished this LIFEPAC, you should be able to:

1. Describe rainforests and tell where they are located.
2. Name some of the products of the rainforest.
3. Identify some of the rainforest plants and animals.
4. Explain the history of the Amazon and Congo rainforests.
5. Describe the Congo and Amazon Rivers.
6. Tell of the changes being made in the rainforest.
7. Describe how people live in the rainforest.

1. RAINFORESTS OF THE WORLD

A rainforest is also known as a jungle. It is a thick forest that grows in the region known as the **tropics**. These forests are very warm and get lots of rain. Many, many, many kinds of plants, animals, and insects live in rainforests. You will learn about only a few of them.

Objectives

Review these objectives. When you have completed this section, you should be able to:

1. Describe rainforests and tell where they are located.
2. Name some of the products of the rainforest.
3. Identify some of the rainforest plants and animals.
6. Tell of the changes being made in the rainforest.
7. Describe how people live in the rainforest.

Vocabulary

Study these new words. Learning the meanings of these words is a good study habit and will improve your understanding of this LIFEPAK.

abundant (ə bun' dənt). More than enough; very plentiful.

balsa (bôl' sə). A tree with very lightweight wood.

basin (bā' sən). The land area drained by a river and the streams that flow into the river.

classify (klas' i fi). To arrange in groups or classes.

hothouse (hot' hous). A building with a glass roof and sides, kept warm for growing plants.

humid (hyü' mid). Damp or moist air.

Latin America (Lat' n ə mer' ə ka). South America, Central America Mexico, and most of the West Indies.

mahogany (mə hog' ə nē). A tropical tree that has dark reddish-brown wood. It polishes very well and is used to make furniture.

nutrient (nü' trē ənt). Any substance that is needed by living things for energy, growth, and repair of injuries.

salamander (sal' ə man dər).). An animal shaped like a lizard, but belonging to the same group as frogs and toads.

settler (set' ler). A person who goes to live in a new country or area.

species (spē' shēz). A group of related living things that have certain important parts or features in common.

steward (stü' ərd). A person who takes care of or manages the property of someone else. (The earth belongs to God and we take care of it for Him).

teak (tēk). A tall tropical tree with hard, heavy, durable wood used for furniture and shipbuilding.

temperate zone (tem' pər it zōn). Area of the earth in between the hot tropics and the cold arctic. Most of the USA is in the temperate zone.

tropics (trop' iks). Regions near the equator, between the Tropic of Cancer and the Tropic of Capricorn.

Note: All vocabulary words in this LIFEPAC appear in **boldface** print the first time they are used. If you are unsure of the meaning when you are reading, study the definitions given.

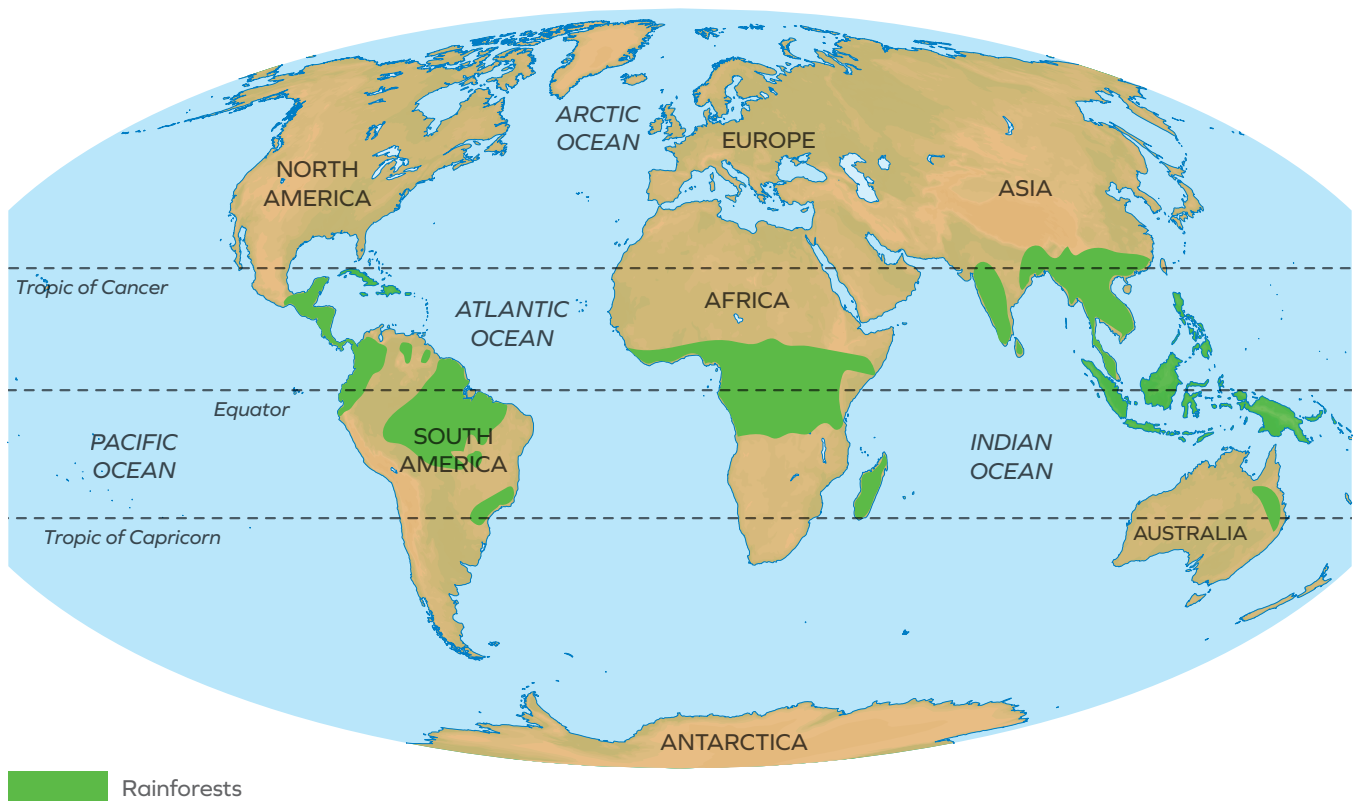
Pronunciation Key: hat, āge, cāre, fār; let, ēqual, tērm; it, īce; hot, ōpen, ōrder; oil; out; cup, pūt, rüle; child; long; thin; /FH/ for then; /zh/ for measure; /u/ or /ə/ represents /a/ in about, /e/ in taken, /i/ in pencil, /o/ in lemon, and /u/ in circus.

Facts about Rainforests

A rainforest, or jungle, can only grow when the temperature and the rainfall are just right. The temperature must be around 80° all year. It can not get much hotter or cooler than that. The forest has to get at least 80 inches of rain in a year, and that rain must fall regularly all year. Some rainforests get 200-300 inches of rain in a year! (Remember, deserts get only 10 inches or less in a year). This makes the forest very green with many kinds of life in it.

Rainforests usually grow near the equator. That is the best place to find the hot temperatures and regular rainfall needed for a rainforest. The area around the equator between the Tropic of Cancer and the Tropic of Capricorn is where most rainforests grow. This is called the tropics, and the jungles there are often called tropical rainforests.

Cold arctic air cannot hold much moisture, but the hot air of the tropics can carry large amounts of water. Rainforests occur all along the equator when the rain is not blocked by mountains or cooler air.



| Major Rainforests of the World. This map is also for questions 1.1 to 1.4.

There are three main areas of tropical rainforest in the world. They are in **Latin America**, Africa, and Southeast Asia. Each area has animals and plants that the others do not have. But, the types of plants and animals are very much alike in all of the rainforests.

Latin America has more rainforests than the other regions. The rainforest that covers the **basin** of the Amazon River in Brazil, South America is the largest in the world. It covers one-third of South America. Other rainforests also cover much of Central America and strips along the east coast of South America.

The second largest total area of rainforest is in southern Asia. It covers mainly the peninsulas of southeast Asia and the islands heading south to Australia. The countries of that region, Indonesia, Malaysia, Thailand, the Philippines, Vietnam, Kampuchea, and Myanmar are mostly rainforest.

The last area of rainforest is in Africa. It covers the center of the continent around the equator and includes a part of the large island of Madagascar on Africa's east coast. The largest rainforest of Africa is in the Congo River Basin, mostly in the country of the Democratic Republic of the Congo.



Map exercises.

- 1.1 Using a pencil, lightly shade in the area on the map called the tropics.
- 1.2 Put a box around the largest region of rainforest in the world.
- 1.3 Circle the rainforests of Southeast Asia.
- 1.4 Put an "X" on the island of Madagascar.



Complete these sentences.

- 1.5 The three regions of rainforest are in _____ , _____ , and _____ .
- 1.6 The largest rainforest in the world is in the basin of the _____ .
- 1.7 Rainforests usually grow near the _____ .

- 1.8 Rainforests need _____ temperatures and _____ rainfall.
- 1.9 A rainforest gets at least _____ inches of rain in a year.

Rainforests are like huge **hothouses**. Thousands of different kinds of plants live there. A small part of a rainforest that covers 2½ acres may have over a hundred different kinds of trees! That is unusual because the same size piece of forest which is in the United States, in the **temperate zone**, may have at most seven kinds of trees.

The rainforest is always green. Some trees do lose their leaves for a short time, but the forest never becomes bare like a temperate forest in the winter. It never gets cold enough to kill off insects or plants, as it does in the temperate and arctic regions. There are flowers blooming and fruit ripening year round in the rainforests. That means there is always a good supply of food for animals. A constant supply of many kinds of food means that many kinds of animals can live in the rainforest.

About half of all of the different kinds, or **species**, of plants and animals in the entire world live in the rainforests. Many of the plants, animals, and insects do not even have names. They have never been **classified** by a scientist.

When a scientist finds a new animal or plant, he classifies it by deciding what group, or class, it is similar to. Then, he gives it a name in Latin, which is the language of scientific names. Like an explorer who finds new land, he can give it any name he wants. Often newly-found animals or plants are named after the person who classified them. Scientists are always finding new species in the rainforests.

Rainforests are very complicated places. Scientists think of the rainforest in three layers. The top layer is the *canopy*. The canopy is the tallest trees that grow to be 75-150 feet tall. Under the tall canopy is the *understory*. The understory is made up of smaller trees, vines, and shrubs. The bottom layer is the forest *floor*. This is made up of the small plants on the ground.

The canopy is like a huge green roof over the forest. The trees grow up thin and straight, like pillars. They do not put out branches until they are very tall. Then, they spread out like an umbrella in the sunlight. The trees are so close together that very little light or rain goes through to the lower layers.

Many kinds of monkeys, birds, and insects live in the canopy. These kinds of animals often never touch the ground in their entire life! All the food and water they need, they find among the tall trees. Because it rains all the time, water can be found in holes in the trees, leaves, and plants that grow on the trees. The animals eat the leaves and fruit of the trees, insects, or other animals.

The understory is usually a dark, **humid** place. There is very little light and no breeze because they are blocked out by the canopy. The plants under the canopy must be able to live with very little sunlight. Often they will only grow in open patches where a big tree has fallen down. Other plants, like vines, grow on the big trees. They get the **nutrients** they need from the tree, which is getting sunlight up in the canopy.



| Levels of the rainforest canopy

The floor of the rainforest is often very open and easy to walk across. That is because so little light reaches the floor that very few plants can grow there. The movies are wrong in showing people cutting their way through the thick plants and vines in the jungle. That type of jungle is only found around rivers and clearings, where light can reach the forest floor.

People from Europe, who first explored rain forests, thought the soil there had to be very rich in nutrients because the forest is so green and thick. They expected to be able to grow many kinds of crops and trees if they cleared the land, but they were very wrong.

In fact, the soil in a rain forest is very poor. Things are lush and green only because they get a constant supply of nutrients from the plants and animals that die and fall to the forest floor. On the floor, many special plants and insects break up this natural “trash” and recycle it into the soil. There it is quickly absorbed by the plants and used again. Any nutrients that do get into the soil are washed away by all the rain. If the forest is cut down, the supply of new nutrients stops. The soil quickly runs out of nutrients and within a few years nothing will grow in it.

Some of the rain in a rain forest is also recycled. The trees put the water back into the air through small holes in their leaves. This makes the air more humid and causes it to rain again. That creates a steady supply of rain for the forest and the rivers that flow through it. As much as half the rain in the Amazon may come from the forest itself! In places where the forest has been cut down, less rain falls.

**Match these items.**

- | | | | |
|-------------|------------------|----|--|
| 1.10 | _____ canopy | a. | putting something in a group with others like it |
| 1.11 | _____ understory | b. | top of the tallest rainforest trees |
| 1.12 | _____ floor | c. | ground level of the rainforest |
| 1.13 | _____ nutrients | d. | needed by living things to grow |
| 1.14 | _____ classify | e. | middle level of the rainforest |

**Complete these sentences.**

- 1.15** The soil in the rainforest is very _____ .
- 1.16** Rainforests do not become bare like those in the _____ .
- 1.17** A rainforest has _____ kinds of plants.
- 1.18** About half of the _____ of animals in the world live in the rainforest.
- 1.19** Few plants can grow on the forest floor because very little _____ reaches there.

**Answer these questions.**

1.20 Where do the rainforest plants get their nutrients?

1.21 How is rain recycled in the rainforest?

Plants and Animals

God created a huge variety of plants and animals to live in the rainforest. Many of them need each other to survive. All of them were specially made to live in the hot, wet forests.

The tall canopy trees must be able to reach the sunlight high in the air and still get nutrients from the thin soil on the forest floor. Their roots do not go deep into the soil because there is nothing there for the plants to reach. Instead the roots spread out in all directions along or just under the ground. That way they can quickly make use of the nutrients from the recycled plants and animals that have fallen to the floor.

One type of plant in the rainforest does not even need soil. These plants are called *epiphytes*, or air plants. Air plants live on the branches of other trees in the canopy or understory, with their roots out in the air. In the humid rainforest, they collect water from the rain that falls on them. They get nutrients from the natural “trash” that falls around them or from insects that make nests in their roots! One kind of air plant is a beautiful flower called an orchid. There are thousands of different kinds of orchids in the rainforest!

Some air plants store water in pools in and around their roots. These pools become homes for frogs and **salamanders**. Frogs usually need to lay their eggs in ponds, but

SELF TEST 1

Match the following (3 points each answer).

- | | | | | |
|--------------|-------|-------------------|----|--|
| 1.01 | _____ | monkey | a. | catch their water and nutrients from the air |
| 1.02 | _____ | army ants | b. | large snake |
| 1.03 | _____ | tapir | c. | looks like a large pig |
| 1.04 | _____ | tree frog | d. | beautifully colored feathers |
| 1.05 | _____ | anaconda | e. | tall, straight, pillar-like trunks |
| 1.06 | _____ | Birds of Paradise | f. | grow on trees and get nutrients from them |
| 1.07 | _____ | orchids | g. | always blooming and ripening |
| 1.08 | _____ | canopy trees | h. | make nests out of their bodies |
| 1.09 | _____ | vines | i. | agile, lives in the trees |
| 1.010 | _____ | flowers and fruit | j. | lay eggs in pools in the canopy |

Answer these questions

1.011 What two things must happen for a rainforest to grow? (4 points)

- a. _____
- b. _____

1.012 What are the three regions of rainforest in the world? (6 points)

- a. _____
- b. _____
- c. _____

1.013 The soil of the rainforest gets nutrients from: (4 points)

1.014 The people of the rain forest traditionally are either: (4 points)

a. _____

b. _____

1.015 How do farmers make the rainforest soil fertile for a short period of time? (4 points)

Choose the correct word from the list below (3 points each answer).

canopy

understory

floor

tropics

equator

species

mahogany

roads

cattle ranches

drugs

1.016 The mid-level of the rainforest, the area of small trees, vines, and shrubs, is called the _____.

1.017 As many as one out of four _____ from the store came from the rainforest.

1.018 Most tropical rainforests are found near the map line called the _____.

1.019 The region between the Tropics of Cancer and Capricorn is called the _____.

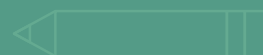
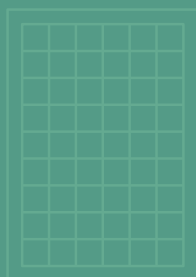
1.020 The highest level of the rainforest, the tree tops, is called the _____.

1.021 About half of all of the _____ of plants and animals can be found in the rainforests.

1.022 After the land cleared in the rainforest is no longer good for crops, it is often used for _____ for a time.

1.023 The bottom level of the rainforest is the _____.

1.024 Settlers get into the rainforest using _____ built by businesses and governments.



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