

There are many types of forests. First, we will discuss the temperate forest. This forest is called temperate because it experiences all four seasons. Temperate forests are located roughly half way between the poles and the equator.

Because the temperate forests are located in this region between the poles, it experiences all four seasons. It must survive warm or hot summers, cold winters, and everything in between. In a temperate forest, the temperature in winter is often below freezing. Ice and snow are common. In summer, temperatures can be very hot.



Temperate forests receive enough rain that most plants don't struggle to survive, but not so much that they're considered rain forests.



One plant common in some temperate forests is the maple tree. Notice the wide leaves of the maple which gather sunlight. The woody bark of the tree protects it from both animals and from the weather. This tree is usually green in spring and summer, but turns bright colors in fall and is bare in winter.

Note the leaves of the maple tree. They are veined and wide. The maple tree has a feature that allows it to survive the cold winters characteristic of the temperate forest. Inside the leaves is sap. This is the fluid that gives the tree energy. In autumn, the tree draws sap back out of the leaves. This turns the leaves the brilliant color seen in fall. The leaves will then fall off and die, which ensures the branches won't break under the weight of the snow.

Because temperate forests have plenty of plants and have a good climate, many animals live in the temperate forest. Many animals found in other climates will also live in the forest. Such animals could include a variety of birds and insects, deer, foxes, raccoons, wolves, bears, and many other animals.



One animal you can find in a temperate forest is the squirrel. Squirrels live in the trees of the forest. They eat plants and insects, and store the seeds of the plants for winter. Because of this, these small, furry mammals can survive the winter on stored food.

A squirrel has a great sense of smell. This allows the squirrel to find buried or hidden food. It also allows the squirrel to smell predators. Squirrels also have large cheek pouches. A squirrel can carry seeds in these pouches.



Because temperate forests produce an abundance of seeds, it is the perfect place for the squirrel. The wooly coat keeps the squirrel warm in cold weather, and some of the seeds the squirrel hides will grow into new trees in the spring.

Another type of forest is the taiga (which is pronounced almost like “tiger” without the “r”). This is also called the boreal forest, and boreal means cold. Boreal forests exist where the weather gets cold much of the year. This may be in the high mountains or closer to the arctic than the temperate forests. Most of Canada’s forests are considered taiga.



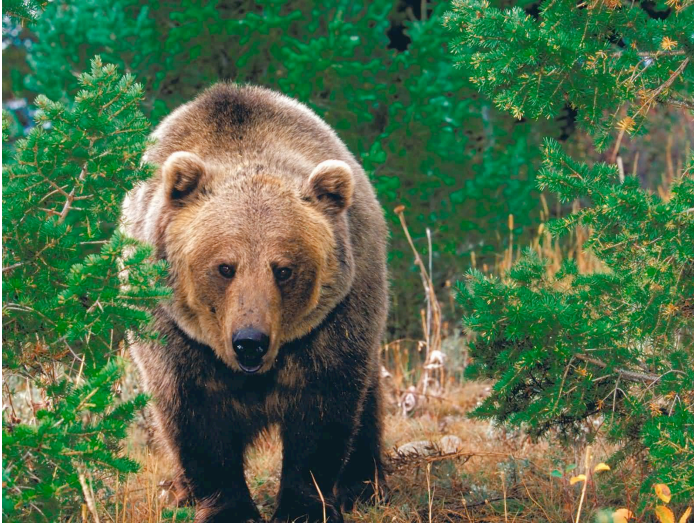
plant doesn’t have to stop growing in winter. The leaves are long and narrow to keep heavy snow from collecting on them. The bark of the tree is thick and protects the tree from freezing.

Taiga plants must be able to survive the cold, winter months. They may experience a very large amount of snow, and so trees tend to be triangular, allowing snow to fall off. Some pine, spruce and fir trees are common in the taiga.

Precipitation isn’t a problem in the taiga. Most of the precipitation falls in the form of snow in winter, but there is enough water for the plants to survive.

One plant common in some taiga is the pine tree. Notice the needle-like leaves of the pine. These stay green all year long, which means the





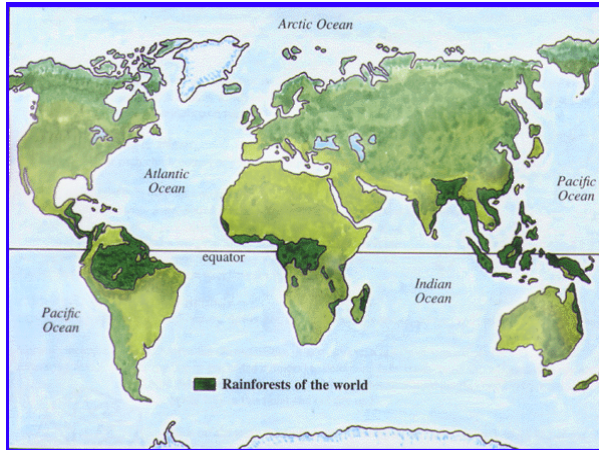
The brown bear is one animal you are likely to find in the taiga. It is a large animal capable of eating both plants and meat. Brown bears have woolly coats, and claws capable of climbing trees and catching prey.

A brown bear must be able to survive through all seasons in the taiga, especially cold weather. This animal cannot get

enough food to survive during the winter, so it has developed a unique adaptation. It will eat a lot during summer and autumn, and then enter a state of sleep for winter. This is called hibernation.

The bear will not eat while hibernating, but the heart rate body processes slow so the bear does not use much energy. This allows the bear to not starve when food is scarce. When the temperature increases, the bear will come out of hibernation, hungry but ready for the new year.





Rainforests are located in the hot, tropical regions of the world. The temperature in these areas is warm all year long. As the name “rainforest” implies, there is a lot of precipitation in these regions. Rainfall ranges from 50 to 260 inches a year!

Because rainforests are so warm and wet, many types of plants can grow in these regions. The plants have to compete with each other for space and sunlight.

It is estimated that more than two-third of plant species live in the rainforest. Because competition is so fierce, plants have adapted to live in this environment. One such plant is the strangler fig. In Spanish, this is known as the ‘killer tree’. This fig starts its life high in the branches of another tree. It lives off of the moisture in the air and the sunlight. As it grows, it sends roots down to the ground. These roots will surround the adult tree and into the soil. This will sometimes kill the tree in the center, and it may die.

Like other plants in the rainforest, the strangler fig has large, broad leaves. These help it compete for sunlight. There is no danger of snow, so the leaves can stay all year long. Branches may be thin to help the fig grow up quickly.



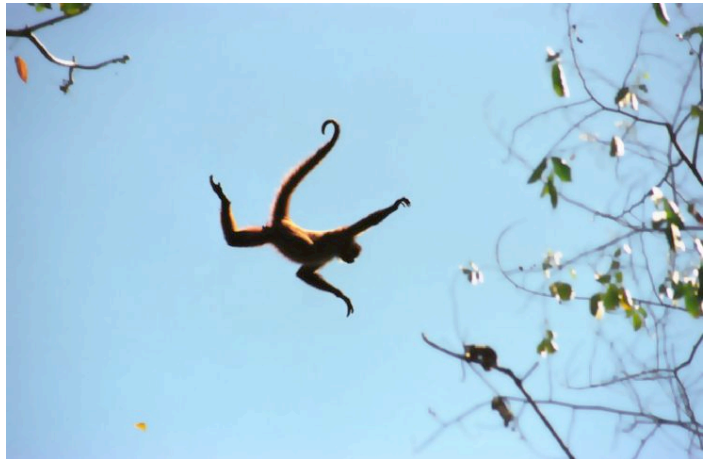


One animal in the rainforest is the spider monkey. This monkey lives in South America. It has long legs and arms, and a special tail that can grab branches.

Spider monkeys eat the fruits and nuts and other foods of the rainforest. They got their names because of their long arms and legs, which spread out to give them a spider-like appearance. They use these arms and legs to swing from tree to tree, sometimes over long distances.

The specialized tail that spider monkeys have is called a prehensile (pre-HEN-sul) tail. This allows the monkeys to keep their balance and acts like another arm or leg.

The spider monkey lives and sleeps among the branches of the rainforest tress. It lives in large social groups and is a very intelligent monkey. This is important because the monkey must remember where fruits and nuts were growing a year ago. They must defend an area and remember who belongs to their group. They must also be able to leap through the high branches without missing their targets.



Now that you have completed all forest biomes, you are ready to take the final quiz. You will be given sample questions and then be given opportunity to continue on to the quiz, or return to the biomes and review.

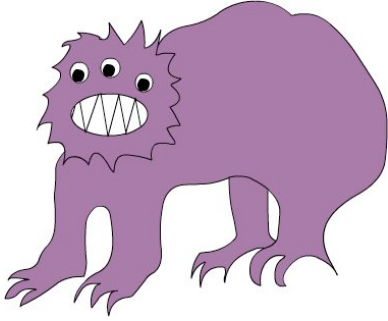
Sample question: Read the following questions and respond with the best answer

An animal that can survive through all four seasons will most likely live in the...

- A. Polar tundra
- B. Tropical rainforest
- C. Taiga
- D. Temperate forest

A plant which needs a large amount of precipitation will likely live in the

- A. Polar tundra
- B. Tropical rainforest
- C. Taiga
- D. Temperate forest



This is a Vobex. It is a plant eater with climbing claws. When it gets cold, its heart slows and it stops eating, but it thrives in warmth

1. Where would you most likely find this animal?
 - A. In high mountains
 - B. Near the equator
 - C. In the water
 - D. Between the polar and tropical regions

2. What is the climate like where the Vobex lives?
 - A. Hot and rainy
 - B. Cold and dry
 - C. All four seasons
 - D. Hot and dry

3. What is the temperature like in the area the Vobex lives?
 - A. Hot in summer, mild winters
 - B. Hot all year long
 - C. Cold most of the year
 - D. Medium all year long

4. What might a Vobex be able to do?
 - A. Be camouflaged in snow
 - B. Hibernate in winter
 - C. Store food
 - D. Remember the location of specific trees

5. What animal on earth does the Vobex most resemble?
 - A. Brown bear
 - B. Squirrel
 - C. Spider monkey
 - D. Dolphin

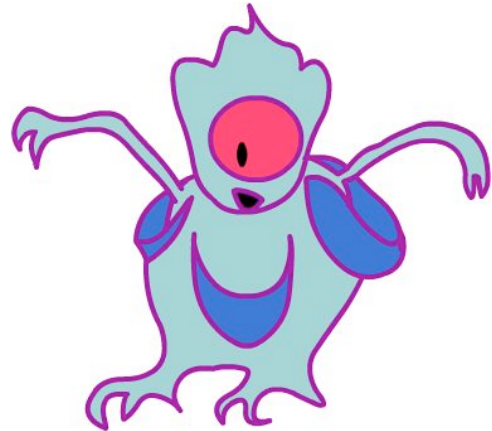
6. Why would a slower heart in winter be good for the Vobex?
 - A. Conserving energy through winter
 - B. Communicating with others
 - C. Swinging between trees
 - D. Allows it to attack prey

This is a Rebeast. It only eats fruit and has thin, strong legs and grasping claws. It is a very intelligent creature.



1. Where would you most likely find this animal?
 - A. In high mountains
 - B. Near the equator
 - C. In the water
 - D. Between the polar and tropical regions
2. What is the climate like where the Rebeast lives?
 - A. Hot and rainy
 - B. Cold and dry
 - C. All four seasons
 - D. Hot and dry
3. What is the temperature like in the area the Rebeast lives?
 - A. Hot in summer, mild winters
 - B. Hot all year long
 - C. Cold most of the year
 - D. Medium all year long
4. What might a Rebeast be able to do?
 - A. Be camouflaged in snow
 - B. Hibernate in winter
 - C. Store food
 - D. Remember the location of specific trees
5. What animal on earth does the Rebeast most resemble?
 - A. Brown bear
 - B. Squirrel
 - C. Spider monkey
 - D. Dolphin
6. Why would long, strong arms be good for the Rebeast?
 - A. Conserving energy through winter
 - B. Communicating with others
 - C. Swinging between trees
 - D. Allows it to attack prey

This little guy was nicknamed “Pockets” due to the growths on its belly and under its arms. When Pockets was brought into the lab, it started putting things into its pockets.



1. Where would you most likely find this animal?
 - A. In high mountains
 - B. Near the equator
 - C. In the water
 - D. Between the polar and tropical regions

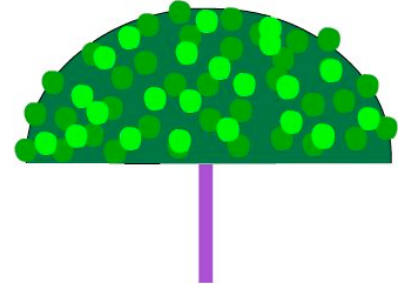
2. What is the climate like where Pockets lives?
 - A. Hot and rainy
 - B. Cold and dry
 - C. All four seasons
 - D. Hot and dry

3. What is the temperature like in the area Pockets lives?
 - A. Hot in summer, mild winters
 - B. Hot all year long
 - C. Cold most of the year
 - D. Medium all year long

4. What might Pockets be able to do?
 - A. Be camouflaged in snow
 - B. Hibernate in winter
 - C. Store food
 - D. Remember the location of specific trees

5. What animal on earth does the Pockets most resemble?
 - A. Brown bear
 - B. Squirrel
 - C. Spider monkey
 - D. Dolphin

This is a smalypsis tree. When the weather gets cold, the branches are bare, but when it's warm, the leaves extend wide.



1. Which plant would probably live in a similar biome?
 - A. Strangler fig
 - B. Pine tree
 - C. Maple tree
 - D. Cactus
2. What might a leaf from the smalypsis tree look like?
 - A. Wide with veins – possibly different color in fall
 - B. Watery and held up with bubbles
 - C. Sharp and needle-like
 - D. Evergreen and large, but dies in the cold
3. What other characteristic would you expect for the smalypsis tree?
 - A. It can live on another plant
 - B. It can survive a heavy snowfall
 - C. It withdraws sap in autumn
 - D. Snow falls off of it
4. Why might the smalypsis be bare in winter?
 - A. Allows the tree to spread offspring
 - B. Prevents water loss
 - C. Keeps the plant closer to the light
 - D. Prevents breakage in winter
5. What amount of rain will the smalypsis likely encounter?
 - A. Lots – maybe 100 inches a year
 - B. Average – not very much or too little
 - C. Very little – 10 or fewer inches annually
 - D. Not applicable



This is pipe tree. It has a long, slender shape with small branches. These branches can hold a lot of weight. It grows well in the freezer.

1. Which plant would probably live in a similar biome?
 - A. Strangler fig
 - B. Pine tree
 - C. Maple tree
 - D. Cactus

2. What might a leaf from the pipe tree look like?
 - A. Wide with veins – possibly different color in fall
 - B. Watery and held up with bubbles
 - C. Sharp and needle-like
 - D. Evergreen and large, but dies in the cold

3. What other characteristic would you expect for the pipe tree?
 - A. It can live on another plant
 - B. It can survive a heavy snowfall
 - C. It withdraws sap in autumn
 - D. It has floating seeds

4. Why might the pipe tree be shaped like it is?
 - A. Allows the tree to spread offspring
 - B. Snow falls off of it
 - C. Keeps the plant closer to the light
 - D. It can shed its leaves



This is squirtle plant. It has hooked ends for hanging and long feelers that grow downward. It can live for a long time without touching the ground.

1. Which plant would probably live in a similar biome?
 - A. Strangler fig
 - B. Pine tree
 - C. Maple tree
 - D. Cactus

2. What other characteristic would you expect for the squirtle plant?
 - A. It can live on another plant
 - B. It can survive a heavy snowfall
 - C. It withdraws sap in autumn
 - D. It has floating seeds

3. Why might the squirtle plant be shaped like it is?
 - D. Allows the tree to spread offspring
 - E. Snow falls off of it
 - F. Keeps the plant closer to the light
 - D. It can shed its leaves

4. What amount of rain will the squirtle plant likely encounter?
 - A. Lots – maybe 100 inches a year
 - B. Average – not very much or too little
 - C. Very little – 10 or fewer inches annually
 - D. Not applicable