



Brevard County Libraries

We are shaking things up a bit with our Summer Reading Program 2021!

In this week's STEAM Packet, our theme is Jungle! Learn all about tropical forests and make your own rain forest terrarium!

STEAM Packets can be picked-up at any branch within Brevard County and are available for curbside service.

All STEAM Packets are developed to be take-home based projects. Most supplies will not be provided by the library and will be listed only as 'Supplies Needed.'



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Storytime, STEAM, Craft, and Teen Packets developed by the Youth Services Department
Department

Jungle



Jungle

A jungle is a tropical forest with dense vegetation and plenty of wildlife. From slithering snakes to fluttering butterflies, tropical forests overflow with life. The weather is always hot and humid. Jungles are similar to woods and forests and are covered in trees, but they also have vines, flowers, fungi and a multitude of animal and insect life. They are damp, dense, forests with different kinds of plant life than those found in the woods in temperate regions like England and the American Northwest.

Rainforests

The most biologically diverse and complex forests on earth are tropical rainforests, where there is plenty of rain and temperatures are always warm. They play an important role because they soak up carbon dioxide and other greenhouse gases and produce oxygen. Rainforests are lush, warm, wet habitats. Trees in the rainforest grow very tall because they have to compete with other plants for sunlight.

The rainforest has four layers. The emergent layer is made up of the very tallest trees that rise higher than the rest of the forest. In the next layer, the canopy, the leaves and branches of the trees all touch one another or are connected by vines. Most animals in the rainforest live in the canopy. The layer below the canopy is called the understory. Small trees and plants that do not need much light grow here. The last layer is the forest floor where only a few plants grow because it's so dark.

More than half of the world's animals live in the rainforest. Vampire bats and anacondas live in the rainforests of South America. Bengal tigers and orangutans live in Asia's rainforests, and chimpanzees live in the rainforests of Africa. Lots of smaller animals live in rainforests too, including dragonflies, tree frogs, and at least hundreds of species of ants.

Terrariums

A terrarium is a self-sustaining miniature garden. Sunlight can enter the container and give the plants energy to continue to live on their own by photosynthesis (where plants use sunlight to make food). Small soil-dwelling invertebrates (insects, worms, and millipedes) can also survive in healthy terrarium habitats. These animals eat left-over plant material or animal wastes and break them down into nutrients that can be used by the growing plants.



A terrarium is also an excellent tool for learning about the water cycle as it demonstrates evaporation, condensation and precipitation. Your plants can water themselves! In the presence of light and heat, water evaporates from the plants through transpiration and from the soil. Since it is an enclosed environment, when the water vapor hits the side of the container, it condenses. Once enough water accumulates or the temperature decreases, the condensation will then precipitate down the sides of the container back into the soil.

Suggested Reads: Books available through your library!

- "Kings of the Jungles" by Lisa Amstutz
- "A Family Guide to Terrariums" by Patricia Buzo
- "Investigating the Water Cycle" by Candace Ransom
- "Rain Forest Habitats" by Arnold Rinstad
- "The Science of Rain Forests" by Richard Spilsbury
- "Great Kapok Tree" by Lynne Cherry
- "When my dad went to the Rainforest" by Gusti
- "Beware the Crocodile" by Martin Jenkins
- "Little Tigers" by Jo Weaver

Make your own Terrarium



Supplies Needed:

1 clear container with a lid (a fish bowl, pickle jar, or even a 2-liter bottle cut in half would work) 1-2 cups of aquarium gravel or horticultural charcoal, damp potting soil, 1-2 terrarium plants (a fern or any tropical plant would work) moss, spray bottle filled with distilled water

Optional Supplies:

Stones, acorns, gnomes, and animal figurines for decoration. Soil decomposers, such as millipedes or earthworms.

Research Questions:

What kinds of plants and animals live in the rain forest?

All of the parts of a rain forest are interconnected and rely on one another to stay healthy. How do the animals help the plants? What is symbiosis?

What is the water cycle and how does it work?

Directions:

This activity is intended for you to do at home with your family.

1. Wash and dry your container.
2. Add a small layer of gravel or charcoal to the bottom of your container.
3. Next, add the potting soil, creating a layer at least 2 inches thick.
4. Poke your finger down into the soil and create a hole for your plant.
5. Gently place your plant into the hole. Add some dirt around the plant and press firmly.
6. Add a layer of moss around your plant.
7. Add small stones, acorns, animal figurines, or gnomes inside your jar to decorate it.
8. Spray your plants with water and close the lid to keep the moisture inside.
9. Place your terrarium where you can observe and enjoy it. Do not place your terrarium in direct sunlight, put in a well-lit area. You can tell that the terrarium contains the right amount of water if the sides and top get misty with water droplets when in bright light.

Reflection:

Check on your jar every few days. Is there moisture forming on the side or top of the jar?

Are your plants growing? Measure them often to see their progress.

Would you need to water your terrarium more or less if it did not have a lid?

Plant some seeds and grow new plants. Observe how the plants interact with each other.

Draw or take a picture of your terrarium.

