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 Safari! We're exploring the Savanna to see if we can spot what makes Giraffe spots so unique! Today we'll experiment with capillary action and learn how to create our own Giraffe spots with just a few items found in your kitchen!

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.'

Brevard COUNTY Libraries

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

A Safari Journey

What is a Safari?

A Safari is a journey or a tour, usually taken in a Jeep or truck through the wilds of Africa. Africa is made up of several diverse ecosystems, such as the Savanna, Grasslands, Rainforest, and Desert. However, these types of ecosystems can also be found in South America, India, Asia, and Australia. Most Safaris take place in East Africa, in the Savanna or Grasslands.

This region is characterized by wide-open plains that are mostly just grass and shrubs, but also have trees scattered throughout (also called tree canopy). The weather is usually hot and dry for most of the year, and they only have a few months of rainfall.

On a Safari you will see many different animals including Elephants, Gazelles, Lions, Cheetahs, and Giraffes, which is the animal we are studying for this experiment!

A Giraffe's Pattern

There are 4 different types of Giraffes: Masai, Rothschild, Somali, and Nigerian. Each type of Giraffe has a different type of spot pattern. In fact, every individual Giraffe has a spot design completely unique to them! Just like how people have different fingerprints! Most importantly, these spots help Giraffes to camouflage themselves among the Savanna landscape.

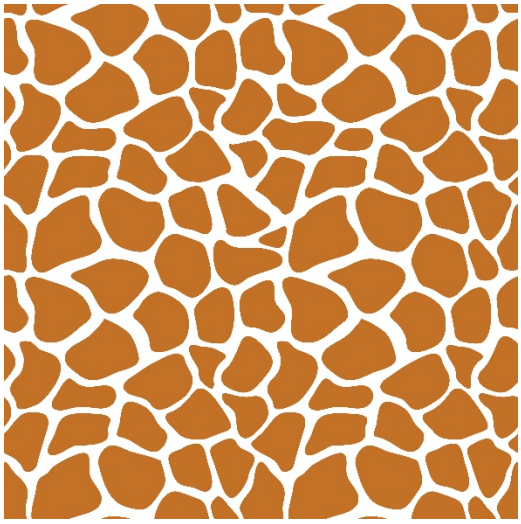
Capillary Action

Capillary action is the process in which a liquid moves up something solid, like a tube, or into a material with a lot of small holes, and moves against the force of gravity. For example: our bodies have small blood vessels called *capillaries,* which carry oxygen and nutrients to cells.

Suggested Reads: Books available through your library!

"Amazing Animals: Giraffes" by Valerie Bodden
"Giraffes in the Wild" by Patricia Kendell
"African Animals ABC: An Alphabet Safari" by Sarah L. Schuette
"Safari Creatures" by Sujatha Menon
"Over in the Grasslands" by Marianne Berkes
“Our Body: Circulatory System” by Cheryl Jakab
“Human Body Works: The Circulatory System” by World Book
"The Science of the Heart and Circulatory System" by Richard Spilsbury

Capillary Action Experiment



Supplies Needed:

Paper towels, watercolor paints, water, paintbrush.

Optional Supplies:

You can use food coloring and water if you don’t have watercolor paints. You can also use a straw in place of a paintbrush to pick up the colored water and drop it onto the paper towel.

Predictions:

What will happen when the colored water touches the paper towel?

Do you think the colors will mix together?

Do you think the pattern of the water will look like Giraffe spots?

Directions:

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

1. If you are using watercolor paints, wet your paints generously with water. If you are using food coloring, fill a few cups with water, add drops of different colors in each cup.
2. Set out a piece of paper towel on a flat surface, preferably on a large pan or on top of a disposable tablecloth, so the colored water doesn't get on anything else.
3. Wet your paintbrush and dip it into the first color you want to use. If using a straw, dip one end into the colored water, then place your thumb over the top of the straw.
4. Using a paintbrush, dab your first paint color onto a random spot on the paper towel. If using a straw, (with your thumb still covering the top) move the straw over the paper towel, then release your thumb to let the colored water out.
5. Repeat with 1-2 more colors, trying to keep all your spots close together to resemble a pattern.

Observe: write down what you see happening as the colors touch the paper towel!

Reflection:

Write your responses down for the following questions.

Did your colors blend together? Which new colors did they make?

What made the colored water/paint move across the paper towel?

How do Giraffes use their spots for camouflage?

How are Giraffe spots similar to our fingerprints?

What's another example of capillary action that occurs in nature? (Hint: Plants)