Design a Rain Shelter

Engage and Reflect
Watch *Virtual Vitamin Z - Zoo Educational Lesson: Spotting Amphibians in the Amazon Rainforest.* https://www.youtube.com/watch?v=j7NqBc7LP_0

Skills
- Problem Solving
- Engineering

NGSS Science and Engineering Practices
- Developing and using models
- Planning and carrying out investigations

Experience
- Time varies
- 1 or more people

The Detroit Zoological Society surveys the species of amphibians that live in the Amazon rainforest, taking photos of frogs and toads and documenting where they are found. This valuable information tells us a lot about the health of the rainforest ecosystem, as amphibians can't survive in contaminated environments. Doing field work in the rainforest, like amphibian surveys, is hard work with many challenges, including getting caught in rainforest downpours! This activity will design a model rain shelter to keep the conservation team dry!

Celebrating and Saving Wildlife
The Amazon rainforest is one of the most biodiverse places on Earth, meaning there are many species of plants and animals there. It is very important to learn about and protect the complex rainforest ecosystem.

Take Action
Scientists need information about the frogs and toads that live in our neighborhoods, too. You can be a citizen scientist by participating in the FrogWatch USA program. Visit https://detroitzoo.org/animals/frogwatch/ for more information!

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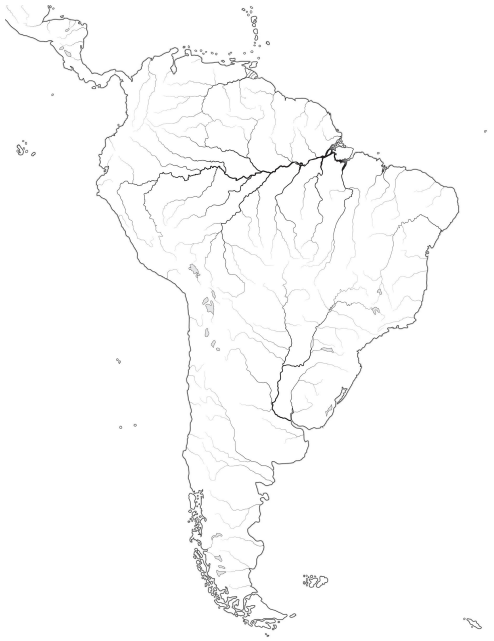

Tools

Found materials from around your home
Cup or watering can of water
Small object (Lego person, plastic figurine, wine cork, etc.)

1 or more people

Directions

Waterproof or absorbent?

- Collect some materials from around the house.
- See which repel water and which absorb water.
- Which materials would make a good shelter to keep an object dry?

Design a Structure

- Decide which materials you will use to make your structure.
- Design a structure large enough to fit a small object in.
- Pour water on the structure for about 10 seconds.
- The structure should keep your object dry for at least 10 seconds.
- If your object gets wet, modify your design and try again!

Notes - Engineers test and redesign their models all the time, sometimes they have to go back to the drawing board and restart. Don't be discouraged if your design doesn't work on the first try! To see some designs that have been created, watch this short video: https://www.youtube.com/watch?v=VchO2vUaW6g

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