Design a Wildlife Rescue Raft

Engage and Reflect
Watch *Virtual Vitamin Z - Zoo Educational Lesson: Wildlife Rescue Design Challenge*
https://www.youtube.com/watch?v=IScx_yS4Ebs

Skills
- Problem Solving
- Engineering
- Density / Buoyancy

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

Experience
- Time varies
- 1 or more people

Each year, the Amazon River floods its banks, creating islands as the fast moving water cuts between areas of land. Sometimes animals can become stranded on these quickly forming islands. Your challenge is to select materials to build a raft or floating structure that floats for 30 seconds. Once you have a structure that floats, see how many animals you can rescue off the island!

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
Changes to the Earth's climate are causing seasonal floods in the Amazon rainforest to happen more often. By carpooling and taking public transportation whenever possible, we can reduce the amount of gases that cars emit. These gases act as a heat-trapping blanket in the atmosphere, warming the Earth and causing the climate to change. If you encourage friends and family to do the same, we will make an even bigger impact!

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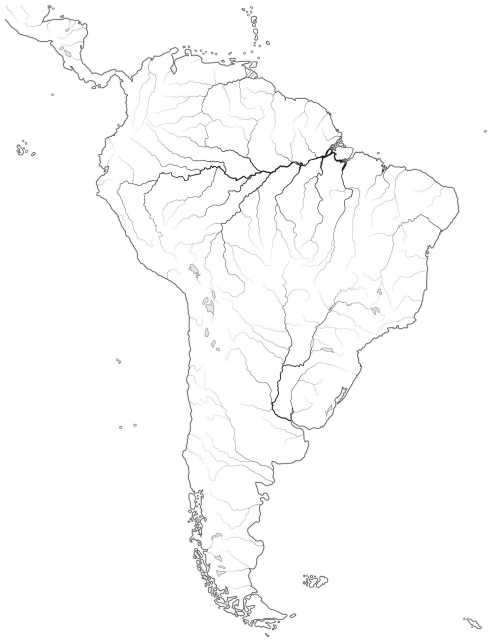
Celebrating & Saving Wildlife

Design a Wildlife Rescue Raft



Tools

Found materials from around your home
Bucket or sink with water
Pennies, dimes and quarters

1 or more people

Directions

Sink or Float?

- Collect some materials from around the house.
- See which sink and float by placing them in water.
- Chart which ones sink and which ones float.

Design a Structure

- Decide which materials you will use to make your floating structure.
- Design a structure and see if it floats.
- If it doesn't, modify your design. Engineers often have to modify and try new ideas.
- Once your structure floats for at least 30 seconds, celebrate!

Animal Rescue

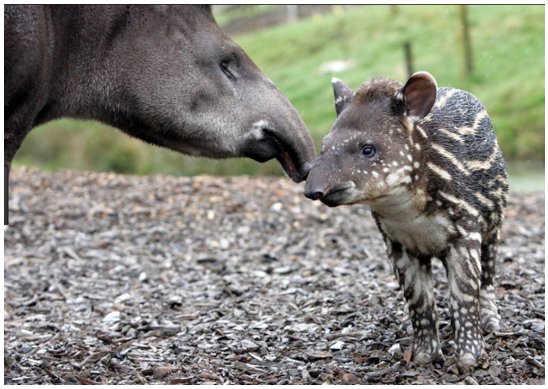
- See how many animals your structure could rescue off an island.
- Place coins on your structure:
    - 1 quarter = 1 tapir
    - 1 penny = 1 monkey
    - 1 dime = 10 frogs

Notes - This activity can be scaled up or down. For young children, focus on the floating and sinking aspect. For older kids, make it more challenging, limit the type of materials they can use, or increase the amount of weight it needs to hold.

To see some designs that have been created, watch this short video:
https://www.youtube.com/watch?v=hOil8rg6S_w

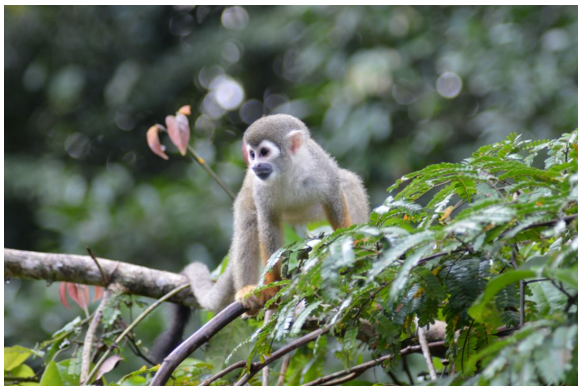
1 quarter = 1 tapir

Tapirs live on the rainforest floor, eating fruits and plants. When they digest their food, they poop out seeds from the fruits and plants they ate, spreading the seeds and planting the next generation of rainforest plants.



1 penny = 1 monkey

Monkeys live in the rainforest canopy, moving from tree top to tree top as they look for fruits to eat. When they digest their food, they poop out the seeds, spreading the seeds throughout the rainforest.



1 dime = 10 frogs

Frogs are very important parts of many ecosystems. They eat a lot of insects, including insects who carry diseases or are bothersome to humans and other animals.