**Bogged Down**

**How Much Water Does It Hold?**

Bogs are unique wetland environments that contain lots of water. Sphagnum moss and other plants grow in bogs. As the plants decay, they form peat.

**You’ll Need**

(per small group)

- natural materials that absorb water (potting soil, sphagnum moss, sand, etc.)
- man-made materials that absorb water (sponge, paper towels, newspaper, etc.)
- 3 16-oz. plastic cups
- water
- scale

**45 minutes**

**1. Introduce bogs.** Bogs are a type of wetland that can hold a lot of water because of the plant material in them. Ask the group if they can think of some benefits to plants growing in an environment that holds a lot of water.

**2. Brainstorm.** Break into small groups and introduce the SciGirls® Challenge: Determine which material holds the most water. Each group should select three different materials to test (natural or man-made). Ensure that they start with the same amount of each material for their experiment. Using the cup and scale, the youth should come up with a way to measure the amount of water each material can hold. As a large group, discuss strategies to make sure the test is controlled. How can they make sure the material can’t hold any more water?

**POINTER:** If youth are stuck, suggest they add water to the material slowly until it seems like it can’t hold any more. They can test by carefully tipping the cup to see if any water comes out.

**3. Test.** Guide youth as they record the data for all three materials. Which material holds the most water? How do we know?

**POINTER:** If youth are struggling with calculation, guide them through determining the amount of water held by each material in reference to its original weight. For example: cup, soil, water weight = 3.8 lb. Cup, soil weight = 1.6 lbs. Amount of water held = 3.8 – 1.6.

**4. Share.** Discuss the results. Which material held the most water? Any ideas why some materials hold water better than others? Ask youth to think about the ground where they live. What is it made of? Why might it be important to know how much water the ground can hold?

**5. Continue exploring.** In addition to holding lots of water, bogs are also good at preserving things buried in them. Watch the DragonflyTV episode **GPS: Bogs** on PBSLearningMedia.org.

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