

SALT CRYSTAL TREE

Trees need water to survive. But how do they get it? They take in water from their roots. The water travels from the ground up, through their trunks, into their branches, and all the way into their leaves. This is called capillary action, and it happens when a liquid moves in the opposite direction of gravity. In this case, water is traveling up!

Lindsey performs climate change experiments on trees in Hubbard Brook Experimental Forest in New Hampshire. In this activity, we'll perform an experiment on a cardboard tree with water, salt, and liquid bluing. Once you see the salt crystals blooming on the tree—which once started in the liquid at the tree's "roots," you'll witness capillary action in, well, action!



Lindsey Rustad is a forest ecologist for the USDA who spends most of her time out in the field.

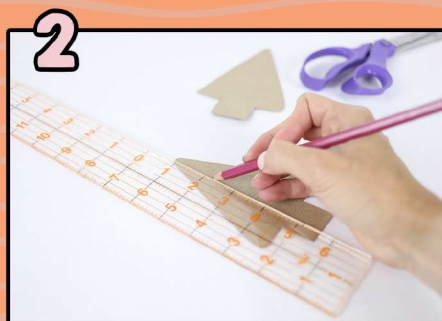
YOU WILL NEED :

- Printable template
- Scissors
- Pencil
- Thin cardboard (like the back of a notebook)
- 1 tbsp Mrs. Stewart's Liquid Bluing
- Food coloring (optional)
- Bowl
- 1 tbsp water
- 1 tbsp table salt

ALWAYS ASK AN ADULT FOR PERMISSION AND HELP!



Print template and cut out.
Trace onto cardboard.
Cut out.



Using a ruler, draw a line down the center of each tree.



Carefully snip branches along the edges of each tree. Using the center line as a guide, cut a slit into the top of one tree and the bottom of the other.



4



Using the slits as a guide, slide the trees into place. Bend branches slightly.

5



If you'd like your crystals to be colored instead of white, drop food coloring directly onto the branches. Do this over a bowl to catch the drips.

6



Mix salt, water, and Mrs. Stewart's Liquid Bluing in a shallow bowl. Place tree inside. Wait 24-48 hours to see your tree begin to sprout.

THINK ABOUT IT!



For her job as a forest ecologist, Lindsey does a lot of field work, which means she conducts research outside in nature instead of in a lab. Field work is important in natural sciences as well as social sciences, which studies people, cultures, and societies. Why do you think field work is important for scientists? How does field work in natural environments help us understand climate change?

Lindsey has studied acid rain and how it affects our environment. Acid rain is created by human pollution. When fossil fuels are burned, like when a power plant burns coal to create electricity, pollutants are released into the atmosphere. They eventually react with water and fall back to Earth as precipitation. When acid rain seeps into the soil trees absorb polluted water, which can kill their roots. How else do the actions of humans affect plants and animals on our planet?



LEARN MORE

Tree by David Burnie
DK Eyewitness, 2015

Start Now! You Can Make a Difference by Chelsea Clinton
Philomel Books, 2018

What Is Climate Change? By Gail Herman
Penguin Workshop, 2018



FUN FACT!

The world's largest tree is a giant sequoia in California called General Sherman. It's about 275 feet tall, 36 feet in diameter, and about 2,000 years old.

TEMPLATE

