



Photo by Brian Gratwick, [Mangrove Propagules](#)

Float On

Have you ever floated in water before? What kept you from sinking? The seeds of island trees like mangroves and coconut palms float, too. This special ability to float allows seeds to travel to new locations far away from their parent trees. Explore how shape, density, and material affect a seed's ability to float.

Materials

Large bowl, tub, or sink

Items that float and sink, such as: popsicle sticks, paper, cardboard, plastic

Items to join other items together, such as: rubber bands, packaging tape, duct tape, plastic wrap

Scissors

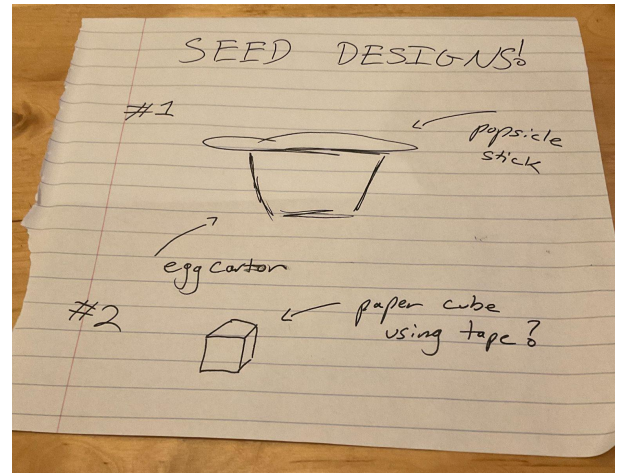


Directions

1. Fill a bowl, tub, or sink with water.
 - a. Test materials to see what sinks and floats. What do you notice?
 - b. Try adding tape to paper materials, what happens?
 - c. Try adding weight to an item, what do you observe?



2. **Draw** a design for a floating seed. You can learn more about seeds that float on page 3 and can use those seed shapes for inspiration.
3. **Craft** your seed.
4. **Test** the seed in the water. What worked well? What didn't work well?
 - a. **Make adjustments** and try again.
5. Challenge: How long can your seed float? How long do you think it could travel?
6. Challenge: Add a marble or small toy to the inside of your seed. Can you still get your seed to float with the extra weight?



Mangroves

Mangrove seeds have a special adaptation that allows them to germinate while still attached to their parent tree. This ability gives them a head start on growing before they fall to the water, float to a new location and take root. The long pencil-like shape of the seed is weighted so that the root side floats lower in the water than the first sprouting leaves. The root is ready to grow down into the sand as soon as the seed floats to a good location.

Image to the right: Mangroves sprouting at the California Academy of Sciences.



Coconuts

Coconuts are the seeds of the coconut tree, which is a species of palm tree. Coconuts have an outer husk, a hard shell, a layer of coconut meat, and are filled with coconut water. They are very buoyant and can float for weeks. Coconuts are culturally significant to communities in the Western Pacific and South Asia. Coconuts were first domesticated by the Austronesian peoples in Southeast Asia and were spread throughout Micronesia, Polynesia, Melanesia, Southeast Asia, and Madagascar. In addition to being spread through domestication, coconut palms have spread all over the world by coconuts floating on ocean currents—including as far north as Norway!

Image to the right: Coconut Sprouting

