WEEK 7: UNDERWATER ADVENTURES

GET READY TO DIVE IN WITH US AS WE EXPLORE LIFE UNDERWATER!

Water covers most of the Earth's surface. From oceans to rivers, to lakes and swamps, aquatic environments are diverse and so are the organisms that live within them. Whether it be the icy ocean water of the Arctic, a shallow pond in the forest or a fast-moving river, these areas all provide unique spaces for plants and animals to live. Some organisms make their homes on the seafloor, some float near the surface and others move and swim at different depths. In order to learn about how things live under water, people have invented different tools to help study them including underwater submersibles, scuba gear, sonar and waterproof cameras.

DAY 4: OCEAN IN A BOTTLE

Almost all the water on Earth is located in the world's oceans. Oceans are huge bodies of water that separate continents and stretch from the North Pole to the South Pole. They are amazing environments that are home to diverse plant and animal life. Ocean currents, or the continuous movement of water from one place to another, help carry nutrients and food to some sea creatures while also moving heat around the earth to help control the climate. Wind also moves ocean water in the form of surface waves. Let's make an ocean in a bottle to see how water moves!

Before you start, you should have:

- A jar or plastic water bottle with a lid
- Water
- Blue and/or green food coloring
- Two tablespoons oil
- Tape or glue
- Optional: glitter, sand, small stones, beads or craft shells

Get started:

1. Fill the jar or water bottle until it is three quarters full, leaving air at the top.
2. Add your desired food coloring.
3. Add two tablespoons of oil to the bottle. This will help you see how the water moves.
4. Add any optional materials to the bottle such as sand, stones, glitter, beads or small craft shells. This will help you see how things in the ocean can move with the current.
5. Tape or glue the bottle shut so that it doesn't open.
6. Experiment by titling the bottle back and forth at different speeds to see the way the water moves inside.
   - Do you see waves on the surface?
   - Do you see any bubbles?
   - Do you see any movement in the middle or the bottom of the bottle?
   - When you stop shaking it, how long does it take for the water to become still?
7. Display your creation or tell someone about your ocean in a bottle!

Keep exploring!

You can make a tide pool to explore what the shallower areas of the ocean are like:

- Use a cake pan or turkey pan and put a layer of dirt in the bottom. One side should have more dirt piled up than the other. Place some stones and other objects, like beads, small toys or shells, to be tide pool animals. Pour water in the shallow side of the pan so that it doesn't cover the side with more dirt. Slowly tip the pan so that the water moves onto the dirt. Then, lay the pan flat again.

o How did the water move?
o Did the dirt and everything else in the tide pool look the same after the tide washed over it or did it look different?
o Did any of the objects move with the tide?

What did you find?

Upload a photo or video and tag the Sam Noble Museum on Instagram or Facebook. You can also use the hashtags **#samnoblehome** and **#summerexplorers** to share!

More information on oceans and tide pools:

https://www.dkfindout.com/us/earth/coasts/tide-pools/

https://kids.nationalgeographic.com/explore/nature/habitats/ocean/

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