

Thanks for downloading the Ocean Freeze Experiment Printable from Let's Jet, Kids!

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Ocean Freeze Experiment

Fill 2 large containers with 2 cups of water each. Add 1 T salt to container #2 and stir until dissolved. Put in freezer for 4 hours. Then answer the questions below.



Without Salt



With Salt

Color what you see in each cup below



Which cup froze completely?



Discuss: Why do you think that happened?

Explanation

After the cups have been in the freezer, you'll probably see that the water-only cup is mostly, if not completely, frozen after 4 hours (depending on how wide your container was). Container #2 with the salt may have frozen a little as well, but if you push your finger into it, you'll see that it is more of a slush-texture and still very much water underneath that layer. It's not quite as frozen as the water-only container.

Salt lowers the freezing point of water by a couple degrees, therefore taking longer for the saltwater to freeze! While freshwater freezes at 32 degrees, the salt in saltwater displaces some of the water molecules, disallowing each water molecule to easily bind to each other and requiring a lower temperature to freeze.

Because the ocean is so large and so full of salt, only a top layer of the ocean in the Arctic (the coldest part of the world!) will freeze during the winter.