



After many days on the river, Derring started doing tricks and, of course, fell out of the umbrella.

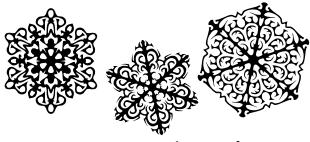


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The shape of the crystal that water molecules form is a hexagon, and this is why snowflakes are six-sided.



When water freezes, the molecules line up in a crystal structure so that their perfectly matched. To make this lattice structure, they have to spread out. This is why ice expands when it freezes.

EXPLAINS
WHEN FROZEN.

1. Frost Wedging

Materials:

- Water
- Oil
- 2 identical containers
- Balloons
- Freezer
- Plaster of Paris or gypsum

Method:

- Fill one balloon with water and one balloon with oil (optional).
- Prepare containers for plaster, for example, by cutting a small cardboard container in half.
- Place balloons in containers.
- Mix plaster & water according to directions and pour it in the containers around the balloons.
- Let dry and then freeze. Remove containers and observe.

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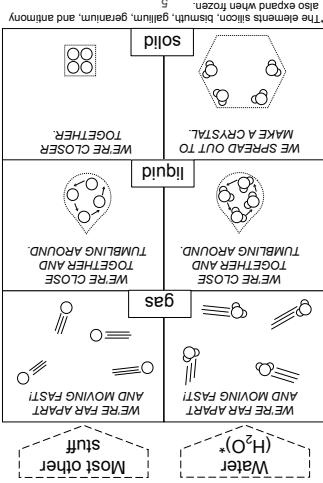
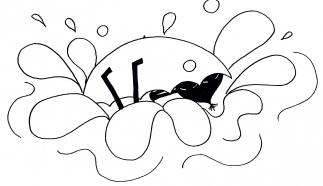
MATERIALS:
d) Seal a lid onto the large can and roll the can across the floor for 10 minutes.
e) Carefully remove the small can from the sides. Drain the water from the large can.
f) Seal the ice and salt and roll for 10 minutes.
g) Scrape down slides and set the them apart for 10 minutes.

- Seal little coconut milk and scrape down the ice cream forming on the sides. Drain the water from the large can.
- Refesh the ice and salt for 10 minutes.
- Seal the ice again and roll for 10 minutes.
- Scrape down slides and set the them apart for 10 minutes.
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4. Ice Cream in a Can

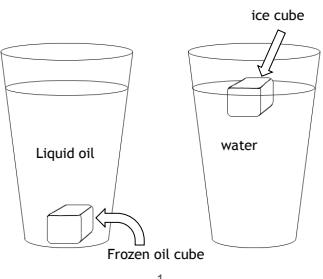
SCIENCE MOM'S Guide to WATER, Part 4

SPLASH!



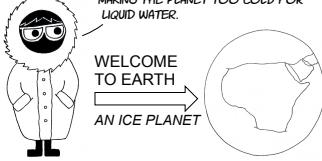
Ice floats in liquid water, but the OPPOSITE happens for most other substances!

To see the "regular" way solids behave, place a frozen cube of oil into a cup of liquid oil. It will sink straight to the bottom.



1

WHAT IF ICE DIDN'T FLOAT?*
IF ICE SANK, ALL THE OCEANS AND LAKES WOULD FREEZE FROM THE BOTTOM UP! THEN THAT FROZEN WATER WOULD REFLECT RADIATION FROM THE SUN, MAKING THE PLANET TOO COLD FOR LIQUID WATER.



IF ICE SANK, WE WOULD LOSE THE REFLECTIVE FLOATING SEA ICE AT THE POLES! THEN THE PLANET WOULD HEAT UP SO MUCH THAT NEW ICE WOULDN'T HAVE A CHANCE TO FORM AT ALL.

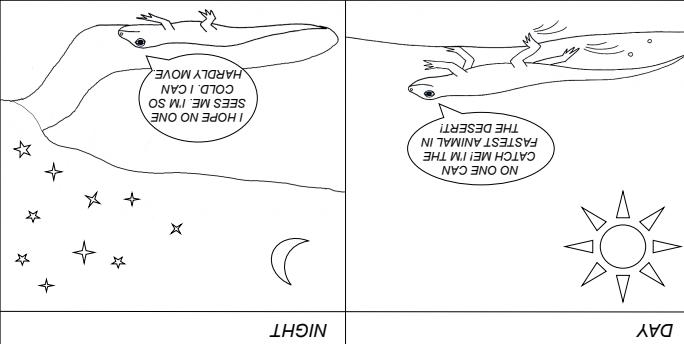


*Scientists don't agree on what would happen.

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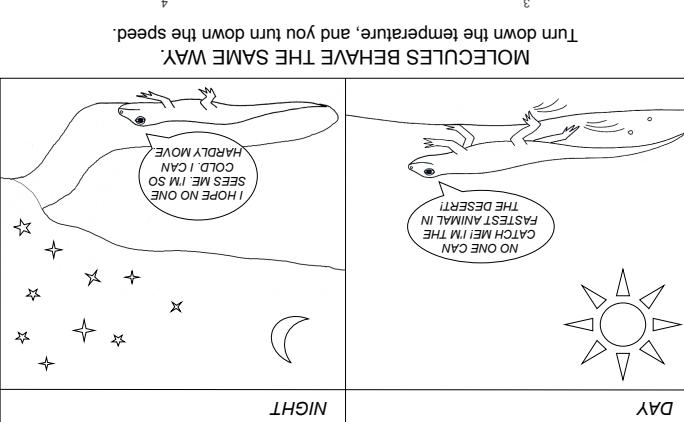
Turn down the temperature, and you turn down the speed.

MOLECULES BEHAVE THE SAME WAY.



To understand how liquids turn into solids, it helps to remember something about reptiles: They move fast when they're warm, and are sluggish and slow when cold.

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2. Magic Slushy

Materials:

- Bottles of carbonated soda
- Freezer
- Cup and spoon

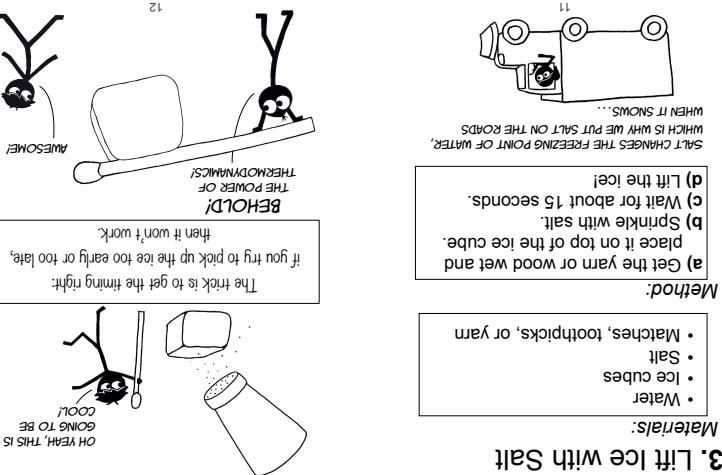
Method:

- Place the bottle of soda in the freezer for 3 hours. (YOU MAY WANT TO PLACE SEVERAL IN THE FREEZER AND TAKE THEM OUT AT 30 MINUTE INTERVALS ONCE THEY'VE BEEN IN THE FREEZER FOR AN HOUR. THE CORRECT TIME TO REACH THE "SUPER COOLED" STATE WILL VARY BY FREEZER.)
- Remove soda and be careful not to bump or jar it too hard. Open lid slowly and pour soda into an ice-cold cup. If it is super-cooled, it will freeze into a slushy as it is poured.

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3. Lift Ice with Salt

Materials:

- Water
- Ice cubes
- Salt

Method:

- Get the warm or wood wet and salt it with salt 15 seconds.
- Place it on top of the ice cube.
- Wait for salt to melt.
- Sparkle with salt.
- Lift the ice!

Materials:

- Matches, toothpicks, or yarn

Method:

- Get the warm or wood wet and salt it with salt 15 seconds.
- Place it on top of the ice cube.
- Wait for salt to melt.
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