

## Getting to Know: Changing States

You and your friends stand at the top of a huge hill in a park. The air is crisp and snow is falling lightly. The hill is covered in powdery white snow. Not a single footprint can be seen all the way down to the bottom. Each of you holds a favorite sled. Let the races begin!

Hours pass as you make run after run until you are exhausted. Finally, you make your way home at dusk. Your mom hands you hot chocolate as you walk in the door. "How was sledding?" she asks. The only word that comes to your mind is "Awesome!"



Sledding can be fun when the conditions are right.

### Could life get any better?

The next day, you head to the park for more sledding. You are sweating before you even get there because it's much warmer than yesterday. The snow crunches under your feet. Water is flowing in the gutter. Mist is rising from the ground and the roofs of houses.



These icicles will melt and the water will vaporize.

You look down the hill and see hundreds of footprints. There are patches of grass surrounded by muddy snow. Water drips from the icicles that hang from the trees above you. Even though much of the snow is gone, you try to sled down the hill. Your sled sticks in the mud and you flip head over heels down the hill.

### What happened to all the snow?

Some of the snow melted. Snow is a solid made of frozen, crystalline water. When enough heat is added to a solid, it becomes a liquid. Solids and liquids are states of matter, so melting is a *change of state*. In this case, the snow changed from a solid to a liquid.

Some of the snow also *vaporized*. This means that there was a change of state from a liquid to a gas. A liquid will vaporize to a gas when enough heat has been added. You observed this as mist rising from the melting snow on the ground and the tops of houses.

