

Kids' Corner

The science behind frozen water pipes

Much of this issue of *The Flow N' Go* is devoted to protecting your home from winter's bitter cold—especially keeping your water pipes from freezing.

Water can take three different forms: liquid (water), gas (steam or vapor) and solid (ice). It is the solid form of water that can damage your water pipes. Ice expands but pipes don't.

As the water freezes, it takes up more space than when it was still in the liquid form. It expands. This causes pressure inside the pipes to increase, often resulting in the pipe breaking.

Interestingly, the pipe will usually not burst at the frozen part but somewhere between the area of the freeze and the faucet. The ice blockage can cause thousands of pounds of water pressure to build up.

Leaving the faucet dripping, one of the suggestions offered in the article on the front of this newsletter, will relieve the pressure buildup. (A dripping faucet will not prevent the pipes from freezing but can slow the freeze process and can prevent the pipe from bursting if it does freeze.)

To view a YouTube video of how a pipe can freeze and burst, Google "Steve Stangler Science Bursting Water Pipe." There are a few videos that both kids and adults alike will enjoy by seeing the science behind a bursting water pipe.