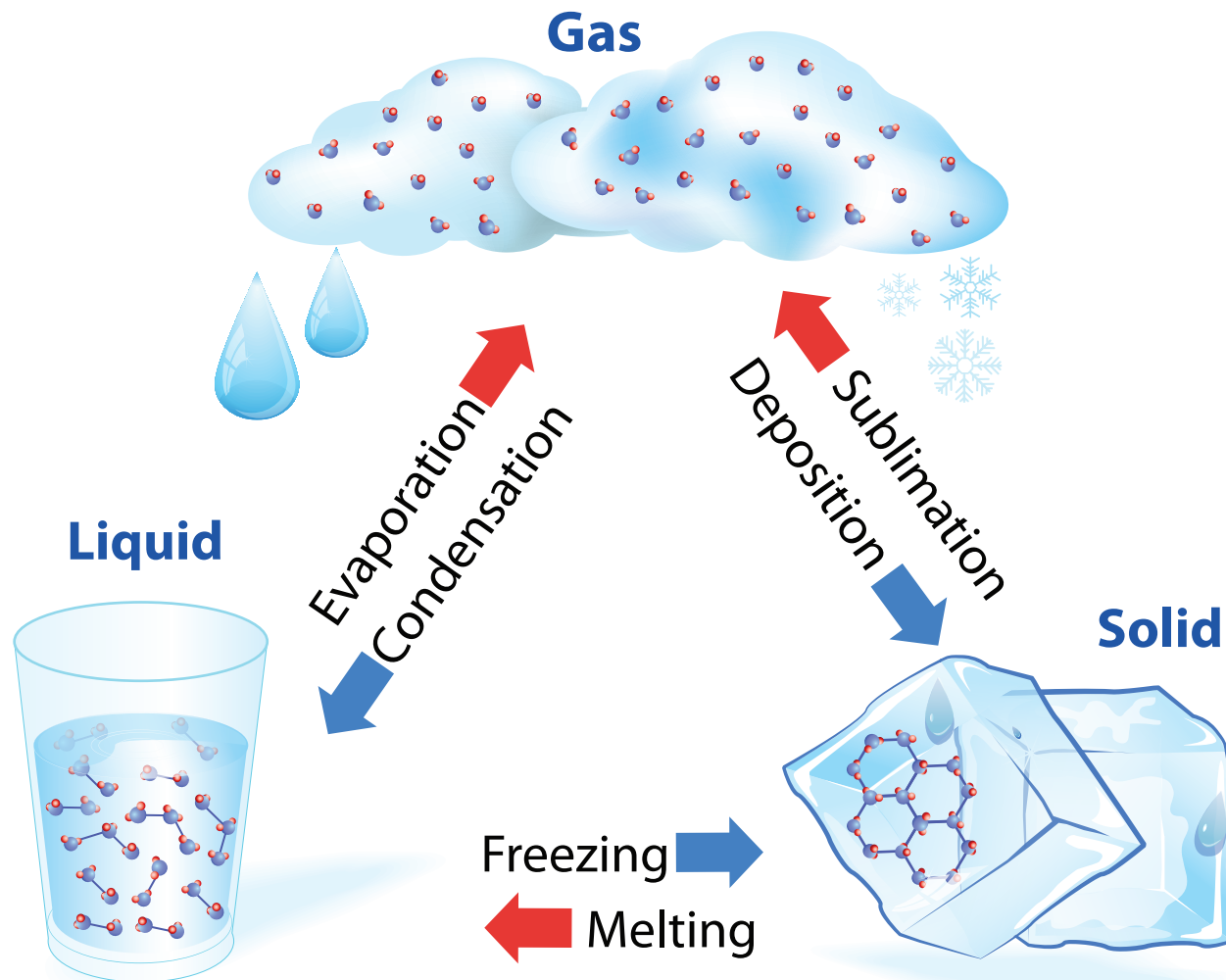
The background of the slide is a close-up, high-resolution image of ice crystals. The crystals are translucent and have a complex, faceted structure with various sharp edges and flat surfaces. The lighting creates a range of blue and white tones, highlighting the intricate patterns of the ice. The overall appearance is that of a natural, crystalline material.

The Effect of Salt on Ice

Discussion Questions:

- 1) What happens to ice when salt is applied to its surface?**
- 2) Why does this happen?**
- 3) How can this effect be applied to real life situations?**

The Freezing Point of Water



When water cools the movement of molecules slows down.

When water approaches the freezing point the molecules are attracted to each other. They clump together as ice crystals, forming a solid.

The freezing point of water is 0°C .

The Freezing Point of Salt Water

The chemical name for table salt is sodium chloride. It is made up of the elements sodium and chlorine.

The addition of this compound changes the chemical structure of the water.

The molecules do not clump together as easily any more and the salt water needs to get to a much lower temperature before it will freeze. This temperature is about -21°C .



Practical Applications

This effect is useful for removing the dangerous icy surface of roads in winter.

The addition of salt lowers the freezing point of the ice to as low as $-21\text{ }^{\circ}\text{C}$. As long as the surrounding air is warmer than this temperature, the salt will cause the ice to melt. However, if the air temperature is lower than $-21\text{ }^{\circ}\text{C}$ the ice will stay frozen and salting the road will not work.

