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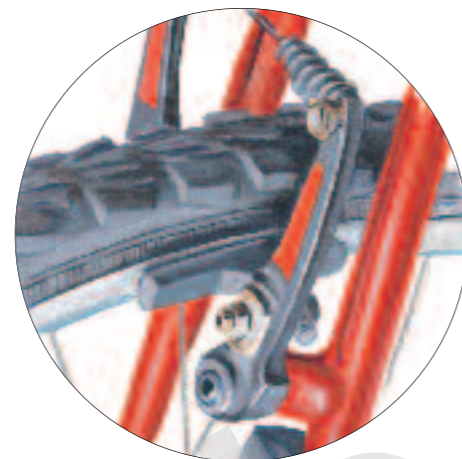
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# INTRODUCTION

**S**CIENCE is about studying the world around us and how it works. Scientists try to find answers to questions such as why the sky is blue, which family a certain animal belongs to or how big the Universe is. New discoveries are made every day, but there are still many questions that remain unanswered.

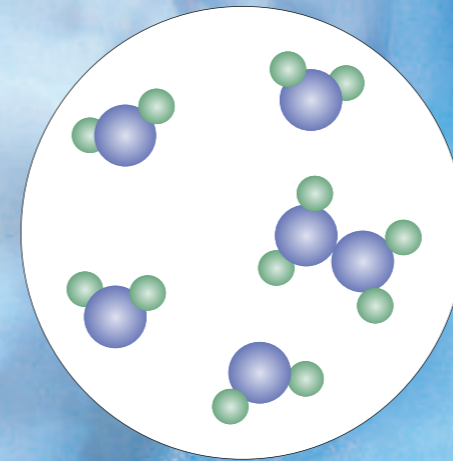
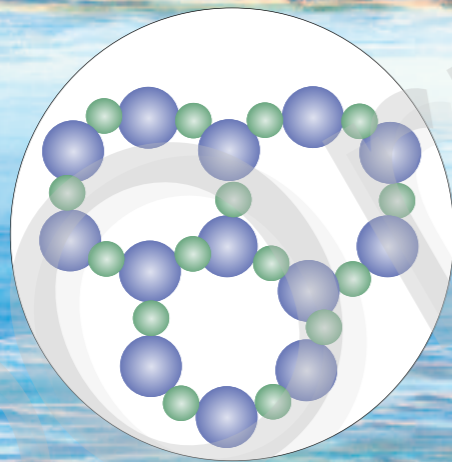


# STATES OF MATTER

**M**OST substances exist in one of three states: solid, liquid or gas. They change from one state to another when they are heated or cooled. Water is a liquid at room temperature, but if you freeze it, it becomes a solid (ice). When boiled it turns into a gas (water vapour or steam).

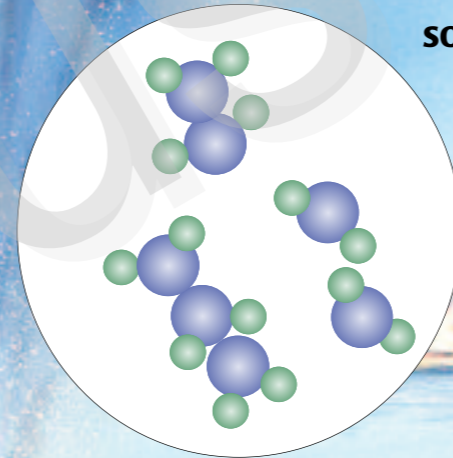
**Geysers demonstrate well how water changes from one state to another. The water is heated by hot underground rocks. When it reaches boiling point, it shoots up out of the ground as steam and hot water. When it comes into contact with the cold air, it cools and falls back to the ground as liquid water.**

**The molecules in a solid are tightly packed and do not move about much. This is why solids have a fixed shape.**



**The molecules in a gas are far apart. They can move about a lot. This is why gases have no fixed shape.**

**A glacier is a slow-moving mass of ice. This is water in its solid state.**



**The molecules in a liquid are not all joined together. They move about more and spread out to fill the shape of their container.**

Glacier



## CRYSTALS

In many solids, the molecules are arranged in regular patterns called crystals. Crystals are flat-faced, straight-sided shapes. They fit together to form much bigger regular shapes. Snowflakes (*above*), salt, sugar, many metals and minerals in rocks, such as quartz (*below*) are made up of crystals.

