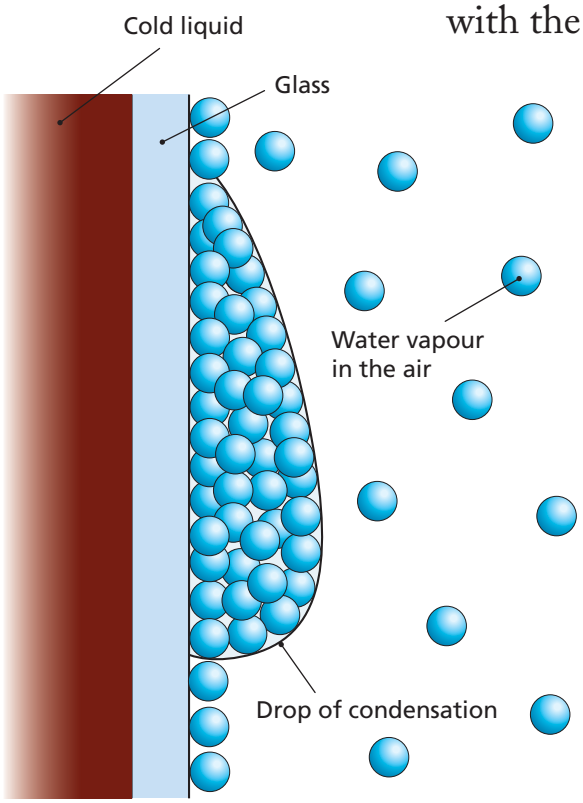
8 Condensation

When a gas cools, it turns back into a liquid. This is called CONDENSATION.

The air contains invisible water. We call this **MOISTURE** or water vapour. You cannot see, smell or taste water vapour – but it's there. However, you can sometimes sense that there is a lot of water in the air because it feels moist, or humid.

(Picture 1) Condensation forms on the outside of a glass of cold drink.



Condensation gives wet surfaces

When a gas blows against a cold surface some of the heat of the gas is transferred to the cold surface. The colder air cannot hold as much water vapour as when it was warm, so some vapour settles out on the cold surface and builds up into water droplets. This is condensation (Picture 1).

There are many examples of water vapour condensation on cold surfaces. A drink taken from a fridge will often quickly develop a wet surface. A single-glazed window will often be covered by condensation overnight, because the air inside the room was cooled by contact with the cold window.

Condensation happens outdoors, too. Early in the morning it is common to find a coating of moisture on the grass. This is called **DEW** (Picture 2).

Condensation in the air

The most common place for condensation to happen is high in the air. Here, it is responsible for clouds forming (Picture 3).

The air contains countless particles of salt and dust that

are too small to see. When air becomes cold, these particles act as places for water vapour to condense onto.

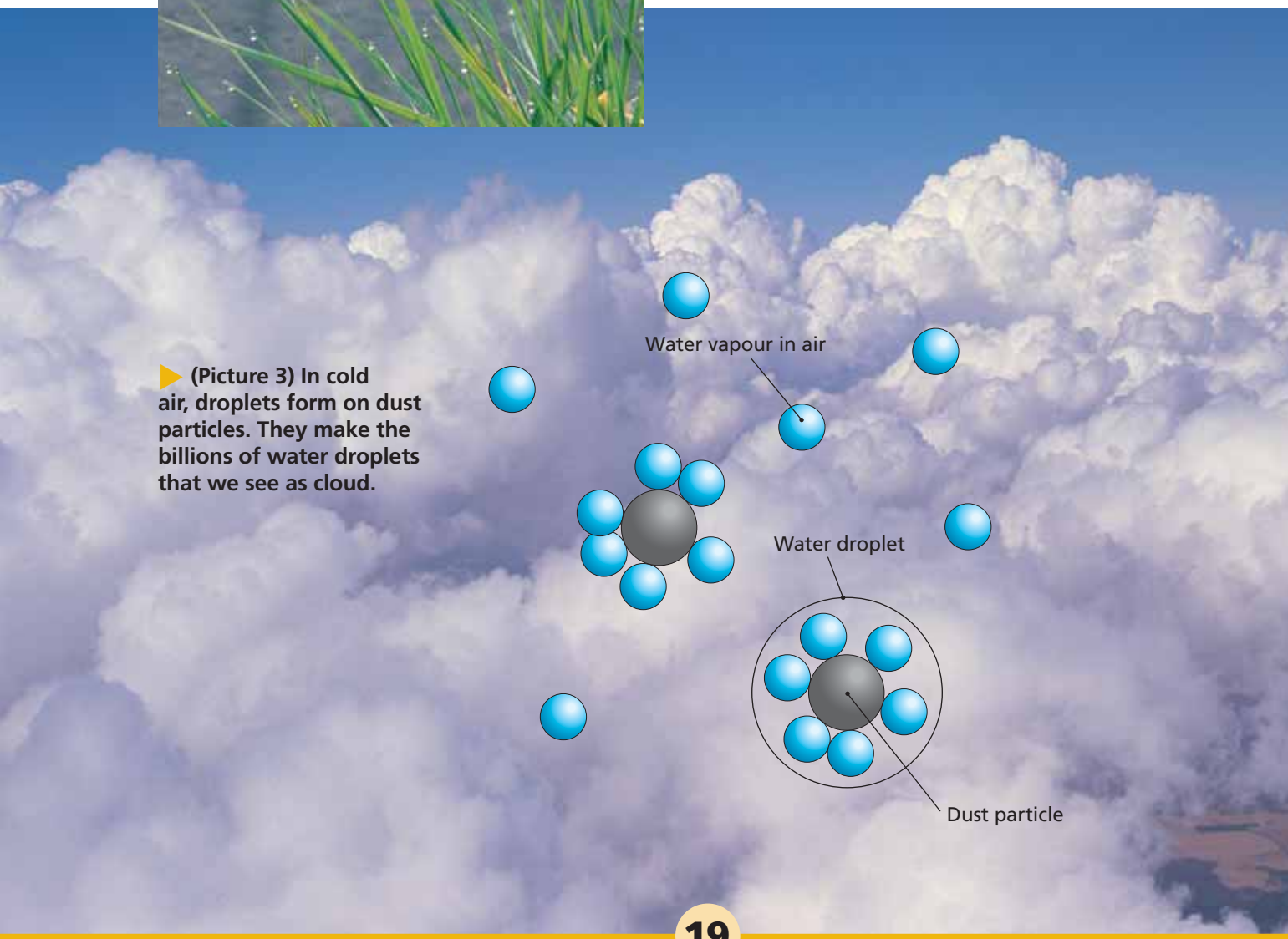
As condensation occurs, we can start to see the tiny particles coated with water. We call them water droplets and they usually form clouds. Water droplets building up near the ground make it difficult to see long distances. A light build-up of these droplets is mist (when you cannot see beyond 1km). A heavy build-up of water droplets is fog (when you cannot see further than 100m).

(Picture 2) Dew is one form of condensation. It occurs when leaves become very cold, usually at night.

Summary

- **Condensation happens when a gas turns back into a liquid.**
- **Condensation occurs on cold surfaces, because they take the heat from the air.**
- **Condensation on the ground is called dew, while in the air it makes clouds.**

(Picture 3) In cold air, droplets form on dust particles. They make the billions of water droplets that we see as cloud.



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