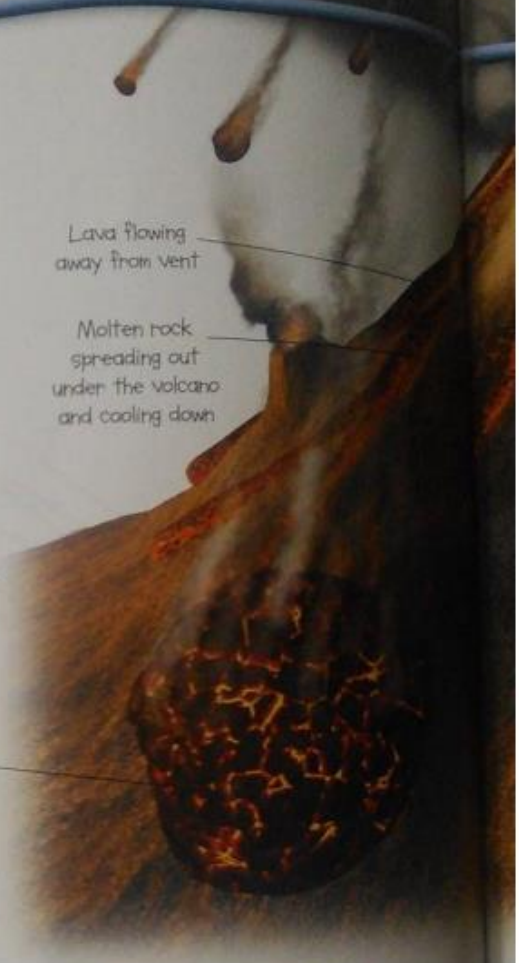
Hot rocks

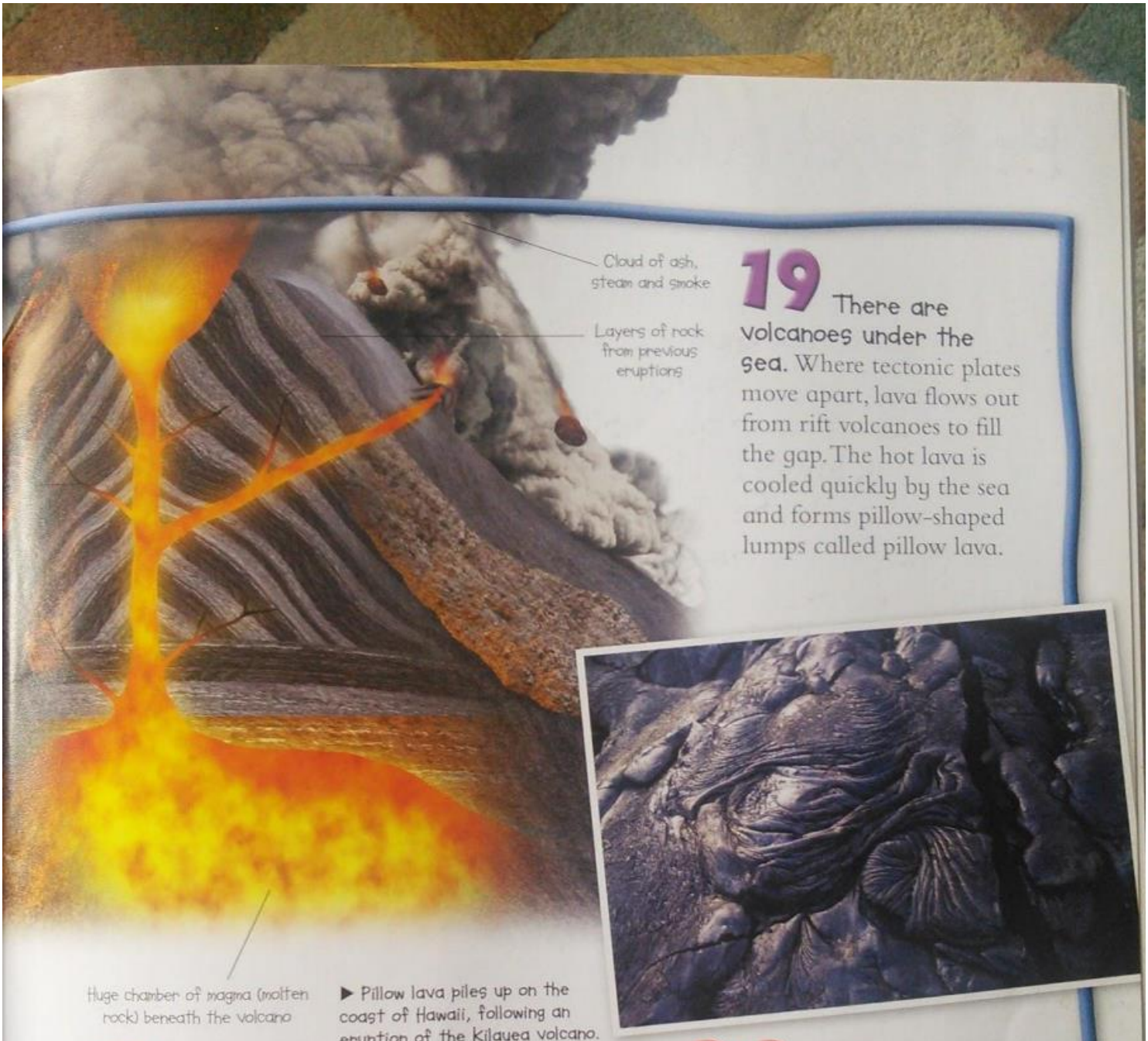
17 **There are places on Earth where hot, liquid rocks shoot up through the surface.** These are volcanoes. Beneath a volcano is a huge space filled with molten (liquid) rock. This is the magma chamber. Inside the chamber, pressure builds like the pressure in a fizzy drink's can if you shake it. Ash, steam and molten rock called lava escape from the top of the volcano – this is an eruption.



▶ When a volcano erupts, the hot rock from inside the Earth escapes as ash, smoke, lumps of rock called volcanic bombs and rivers of lava.

▲ The three common types of volcano. Most volcanoes erupt along tectonic plate boundaries.

18 **Volcanoes erupt in different ways and form different shapes.** Most have a central 'pipe', reaching from the magma chamber up to the vent opening. Some volcanoes have runny lava. It flows from the vent and makes a domed shape called a shield volcano. Other volcanoes have thick lava. When they erupt, gases in the lava make it explode into pieces of ash. The ash settles on the lava to make a cone-shaped volcano. A caldera, or crater volcano, is made when the top of a cone-shaped volcano explodes and sinks into the magma chamber.



19 **There are volcanoes under the sea.** Where tectonic plates move apart, lava flows out from rift volcanoes to fill the gap. The hot lava is cooled quickly by the sea and forms pillow-shaped lumps called pillow lava.

▶ Pillow lava piles up on the coast of Hawaii, following an eruption of the Kilauea volcano.

MAKE A VOLCANO

You will need:

bicarbonate of soda a plastic bottle
food colouring vinegar sand

Put a tablespoon of bicarbonate of soda in the bottle. Stand it in a tray with a cone of sand around it. Put a few drops of red food colouring in half a cup of vinegar. Pour this into the bottle. In a few moments the volcano should erupt with red, frothy lava.

20 **Hot rocks don't always reach the surface.** Huge lumps of rock can rise into the crust and become stuck. These are batholiths. The rock cools slowly and large crystals form. When the crystals cool, they form a rock called granite. In time, the surface of the crust may wear away and the top of the batholith appears above ground.

Answers:

1. Beneath a volcano, you will find a huge space filled with molten (liquid) rock. This is called the magma chamber.
2. Ash, steam and molten rock are the materials that make up an eruption.
3. The three types of volcano are cone-shaped, shield and crater volcano.
4. When tectonic plated move apart, lava flows out of rift volcanoes to fill the gap.
5. A Batholith is a huge lump of rock, rising to the crust and becoming stuck.