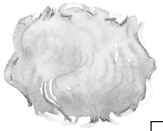
# Solids, liquids, and gases

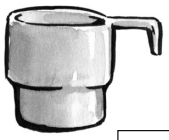
## Background knowledge

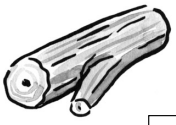
Three *phases* of matter exist naturally on Earth: solids, liquids, and gases. Generally, solids are substances that retain their shape and do not flow. Liquids flow and take the shape of the container they are in. Gases also flow and fill all of the space available. Some types of matter can exist in all phases on our planet.

## Science activity

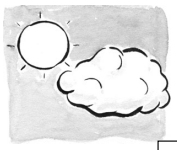
Which of these materials are solids (S), which are gases (G), and which are liquids (L)? Circle the ones that exist in all three phases on Earth. Write **S**, **G,** or **L** in each box.


Cotton ☐


Plastic ☐

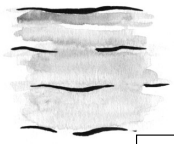

Wood ☐


Jell-O ☐

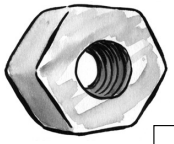

Air ☐

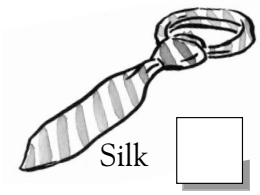

Water vapor ☐


Wool ☐


Water ☐


Milk ☐


Metal ☐


Silk ☐


Oxygen ☐

## Science investigation

Obtain a plastic zipper bag, borax, and Elmer's glue. In a bowl, mix 125 ml of glue with 125 ml of water until thoroughly combined. Pour the mixture into the zipper bag. Then measure 1 tbsp of borax and mix it into another 125 ml of water. Pour 50 ml of the dissolved borax into the zipper bag with the other mixture. Close the bag and knead the mixtures together for 2–3 minutes, until thoroughly combined. Remove your mixture and test whether it is a liquid or solid. Also test for other properties.

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## Science activity

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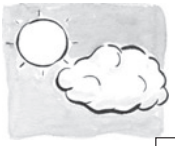
Cotton S


Plastic S


Wood S


Jelly S

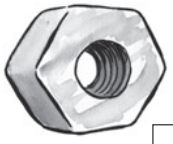

Air G


Water vapor G


Wool S


Water L


Milk L


Metal S


Silk S


Oxygen G

## Science investigation

Mixed borax solution and Elmer's glue form a semisolid. The child should understand that not all matter may be easily classified as a solid, liquid, or gas, and thus should take time to examine the many properties of this "slime."