THE FAIRY-LAND OF SCIENCE.

books to find answers to your questions, you must know something of the language they speak. You need not learn hard scientific names, for the best books have the fewest of these, but you must really understand what is meant by ordinary words.

For example, how few people can really explain the difference between a *solid*, such as the wood of the table; a *liquid*, as water; and a *gas*, such as I can let off from this gas jet by turning the tap. And yet any child can make a picture of this in his mind if only it has been properly put before him.

All matter in the world is made up of minute parts or particles; in a *solid* these particles are locked together so tightly that you must tear them forcibly apart if you wish to alter the shape of the solid piece. If I break or bend this wood I have to force the particles to move round each other, and I have great difficulty in doing it. But in a liquid, though the particles are still held together, they do not cling so tightly, but are able to roll or glide round each other, so that when you pour water out of a cup on to a table, it loses its cuplike shape and spreads itself out flat. Lastly, in a gas the particles are no longer held together at all, but they try to fly away from each other; and unless you shut a gas in tightly and safely, it will soon have spread all over the room.

A solid, therefore, will retain the same bulk and shape unless you forcibly alter it; a liquid will retain the same bulk, but not the same shape if it be left free; a gas will not retain either the same bulk or the same shape, but will spread over as large a space

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