

and the change which food undergoes in being built up into the bodies of living plants and animals. Indeed, we know of no matter that is not undergoing change of some sort or other. Now, in accordance with the "scientific method," we must observe and record all the different kinds of changes that we possibly can and then classify them somehow or other. A great many different classifications have been tried, but the one that, up to the present time, has been found most useful, starts by dividing all changes that matter undergoes into two great classes, *i.e.*, those in which the matter itself remains the same matter during the changes, and those in which the matter itself is altered. Thus, if we move a piece of wood from one place to another, the matter of the wood remains the same, the position only being altered. If we warm or cool the wood slightly, the matter still remains unchanged, as it does if we cut the wood up into tiny pieces. If, on the other hand, we heat the wood very highly, or burn it, then we do not have wood left after the change; the matter itself has been altered and converted into something quite different to what it was before. Changes of the first kind form the subject matter of physics, those of the second kind, of chemistry.

We have, therefore, the following definitions:

Matter is that which occupies space, *i.e.*, takes up room. It possesses weight.

Physical Changes are those in which the composition of the matter concerned is not altered.

Chemical Changes are those in which the composition of the matter concerned is altered.

Chemistry is the science which deals with matter and those changes which it undergoes involving alteration in composition. It is sometimes called the science of the composition of things.