

Surely no one can say after careful consideration that he feels no responsibility in the welfare of his brothers. Let us strive to set before our associates an example worthy of imitation, extend a helping hand, speak a cheering word, and while enjoying the pleasures of a cultivated life strive to win others to participate in the same. There are certain duties which seem to belong to a member collectively to perform, but after a close investigation we find that each must do his allotted portion before the whole is accomplished.

Just at this point I believe our little company may make an application. It has been felt for some time that there was a need of something to strengthen, if possible, the interest in our Society, and to cultivate a friendly sociable feeling between the several members, as well as enlist the service of the young.

All seem ready to acknowledge the want, and express their approval of the course pursued? Now I would ask, does it not become to such a duty to use the talents given them in accomplishing the object. There are many ways of aiding some in one department and some in another. Surely no one can say there is nothing I can do.

We can scarcely estimate the result of a combined effort, but if we are to assume a careless indifference in regard to this work we cannot expect a desirable result.

Let us strive to avoid anything of a luke warmness, as there is nothing which can prove more disastrous in any enterprise. It is causing others to put dependence on a poor foundation, which must in time sink away. If there are signs of a failing in the interest of our Society, let us not stop to lament the case, but rather faithfully set to work to build up the cause.

B. W.

[Read at Friends' Literary Circle, Bloomfield, 2 mo. 17, 1887.]

He prayeth best who loveth best  
All things both great and small,  
For the dear God who loveth us,  
He made and loveth all.

—[Coleridge.

### SCIENCE LESSON NO. 3.

O = Oxygen, C = Carbon, CO<sub>2</sub> = Carbonic Acid Gas, CO = Carbon Monoxide Gas.

In lesson No. 2 we saw that O unites with C in the proportion of two to one to form a colorless gas that will neither burn itself nor support a flame under ordinary circumstances. We learned that it was formed in various ways, such as by the O of the air uniting with the C of the food that finds its way into the blood, and that we exhale it: when coal or charcoal is burned. It is this CO that comes off from Limestone when it is burned, leaving our common lime.

How does a coal fire burn? We have noticed that practically there can be no combustion without O. That some chemical action must take place. Well then the O of the air at the bottom of the coal begins to unite with the C of the coal and forms a deadly poison CO. You see that they unite in equal proportions. This gas passes up through the coal. It is this burning with the O of the air that produces the blue flame that is often noticed at the top of the coal. And what gas do you suppose is formed by this CO burning in the O of the air? It is CO<sub>2</sub> that is formed, and as you are aware of its properties, you see how necessary it is that it should pass out at the chimney rather than into the room. You will understand now how it is that people sometimes die from an escape of coal gas. We have to live on the O the same as a flame; and produce the same thing, the same waste to animal life CO<sub>2</sub>. This makes it necessary to keep a room well ventilated, even where there is no fire that CO<sub>2</sub> may be carried off and fresh air laden with O admitted.

How does a candle burn? In answering this question, I may ask, Why is the wick surrounded with tallow? Fatty matter, as you have learned in a former lesson is largely composed of C and H. When you light the wick the tallow melts and is drawn up through the wick to the flames, so that there is being continuously supplied H and C, which unite with the O of the air and keep up the flame. The chemical result from the union of H with O is H<sub>2</sub>O = water which you may show by the moisture on the side of a glass vessel in which