water does not need to be heated. Then let the pupils perform the usual experiments with these metals and water, and be sure to have them evaporate some of the liquid, so as to see that a white solid is formed, as with magnesium.

When using these metals with water, it is a good plan, if the gas is to be collected, to get some lead tubing about one-fourth inch in diameter, cut off pieces two inches in length, and hammer them at one end till perfectly sealed; put, say, the sodium well up into the tube and, keeping the open end down, lower under the mouth of the gas jar, and then gradually turn the open end up, so as to admit water. A glass tube sealed at one end does almost as well as lead, but may crack.

Hydrogen may now be made in larger quantities from zinc and dilute sulphuric acid. Mix the acid and water by pouring one part of acid into ten parts of water. After mixing, pour the liquid on the zinc; if a little copper sulphate solution is added, the gas comes off more readily. Study its properties by the usual experiments.

It is unsafe for a junior pupil ever to light a hydrogen jet; the teacher should perform any experiments involving this.

It is a common inference, whenever a mist is formed on cold glass or drops of a clear liquid appear, that such a mist or liquid must be water. But such a substance should always be tested. A good test is to bring a small particle of sodium in contact with the liquid. If it becomes warm or takes fire, the liquid is water. The pupil may try with sodium other clear liquids, as kerosene, turpentine, and benzine, and note results.

Another simple test for water is with copper sulphate heated until it turns white. A drop of water added to this gives the blue colour again. No other water-like