is one of the best exercises in English for the pupil to try to express clearly in language ideas gained through the study of things, thus conforming to the demand of the educational reformers, that the study of things should precede or be united with the study of words.

Twigs and Buds.

Have the children bring in twigs of some of the following: alder, elder, beech, birch, maple, lilac, willow and horse-chestnut. Put some of these in water and place them in a sunny window to study the opening of buds later. Take two twigs for comparison, such as the alder and the elder. What difference do you find between them? How many kinds of buds are there on the alder? How many on the elder? Beginners are apt to overlook one kind on these twigs. Can you find them all? Compare the shapes of buds, their arrangements and the ways they are attached to the twig in the alder and maple, the elder and the lilac, the beech and the willow. What difference do you see in the bark of the alder and the elder? What become more conspicuous as you follow down the alder twig? Are the same to be found on the elder twig? Where do the characteristic markings of birch bark originate? Can you account for their shape? What is there to show that the twigs had leaves last year? Where were the leaves situated? Can you tell what part of the twig grew last year? What part the year before? (The red maple twigs have ring markings, which will help you). Notice the large terminal bud on the beech, the apple, or the horse-chestnut. Is it probable that there was a similar bud at the end of the present two-year-old growth one year ago? What did this bud develop into? What mark did it leave? What became of some of the other buds on the two-year-old wood? As a rule, branches are found only on the wood two years old or older. What one of these twigs sometimes has branches on the one-year-old growth?

The following is an outline used by a successful teacher in the study of buds and twigs:

1. Buds—colour, feel, arrangement. (Explain terminal and lateral) and compare their sizes.
2. Scars under each bud with their dots.
3. Girdle scars here and there around the branch.
4. Linticels (dots or lines) on the bark, and the change in size and shape as they become older.

Put twigs in water, each child marking a certain bud for his own study. Change the water every few days, and occasionally cut off the lower ends of the twigs to expose a fresh surface to the water. Draw the bud as it changes. The children see that from some buds come shoots or branches, and from others flowers. The scales, now that their work of protecting the tender bud-leaves is over, do not grow, but are pushed off by the stem as it enlarges, leaving rings around the stem. Each year's growth will be marked off by one or more rings around the stem.

Let the pupils trace out the ages of different branches. To find out what caused the leaf-scars on last year's growth, go back one year, when the present one-year-old twig was a bud. Its growth last summer corresponded to the growth of the bud they are watching, and the new leaves correspond in arrangement with the scars, so they see that the scars were left by the leaves when they fell.

Teachers will find that different kinds of twigs are suited for different purposes of study. For example, the bud of the lilac, elder and balm-of-gilead open quickly, and make considerable growth when placed in water; but the lilac is poor for showing leaf-scars, and neither is very good for the study of girdle scars. The elder and horse-chestnut are good for showing leaf-scars, and the beech and horse-chestnut for girdle-scars. The buds of the horse-chestnut are slow in opening. Of course, every teacher of little children will have in the schoolroom twigs of willow to show the development of pussies before they appear out of doors. At the end of the season for the study of buds and twigs, the teacher and children should be able to distinguish fruit-buds and leaf-buds on several kinds of twigs. Fruit-growers can tell now what the prospect is for blossoms on their trees next spring. The answer to the question, What is a bud, what does it contain? can be found by watching buds develop in the schoolroom. What vegetable cut through from top to bottom shows the same structure as a bud?

Insects.

One of the trees mentioned above retains some of its dead leaves until spring. Can you tell which? In the winter and spring scattering dead leaves are often found on several kinds of deciduous trees. If some of the twigs, with leaves attached, are brought into the schoolroom and examined, the children will see that there is often a cocoon attached to the twig with the leaf. This cocoon may contain the pupa of an insect, or it may be empty. It may be accompanied by the eggs of an insect. It is the cocoon of the tussock moth, one of the most widely distributed insects in Eastern Canada. It sometimes does considerable damage to fruit trees, and is of interest because of the parasites which