

BOTANY.

L. A. DEWOLFE.

A recent request was, "Give a list of Nature Study topics for the spring months." An answer to that would not necessarily belong under the heading "Botany." Yet, what's in a name?

The briefest answer is, "Study whatever chances to come your way." Nature work should be informal. When one outlines a list of topics and tries to follow that list, one has ceased to be a teacher, and has become a machine. There are too many "machines" trying to teach now. Get away from the mechanical. Be natural.

If a boy brings in a butterfly today, have a lesson on it. If he bring a fungus tomorrow, a lesson on that is in order. To be sure, the butterfly and the fungus are not closely related; but they may be found side by side in the field. If they accidentally be found together, why can we not study them together?

Nature study is not the classification of objects according to evolution or according to relationships. That is a science, which follows later.

But the one who has never learned to see things in the field is not satisfied with these generalities. She wants to be told what to look for. For the sake of peace, therefore, I'll suggest a few of the things to watch for and have the children watch for.

One of the first signs of spring is the bird migrations. In connection with that, discuss why birds migrate, and where they go. Why do they not all migrate? Some remain with us the year through. Is it a matter of cold or lack of food that drives them south in the fall? Why do they probably return in the spring. Read about migration in some good Bird Book.

Learn to identify the birds as they come in the spring. Keep a record of the dates of their appearance. Try to find out their proper names. Don't continue to call all sparrows "little grey birds." Don't call the Junco "the bluebird." He is not blue. Find out what they eat, where and when they nest, and anything else about their habits.

Watch for the first butterflies, houseflies, and other insects. Where did they spend the winter? The earliest butterfly will probably be the Mourning Cloak. It slept through the

winter in the adult form. House-flies do the same. Comparatively few insects, however, do this. Look for cocoons and insect eggs. Read about life histories of insects in some good Insect Book.

Then try to find the things you read about. Possibly you can discover a few details the book did not mention.

Snakes, frogs, toads and salamanders also afford good subjects for study. Where and how did they spend the winter? Find tadpoles (pollywogs) of as many sizes as you can. Bring frog's or toad's eggs into the school-room and watch them hatch.

Minerals can be studied at all times. There is no more reason for studying them in the spring than at any other season except that building operations may suggest a reference to them. For example, cement, concrete, mortar, brick, and slate might lead to a study of the gravel of a river bed, limestone clay, etc. Besides, every country boy goes fishing in the spring. When he ties a stone on his line for a "sinker," would it be wise to find out all one could about that stone? If he uses tea-lead, that will stand inquiry too.

Farm animals are always interesting. In spring, however, the young lambs, pigs, calves and chickens give an added interest.

Fur-bearing animals are the centre of interest in these provinces. Let your boys find out all they can about rearing them in captivity.

Garden operations offer a very large range of topics. Removing the winter covering from strawberries and perennial flowers; the digging of the ground; the making of hot-beds and cold-frames; the importation of fruit-trees; grafting and pruning; seed-planting—these and dozens of similar topics will suggest themselves to the wide-awake teacher. Possibly she does not know much about them; but if she is really anxious, she'll find out something of value. If she is not anxious, her boys will probably play truant. I haven't much respect for them if they don't.

But thus far, this is not Botany! Well, there is a big out-doors not included in the foregoing. There is plenty of botany there. Study the spring awakening of plant life. Watch the swelling and unfolding buds. What is in them? What are the ten earliest flowering plants in