

Nature Study for Winter.—I.

A "Constant Reader" of the REVIEW asks for some general directions for carrying on nature work during the winter. The following outlines may serve for January and February, in addition to those given by Mr. Moore's "Nature Study Class" on another page. The talks may occupy five or ten minutes every day, or longer if the teacher has time and the children are interested. They are sure to be interested if the nature study is taken from what they observe about their homes, in their walks to and from school, and in short excursions they may make with their teachers.

Bring the children into sympathy with animals, their habits and how they adapt themselves to the cold of winter. What has become of the countless numbers of insects that made the fields alive in October? In many schools there are cocoons, gathered in the fall from apple and other trees, containing caterpillars; and the pupils are waiting to see what will come out of these cocoons in the warm early days of spring. Many insects, such as butterflies, moths, etc., laid their eggs in some safe place and then died. Some bees and wasps, after their active summer's work, are sleeping in a torpid state in the ground, or in hollow trees. The bear—our largest wild animal, except the moose—hibernates or sleeps through the winter in some secure hiding place. The moose, caribou and deer herd together in some warm secluded spots in the wilderness, and browse upon lichens and the tender twigs of trees. The fur or hair of the wild animals and of many domestic animals grows thick and warm on the approach of winter. In the warm days of spring this covering is shed. Many of the boys and girls have noticed tufts of hair or fur where the cows and other domestic animals have scratched themselves against the fences and out-buildings of the farm.

This adaptation to climate is one of the interesting facts about animals; another is how their colour is adapted to their surroundings. The children have noticed the different colour of the rabbit or hare in summer and in winter. This is for protection as well as comfort. The hare has many enemies, and his colour, like the snow in winter and like the dried forest leaves in summer, admirably serves the purpose. "Why do not the fox and other wild animals change their coats in winter?" some pupils will ask; and the question may not admit of a ready answer, but it will suggest thinking

and conversation. Some animals are harmless and not so well able to take care of themselves as others; and nature may help to befriend them.

The woods in winter are not gay with the songs of birds. Where are these feathered friends? Some are still with us, such as the chickadee, junco, pine grosbeak and the golden-crowned kinglet, that tiny bird whose "tchip, tcheep" may be heard in thick coverts. Will the boys and girls remember these, especially the chick-a-dees and juncoes, and an occasional robin, who, in the coldest weather and in the deepest snows, will come about our dwellings when food is scarce. Do not disappoint them, but have some crumbs and suet ready.

The object of these lessons is not to teach zoology or ornithology, but an appreciation of birds and animals. Talks on kindness to animals, stories, and pictures of birds and other animals in their homes will be interesting supplements of the teacher's lessons.

Many winter birds are able to take care of themselves, such as the English sparrows, crows, woodpeckers, blue jays, and a few others. Notice the habits of these and how they obtain their food. Where do they live in winter? How do they keep warm? Encourage the children to talk about their pets or home animals, the cat or dog, and the birds in cages, the habits of these, their intelligence when properly taught and kindly treated. The claws of the cat, the soft, tough cushions on the bottom of her paws, the sharp teeth in front for cutting the food and the longer teeth for tearing it; all may serve to illustrate the way cats get their food, and also others of the cat family—the lion, tiger, panther, etc. Compare the dog with the cat and his food, and the way he obtains it. Has he the same tough cushions on his paws? Are his claws as sharp as those of the cat? Are there five on the front feet and four on the back, as in the feet of the cat? The long sensitive whiskers and the bright eyes of cats may be explained by the fact that these help the animal to find the way in dark places. Does the dog hunt at night? Is he provided with whiskers? Which makes the best hunter, the dog or the cat?

Other members of the dog family, such as the wolf and fox, may be illustrated by pictures and stories, as well as the different dogs in other countries, as the Eskimo, shepherd and St. Bernard dogs. Compare the dog and cat with grass-eating animals, as the horse, cow and sheep, the kinds of food they use and the manner of taking it.