

some degrees above the freezing point, it began at once, in less than two minutes, to show signs of life, twisting and stretching itself and putting out its "arms" and legs, much like a healthy child rousing itself from an afternoon nap. In a few hours it was wide awake again.

On the other hand many of our wild animals, though they hide away upon the approach of cold weather, do not seem to be good sleepers, but remain more or less active throughout the winter, feeding on the food they gathered during the summer and fall. The chipmunk, muskrat and beaver are good examples.

In tropical and sub-tropical countries we find, where wet and dry seasons alternate with one another, many animals hiding away and remaining torpid during the dry period, only reserving active life upon the return of wet conditions. This resting stage is known as *æstivation*. Why can we not properly speak of it as hibernation? Look up the derivation of these terms in a dictionary.

In passing, we may add that hibernation is not confined to the higher animals, but is very common among insects. Biologists tell us that "hibernating insects can be frozen solid and remain frozen for weeks and months, and still retain the power of actively living again in the following spring." And in the case of some minute forms, animalcules, that live in water, the body may so dry up, and become dessicated, that it is simply a bit of organic dust. "Now, if after a long time — years even — one of these organic dust particles is put into water, a strange thing happens. The body smells and stretches out, the skin becomes smooth instead of all wrinkled and folded, and the legs appear in normal shape. The body is again as it was years before, and after a quarter of an hour to several hours (depending on the length of time the animal has lain dormant and dried) slow movements of the body parts begin, and soon the animalcule crawls about and begins life where it had been interrupted." The little vinegar eels, the very minute forms we see wiggling up the sides of the glass at the surface of vinegar, and which are in reality well organized animals belonging to the Round Worms, are said to possess similar powers.

Apart from all these animals we have a number of others that remain active throughout the year. A list would include our winter birds, and such four-footed forms as the moose, caribou, deer,

foxes, wild cats, rabbits, squirrels (red and gray) rats, mice and several others.

These and the hibernating forms may be studied at this time of year.

For a discussion of the habits, etc., of many of our native wild animals see the REVIEW for February, March and April, 1914.

Morang's Modern Nature Study, by Silcox and Stephenson, contains interesting accounts of many of our wild animals. It is a good book for teachers.

### BEAVERS.

"The most expert lumber-jack is inferior to the beaver as a tree-feller. He cuts down trees in the most scientific way. He can fell a tree so it will fall toward the pond where he wishes to construct his home, thus saving himself unnecessary work.

"After the trees are felled the construction work begins. He works chiefly by night, for he is a nocturnal prowler. The moon is his lantern, the quiet of the night his inspiration his sharp teeth are his hatchet and chisel, and his little paws are his means of conveyance, his spade, his hammer, and his trowel. His hard, flat, hairless and scaly tail is a propeller when swimming and a balance when he is cutting timber, for he stands on his hind legs while gnawing down trees.

"The beaver is a strict vegetarian and his diet consists chiefly of barks, tender shoots, and water-plants. The trees which furnish the bark he most likes are the cottonwood, poplar, elm, willow, birch, aspen, and box-elder. The bark of the oak, ash, and hickory he does not eat.

"To flood low ground, the beavers sometimes have to build a dam exceeding fifty feet in length. They usually lay it out with the curve facing up-stream. The foundation is built of poles, four or five feet long by an inch or two thick. These they lay crosswise, filling all crevices with mud.

"The beaver digs up mud with his fore feet, then holds it close to his breast with his fore legs, swims to where he has started his dam, and, having deposited it in its proper place, beats the mud down with his paws — *not with his tail* as has been believed." — From the December St. Nicholas.