

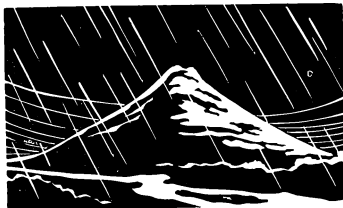
## ELEMENTARY SCIENCE SECTION

### THIS EARTH OF OURS

#### WHAT IS SOIL?

Last month we learned that the earth is continually changing, that parts of it are transferred to other places, or are broken into smaller, finer pieces with the help of wind, rivers, and plants and animals. By means of these actions which are called weathering and erosion soil is formed. Let us now see how soil is formed from rocks.

If we examine a big piece of rock, we usually find no soil on it. But during the rainy season very tiny plants called lichens manage to grow



on its surface. During this growth the plants dissolve a little of the surface of the rock so that when the masses of the plant fall from the rock, some rock particles fall from it. More water falls, more plants grow, and more and more soil material is built up. These may be carried by rivers or even rain water and the soil is carried to other places.

When deep beds of rock soil have been formed, these are enriched by fine sand, dust or clay blown by the wind. In addition to rock particles the soil contains humus which is the decayed bodies of animals and plants.

All kinds of soil contain water in different amounts. When soil is composed of finely divided particles a film of water covers each particle. These fit together and form tiny canals

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### HOMES IN THE ANIMAL KINGDOM



#### THE DEN OF A BUMBLEBEE

Wherever there are flowers, you will see a bumblebee gathering pollen and honey from the blossoms. She is larger than the honeybee; she is dressed in black with yellow trimmings, furry-looking or velvety. If you live where you can take a walk across the field or along the edge of the woods you may see her flying very slowly, humming a tune with her wings. It will be a low tune her house-hunting song.

You know that different people like different kinds of houses. Animals also choose different kinds of homes. Some cave dwellers live in damp dens as you have read about the earth-worm. Some prefer dry ones. Some like them in the shade. Some would rather have them in sunny places. Where would you like your home to be?

It so happens that the bumblebee and the field mouse like exactly the same sort of cave. A den is a cave. This is very pleasant for the bumblebee for all she needs when she goes house-hunting is to find a vacant den that a field mouse

has left. That is what suits her best of all. She may have to do a little house cleaning, but the chances are that the furniture suits her very well as it is. The nest of dry grass that the field mouse made is good enough for her use.

When the bumblebee has chosen her den, she gathers some pollen, and a little nectar from spring flowers. With this she makes her first loaf of bee-bread. She does not eat it herself, but places it in the nest in her den and lays a few eggs on the loaf.

She broods her eggs like a mother bird, covering them over with her body. When the eggs hatch, their mother goes out to fetch much pollen and nectar to mix for their food. When the bee babies grow up, they help take care of their baby sisters.

All the children of the queen bumblebee are workers until late in the summer when there are some different kinds of children that grow up in the den. Some of these different ones are sons who go by the name of drones, and some are daughters who are called young queens. Neither the drones nor the young queens work in their mother's home.

The young queen sips what nectar she needs from flowers and she helps herself from the honey she finds in the den. After a while she takes a nap. It is a long one. It lasts from August until April or May.

When she is ready for this nap, she goes away quite by herself. She finds a place along a sandy well-drained bank and there digs a tiny den. On the sandy floor of that wee bedworm she lies, cozy and quiet, a little sleeping beauty waiting for the kiss of the spring to waken her and send her humming on her way while she hunts a bigger den in which to bring up her family. Are not insects among the busiest creatures on earth?

## PLANTS ABOUT US

### THE FOREST OFFERS YOU PILI NUTS

Every Christmas there is present at our tables a very welcome sight,—pili nuts. How we all love them. And how we have nearly broken our teeth trying to crack them, finally giving it up in favor of the more successful method of breaking it between a door's hinges. What a sad end for the pili nut that has traveled many miles from a far, wet forest to reach your table.

The pili nut is one of the natural products of the Philippines. It is found in the forests in the Bicol region, in Mindoro, Tayabas, and Mindanao. It is a valuable food, either raw or cooked. It contains an oil which is pleasant in taste. It is also rich in protein, a food found in meat. So it is worth all our troubles of cracking it. The pili nut may also be made into candy.



In regions where the pili grows it can also be used as a shade tree. It is a beautiful tree. It grows to a reasonable height and produces leaves all the year round. It is strong, it lives long, and it is seldom uprooted.

Pili nuts are in season from the month of May to October. When the fruits are to be picked, they are cut off from the branches. Sometimes when the tree is low, a bamboo

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