

Struggle for existence and adaptation to conditions are among the most significant facts in nature.

The sum of all the conditions in which a plant or an animal is placed is called its **environment**, that is, its surroundings. The environment comprises the conditions of climate, soil, moisture, exposure to light, relation to food supply, contention with other plants or animals. *The organism adapts itself to its environment, or else it weakens or dies.* Every weak branch or plant has undergone some hardship that it was not wholly able to withstand.

SUGGESTIONS.—The pupil should study any plant, or branch of a plant, with reference to the position or condition under which it grows, and compare one plant or branch with another. With animals, it is common knowledge that every animal is alert to avoid or to escape danger, or to protect itself. **2.** It is well to begin with a branch of a tree, as in Fig. 1. Note that no two parts are alike (Chap. I). Note that some are large and strong and that these stand farthest towards light and room. Some are very small and weak, barely able to live under the competition. Some have died. The pupil can easily determine which ones of the dead branches perished first. He should take note of the position or place of the branch on the tree, and determine whether the greater part of the dead twigs are toward the center of the tree top or toward the outside of it. Determine whether accident has overtaken any of the parts. **3.** Let the pupil examine the top of any thick old apple tree, to see whether there is any struggle for existence and whether any limbs have perished. **4.** If the pupil has access to a forest, let him determine why there are no branches on the trunks of the old trees. Examine a tree of the same kind growing in an open field. **5.** A row of lettuce or other plants sown thick will soon show the competition between plants. Any fence row or weedy place will also show it. Why does the farmer destroy the weeds among the corn or potatoes? How does the florist reduce competition to its lowest terms? what is the result?