

represent *two* petals; but upon examining the keel, which encloses the stamens and pistil, they will see reasons for believing that the *keel* corresponds to two petals. Many will *guess* at the number of stamens and fail to see the loose separate stamen unless the teacher insists on careful individual work. All will notice the peculiar shape of the flower (butterfly-shaped)—the way in which the petals, before the flower opens, are folded about the pistil and stamens—and will try to find the meaning of the automatic unfolding and spreading of the standard and wings. The question whether this last process, and the bright colors and sweet odor of the flower, have any relation to pollination will arise; but no attempt at a decisive answer will be made until the children have watched, on some sunny days, the insect visitors of the sweet pea blossoms. The teacher may suggest, however, that while the color and fragrance might attract the attention of insects, these hungry visitors would probably pass by unless the flower could furnish something more satisfying to the appetite. This may result in the children themselves, when removing the petals and stamens, getting a taste of the honey (nectar) from the base of the flower.

The development of the pistil into the pod should be traced. The pod, being the ripened pistil, is a fruit. A doubt will arise as to whether it is composed of *one* or of *two* pistil-leaves (carpels). It can easily be shown, however, that a fairly broad leaf, folded along the mid-rib and fastened together where the margins meet, would form a similar vessel—the mid-rib answering to one edge of the pod and the seam (suture) where the margins meet to the line upon which the seeds grow.

The leaves of the sweet pea are apt to be taken for short branches, each bearing two flat leaves besides the thread-like tendrils. The children can be led to argue themselves out of this notion by examining in class cuttings from trees or shrubs which show that branches grow out of the axils of leaves—the place of the leaf below the base of the branch being marked by a scar after the leaf has fallen. They may also find real branches on the sweet pea stem which grow out of the axils of the real leaves. They have found a pair of stipules before at the base of a leaf, but have never found such appendages at the base of branches. They will thus convince themselves that the sweet pea has a compound leaf made up of two stipules, a

leaf-stalk and a blade with two flat leaflets, and three or more thread-like leaflets called tendrils.

In considering the function of the tendrils, it will be in order to enquire why other plants of this family—beans and clover, for instance—do not need tendrils, or how they get along without them.

The tubercles on the roots of the sweet pea will excite remark. The children will not be able to find out anything themselves regarding the functions of the tubercles; but it might not be too much perhaps for the teacher to say that scientists have found these little swellings to be inhabited by minute plants (Bacteria)—far too small to be seen by the naked eye—which help to prepare food for the sweet pea plant.

The seed of the sweet pea will be found to be completely filled by an embryo with fleshy seed-leaves; but the bean furnishes a better seed for study. Great pains must be taken to make it clear to every child that the thick seed-leaves are a part of the “little plant in the seed.” It will be found that the embryo—little plant—in the bean seed is made up of a stemlet bearing two fleshy leaves (the seed-leaves), and two thin leaves between them forming the plumule or first terminal bud of the bean plant. By watching the early growth of this little plant (bean seeds will germinate readily in autumn if kept warm and moist) the children will learn to say that the seed-leaves supply nourishment to the *other parts* of the young plant—the stemlet and the plumule—instead of speaking of the seed-leaves as something outside of the embryo, thus incorrectly making the young plant consist of the stemlet and plumule only.

Other plants of the Pulse Family should now be brought in and compared with the sweet pea and with each other. A field excursion devoted mainly to this family may appropriately follow.

Some well-selected questions should be answered in writing by the pupils as the lessons proceed and a few drawings made. But do not weary the children by requiring long notes and numerous drawings, else they will be glad when the lessons on plants are over.

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A roll of bills stopped a bullet which struck a Chicago man in the breast, thus saving his life. Yet there are reckless people who will go right ahead day after day without a roll of bills on their persons.—*Kansas City Journal*.

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Lodger—I can't stay here any longer, Mrs. Binks.

Landlady—Why not, sir? What is your complaint?

Lodger—Lung complaint; your baby howls too much.