

Plant Parts

A number of the fossils emerging from the Carboniferous period are non-flowering plants such as ferns, algae, and mosses. They serve as a good stepping stone to discuss the parts of a plant in the classroom (e.g. roots, stalk, and blades).

The following *Virginia Science Standards of Learning* may be met with this activity and it may be expanded to suit many grade levels.

K.7 The student will investigate and understand basic needs and life processes of plants and animals.

K.9 The student will investigate and understand that there are simple repeating patterns in his/her daily life.

1.4 The student will investigate and understand that plants have basic life needs and functional parts and can be classified according to certain characteristics. Key concepts include

- a) plants need nutrients, air, water, light, and a place to grow
- b) basic parts of plants
- c) plants can be classified based on a variety of characteristics.

2.4 The student will investigate and understand that plants and animals undergo a series of orderly changes as they mature and grow.

2.8 The student will investigate and understand that plants produce oxygen and food, are a source of useful products, and provide benefits in nature.

3.6 The student will investigate and understand that ecosystems support a diversity of plants and animals that share limited resources.

3.8 The student will investigate and understand basic patterns and cycles occurring in nature.

4.4 The student will investigate and understand basic plant anatomy and life processes. Key concepts include

- a) the structures of typical plants and the function of each structure
- b) processes and structures involved with plant reproduction
- c) photosynthesis
- d) adaptations allow plants to satisfy life needs and respond to the environment.

Activity:

Students should have the opportunity to build their scientific skills through natural exploration as often as possible. While it may at first seem that nothing is accomplished beyond having sweaty students, such activity will serve to connect them to the information and real-world application. Context is easily established by having students bring in their own examples of plants they can then use to identify the parts.

Alternatives to outdoor exploration include having students use coffee filters as flower, attaching seeds, stem, and roots to the filter. Vegetables may also be used for this purpose. For example, broccoli - flowerets for the flower, sunflower - seeds, celery - stems, spinach - leaves, and carrots - roots. Any variety of vegetables and plants may be used; have students bring in their own ideas.

Of course students may also plant seeds and watch the growth process. Connect to additional Standards by varying the growth process: some students leave their plants in the dark or vary the amount of water and see what conditions best help their seedlings thrive.

It is important to make intentional connections between the plant fossils and the plants your students now find outside or grow.