Name_____ Date_____

Plant Parts

When you think about a body, you probably think of the human body or some other animal, but plants have bodies too. Plants have **organs,** which are composed of different **tissues** that are made up of different types of **cells**. Plants have underground organs called **roots**. Plants organs that are above ground make up the **shoot** system: **stems** and **leaves**.

Plant roots have an important job. They anchor the plant in the soil and absorb water and minerals that the plant needs to survive. Plants like grasses usually have a **fibrous root** system. If you pull up a clump of grass, you see a mat of thin roots that spread out below the soil surface. Other plants have a **taproot** system, which is made up of one large root that goes straight down into the ground and then has smaller branches off to the side. If you have ever tried to pull a dandelion out of your lawn, you know it can be tough. This is because the taproot does an excellent job of anchoring the plant in the ground. Near the tip of any type of root there are **root hairs**, which are extensions of individual root cells. These tiny hairs increase the **surface area** for absorption to help the plant get water and minerals out of the soil.

The above ground shoot system consists of stems and leaves. Stems have **nodes,** which are the points where leaves attach. The center of a stem is made of two types of **vascular tissue** called **xylem** and **phloem**. This tissue makes up the plants' circulatory system. It could be compared to blood vessels in a human body. Xylem is made up of dead, hollow cells that conduct **water** and dissolved **minerals** up from the roots to the shoots. Phloem is made of living cells that conduct **sucrose and other sugars** from the plant leaves where they are made to other plant parts that need them.

Leaves are the main place in a plant where **photosynthesis** happens. Photosynthesis is how plants use the energy of the sun to make food (sugar). Leaves have tiny pores on their surface called **stomata**, which allow carbon dioxide to get inside the leaf and oxygen to leave. This is the way that plants "clean" our atmosphere for us by using carbon dioxide and releasing oxygen into the air.

The root and shoot system of a plant work together to form the whole organism. Plant structure is very organized. Because of this organization, plants are able to get nutrition, grow, and reproduce.

Name_____ Date_____

Plant Parts Questions

1. True or False. Plants have bodies with organs, tissues, and cells.

2. The plant parts below ground are called _____. The above ground shoot system includes stems and _____.

3. Would a plant with a fibrous root system or a taproot be more difficult to pull from the ground?

4. What jobs do roots do?

5. This part of a root helps with absorption:
   a. guard cells
   b. root hairs
   c. phloem
   d. stems

6. The two types of vascular tissue are _____ and _____.

7. Which type of vascular tissue is made of living cells and conducts sugars?
   a. xylem
   b. fibrous roots
   c. phloem
   d. stomata

8. What process takes place in leaves?

9. The tiny pores on a leaf's surface are called _____.

10. Stomata are used to bring _____ in and put _____ out into the atmosphere.

Name_____ Date_____

Plant Parts Answers

1. **True** or False. Plants have bodies with organs, tissues, and cells.

2. The plant parts below ground are called **roots**. The above ground shoot system includes stems and **leaves**.

3. Would a plant with a fibrous root system or a taproot be more difficult to pull from the ground? **taproot**

4. **What jobs do roots do? Anchor** plant, absorption

5. This part of a root helps with absorption:
   a. guard cells
   b. root hairs
   c. phloem
   d. stems

6. The two types of vascular tissue are **xylem** and **phloem**.

7. Which type of vascular tissue is made of living cells and conducts sugars?
   a. xylem
   b. fibrous roots
   c. phloem
   d. stomata

8. What process takes place in leaves? **photosynthesis**

9. The tiny pores on a leaf's surface are called **stomata**.

10. Stomata are used to bring **carbon dioxide** in and put **oxygen** out into the atmosphere.