Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Block\_\_\_\_\_\_\_\_\_\_\_\_\_Score\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Plant Wars!

Directions: Your mission is to designing a brand new species of plant that will compete against all other plants on Earth for the resources to survive! You will be scored on your creativity and your use of concepts and vocabulary from class.

|  |  |
| --- | --- |
| **Part 1- Environment**  Because it is so important for plants to be adapted to their environment we first need to establish where your plant will live. *Answer the questions below in complete sentences.*  Where does your plant live? (New York, Mexico, Africa etc.)  What type of environment is it? (Desert, jungle, prairie, mountain, everglades, beach, forest etc.)  How many hours of sunlight does it get?  What is the average temperature?  What is the average humidity?  Teacher Use: Score \_\_\_\_\_\_\_\_\_\_\_\_\_\_/20 | Draw or print a picture of your plant’s environment. |
| **Part 2- Roots**  Plants have to have water in order to make their food. Having roots that can soak up enough water is very important. *Answer the questions below in complete sentences.*  How does the water from the ground move up to the leaves of the plant?  Where would you expect to find the most cells dividing in the plant?  Teacher Use: Score \_\_\_\_\_\_\_\_\_\_\_\_\_\_/20 | Draw a picture of your plants roots under a microscope. Label the xylem, phloem, and meristem and root hairs. |
| **Part 3- Stems**  Plants need stems to support them and transport materials from their roots to their leaves. They also compete for height to capture more sunlight. *Answer the questions below in complete sentences.*  How tall is your plant?  How does this height allow it to survive better?  Is the stem thick and woody like a tree, small and thin like a vine, or is it something else?  How does water get from the roots all the way up to the leaves?  Teacher Use: Score \_\_\_\_\_\_\_\_\_\_\_\_\_\_/20 | Draw a picture of your stem cut in half. Label the xylem and phloem. (use pg. 650 as a guide if you need help) |
| **Part 4- Leaves**  Plants need leaves to capture as much sunlight as possible for photosynthesis. *Answer the questions below in complete sentences.*  Describe the basic structure of your plants leaves. (Is it flat, sharp, poisonous, big, small etc.)  How does this structure allow you plant to capture the most sunlight in its environment?  What structures does your plant have to allow Carbon Dioxide in?  What structures does your plant have to prevent too much water from getting out?  Teacher Use: Score \_\_\_\_\_\_\_\_\_\_\_\_\_\_/20 | Draw a picture of your leaf and color it green. |
| Draw a close up of your leaf. Label the stomata, and guard cells. Draw and label arrows to show how water, CO2 and Oxygen move in and out. (look at pages 652 and 653 in your book for help.) |
| **Part 5- Flowers and Fruits**  Reproduction is an important process for all life on Earth including plants. Plants reproduce in many different ways including flowers and cones. *Answer the questions below in complete sentences.*  What type of reproductive system does your plant use? (hint: flowers or cones)  What does your plants seeds look like? How is your seed spread? (hint: wind, animals etc.)  If your plant produces a fruit what does that fruit look like? Can humans or animals eat it?  Teacher Use: Score \_\_\_\_\_\_\_\_\_\_\_\_\_\_/20 | Draw a picture of your plant’s method for reproduction. Label the male and female parts and where the seeds would be located. If your plant makes a fruit include a picture for 3 bonus points! |