**Comparing the physiology of kelp to terrestrial plants**

Terrestrial plants have definite structures that we all easily recognize and most of us know what each of those parts does to help a plant grow. Sugar kelp looks a lot like plants we know well and has parts which look very similar. In this station, you will examine those similarities and differences.

(Read through all the directions before beginning this station)

* On a clean sheet of butcher paper, using a permanent marker, draw and label the corn plant, including all the important parts you recognize.
* If you can, also include a description of what each part does for the plant.
* Draw and label, as best you can, the parts of the kelp on the same sheet of anchor chart/ butcher paper.
* Create a venn diagram comparing the kelp to the corn plant. Draw this diagram on the same sheet of anchor chart paper.
* Read the passage about kelp which is found on the back of this instruction sheet.
* Relabel the kelp and include a description of what each part does for the plant.
* Write the answers to the following two questions on the anchor chart paper:
  + Is your venn diagram accurate?
  + What surprises you?
* Finally, list any other plants or animal pairs that have similar looking parts that have different functions.

Saccharina latissima, also known as sugar kelp, is a brown algae found in the north east Atlantic Ocean, most often in protected rocky seabeds in the intertidal and sublittoral zones. Sugar kelp is usually a golden brown color with an undivided blade that can grow up to 5 meters long and 20 centimeters wide. That **blade** has several parts. The middle of the blade is typically smooth and sometimes with a dark colored band running along the length of the blade which contains the **soros tissue** filled with spores. The edges of the blade tend to be wavy. The central portion at the base of the blade thickens to a round, flexible, rope-like **stipe** which continues down to the claw-like hold fast which anchors the kelp to the rocky seafloor. On land, the stem of a plant tends to be stiff, holding the leaves up to the sun. Here, the stipe provides a flexible attachment to the seafloor, allowing the blade to undulate and ‘float’ up towards the sun’s rays. While it looks much like the roots of terrestrial plants, the **hold fas**t only anchors the kelp to the substrate. All required nutrients are absorbed by the blade from the water surrounding the kelp.