[redacted]

Vascular Plants

Procedure:

First, we had to examine a celery stalk that had been standing in red food coloring for 24 hours. Then, we had to obtain a scalpel while taking a celery stalk from the beaker. Once we brought the stalk to our table, we had to use the scalpel to cut off the top of the celery stem. Next, we had to diagram the arrangement of the tissues that had been stained red. After that, we were instructed to cut off a slice about 1 cm thick. Then, we had to cut a thin section lengthwise along one of the colored tubes and examine it under a microscope. Finally, we had to remove a leaf from the top of the celery stalk and examine it under a microscope.

Observations

Diagram of Celery Stalk

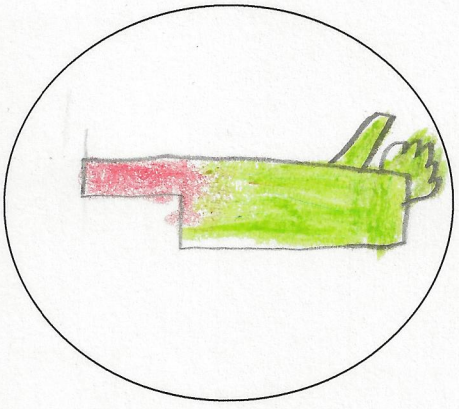
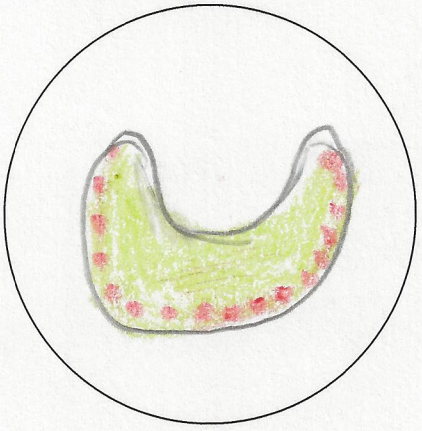
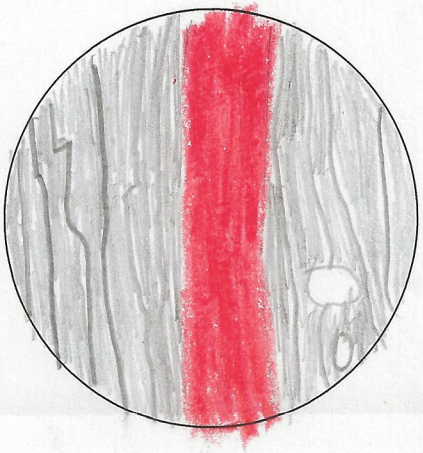


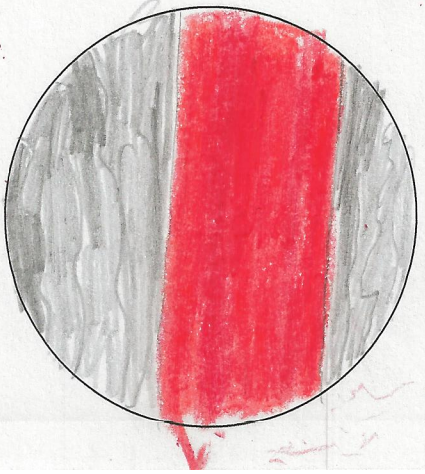
Diagram of Latitudinal Slice



Longitudinal Slice Low Power



Longitudinal Slice Medium Power



Leaf Medium Power

Conclusion:

1. How are the cells of the tubes specialized to conduct water upward through the stem?

   The cells of tubes are specialized to conduct water upward through the stem because they act like a straw.

2. The xylem tubes in the vascular plants are similar to what body part in animals?

   Xylem tubes are similar to veins.

3. How does water travel through a leaf?

   Water travels through a leaf via evaporation.

[redacted]

11/18/12
Mr. Miller

Vascular Plants

Procedure:

First we got one of the celery stalks that had been left soaking in the red food coloring for 24 hours. Then we used a scalpel to cut off the top of the stem. Then we cut off a piece of the stem about one cm thick. From that slice we cut a lengthwise piece, making sure it went though one of the red tubes and examined that piece under a microscope. Last we took a leaf from the top of a celery stalk and examined that under a microscope.

Observations:

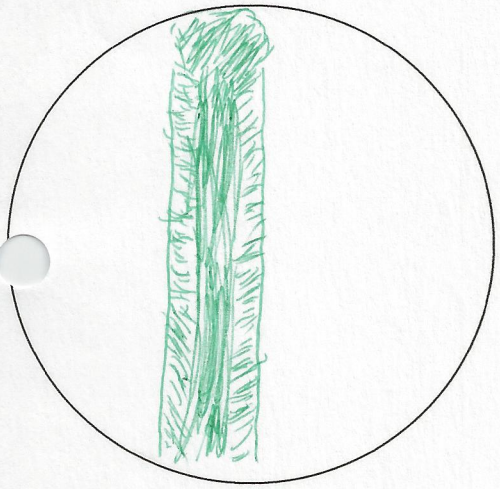


Diagram of Celery Stalk

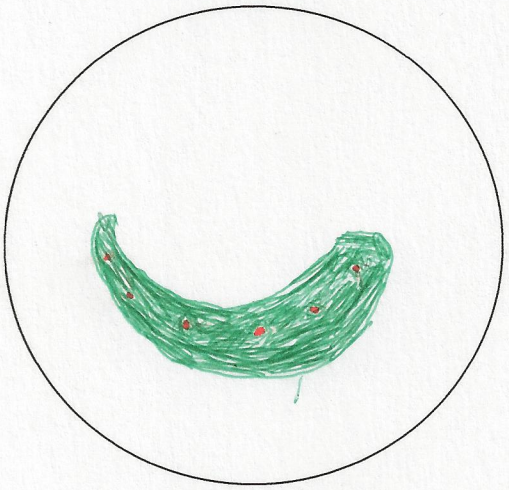
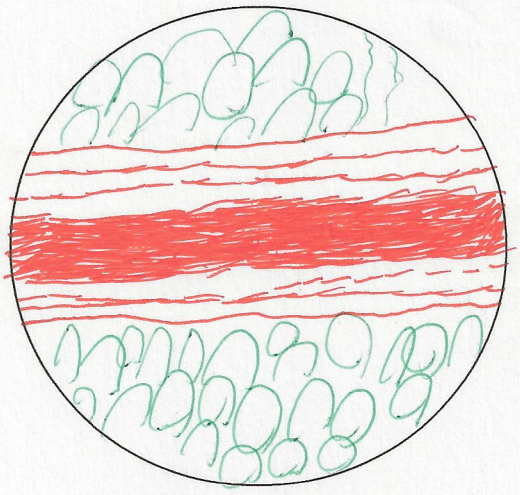


Diagram of Latitudinal Slice

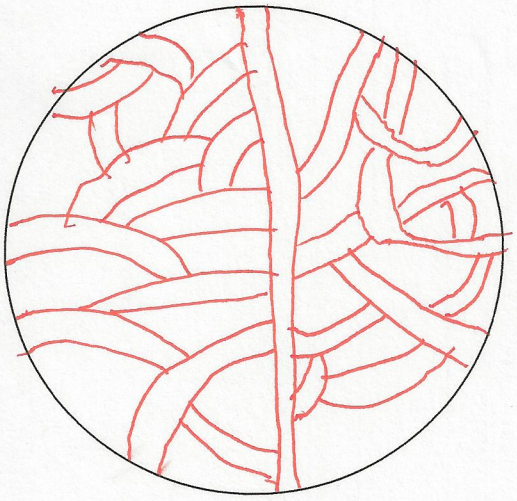
Longitudinal Slice Low Power



Longitudinal Slice Medium Power

Sam Ward
Science

11/18/12
Mr. Miller



Leaf Medium Power

Conclusions:

1. The tube cells are specialized to pump water upward because they are long and thin like a hose. They are also mostly empty on the inside.

2. Xylem tubes in vascular plants are similar to veins in the animal body

3. Water travels through leafs through evaporation.