Name _____ Period _____ Date _____

Your Progress:

- Mastery
- Proficient
- Developing
- Beginning

Lesson 4: How Are Food Molecules Absorbed by the Small Intestines?

Activity 4.4

Purpose

The purpose of this activity is to show how the structure of the small intestines aids in the absorption of food molecules.

Word Wall Words

Villi:_____

Small Intestines:_____

Procedure:

1. Pick up the 3 sizes of paper strips from bins A, B, and C.
2. Measure the dimensions of the strips with a ruler in cm. and calculate the area of strips A, B, and C. Remember that the order is shortest (A) to longest (C). Show your work and use proper units in the table.
3. Mass strips A, B, and C. Record this in the table with proper units.
4. Fold strips B and C with accordion pleats tight enough to match the length of strip A.
5. Fill a your 100 ml beaker with 80 ml of water.
6. Completely submerge strip A into the water. Pull it out with tweezers and allow it to drip. It is important that most of the excess water drips off. Do not squeeze the paper to release water.
7. Mass the wet strip A. Record the mass in your data table. Calculate the mass of water absorbed and record it in your data table.
8. Repeat steps 5-7 for for B and C.
9. Create a scatter plot by plotting your independent variable on the x-axis and your dependent variable on the y-axis.

Data Table 1

	Length	Width	Surface Area
Strip A			
Strip B			
Strip C			

Data Table 2

	Mass When Dry	Mass When Wet	Mass of Water Absorbed (Difference)
Strip A			
Strip B			
Strip C			

Graph

Create a line graph to relate the **surface area** of the paper to the **water it can absorb.**