**Riparian Zone Experiment Instructions**

1. Place Bottle Riparian Corridor in its holder. Ensure the rainfall lid is in place. Measure the distance from the bottle of the rainfall lid and the bottom of the bottle. Use meters (m) as your units. Record this number in the Riparian Zone Data Worksheet.
2. Fill a beaker with 500mL of water. Have someone act as a time-keeper. Pour the water into the rainfall lid, being careful not to overflow the lid. As soon as the pouring begins, start the timer. Stop the timer when all the water flows through the Bottle Riparian Corridor or there is 3 seconds between waterdrops. Use seconds (s) as your units, make sure to convert minutes into seconds if you go over a minute. Record the time in the Riparian Zone Data Worksheet under “Pavement” column.
3. Measure the final volume of water in the holding container. Record the volume in the Riparian Zone Data Worksheet. Record any other observations about the trial in the Riparian Zone Data Worksheet.
4. Fill the Bottle Riparian Corridor about halfway with gravel. Replace the rainfall lid and repeat the process from steps 1-3. Record the distance the water traveled, the time it took to travel, the final volume of water and any other observations in the Riparian Zone Data Worksheet under the “Gravel” column.
5. Without removing the gravel, add dry soil to the Bottle Riparian Corridor so that there is about 5cm of space between the soil and the rainfall lid. Repeat steps 1-3. Record the distance the water traveled, the time it took to travel, the final volume of water and any other observations in the Riparian Zone Data Worksheet under the “Gravel and Dry Soil” column.
6. Do not remove anything or change the Bottle Riparian Corridor. Repeat steps 1-3. Record the distance the water traveled, the time it took to travel, the final volume of water and any other observations in the Riparian Zone Data Worksheet under the “Gravel and Wet Soil” column.
7. Without removing the gravel or soil, add a layer of leaves. Push the leaves softly into the soil to compress them. Replace the rainfall lid and repeat the process from steps 1-3. Record the distance the water traveled, the time it took to travel, the final volume of water and any other observations in the Riparian Zone Data Worksheet under the “Gravel, Wet Soil, and Leaves” column.
8. Calculate the velocity of each scenario. This can be done by dividing the distance column by the time column. (i.e. $Velocity=\frac{Distance}{Time}$). Your units should be in meters per second (i.e. m/s)
9. Empty Bottle Riparian Corridor’s contents wherever the teacher instructs. Rinse the bottle and set aside.
10. Answer the questions on the Riparian Zone Data Worksheet. When finished, inform teacher and wait for further instructions.