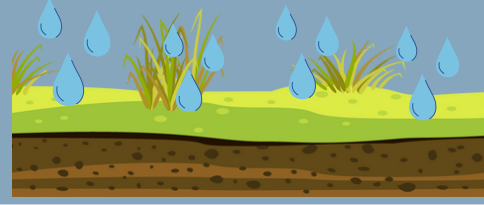


# Roots, Soil, and Infiltration Lab



Name : .....

You have been exploring the ways that geology and hydrology interact. Today you are going to test how plants can impact this relationship. As you work, think about how grasses, shrubs, and trees might impact erosion in different ways.

**Guiding Question: How do plant roots impact infiltration and runoff?**

**Materials:**

- Soil without plants in a tray
- Soil with well rooted plants in a tray
- Watering can with shower head
- Trays to catch water and sediment

Hypothesis: How do you think that the plants will impact the rate of erosion and infiltration?

---

---

---

**Procedure:**

1. Place both the trays at the same angle (about 10 degrees) with the bottom of the pans sitting in the empty pan.
2. Pour water onto the upper end of the tray without plants. Start with a slow stream to simulate a small rainstorm and then increase the flow to simulate stormwater. Record what happens. Measure the water and soil that collect in the lower tray.
3. Pour the same amount of water on the upper end of the tray with plants. Start with a slow stream to simulate a small rainstorm and then increase the flow to simulate stormwater. Record what happens. Measure the water and soil that collect in the lower tray.
4. Compare the impact of plants and plant roots on infiltration, runoff and erosion.

**Results: Record what you noticed.**

---

---

---

---

---

---

**Reflection:**

How did plants and plant roots impact the way that the soil eroded in this model?

---

---

---

Compare the model to what you have observed in the arroyo. What does the model tell you about how plants could be used to control erosion and increase infiltration?

---

---

---

---

---

---