

Name: _____

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Infiltration Rate Experiment

Overview: In this activity you will be testing the infiltration rate of sand vs. clay (and other objects of your choosing). When designing a raingarden or any garden it is important to understand the importance of soil type on plant development and survival.

Materials Needed:

- 2- Two liter clear soda bottles
- Sand
- Clay
- Water
- Timer
- Water- 100 ml or 2 cups
- Food coloring (optional)



Procedure:

1. Cut the top off of two 2-liter pop bottles
2. Place the cut off top into the bottom. Add clay soil to one and sandy soil to the other making sure you use the same amount. You can mark a line on the cut off top to make sure you use equal amounts of materials.
3. Pour 100 ml of water into each bottle set up. Add food coloring if available.
4. Use a timer and time how fast the water drains.
5. Pour 100 ml in and when you have collected 90 ml out stop the timer. Do this for each material.
6. You can try other different sized and shaped objects for the experiment- marbles, gravel, etc.

Material	Infiltration Time- seconds Trial 1	Infiltration Time- seconds Trial 2	Mean Time (Average)
Sand			
Clay			
Marbles			
(Your choice)			

Questions:

1. Which material had the fastest infiltration time?
2. Which material had the slowest infiltration time?
3. Why do you think _____ had the fastest time?
4. Why do you think _____ had the slowest time?
5. What is the disadvantage to plants if the water infiltrates too fast through the soil?
6. What is the disadvantage to plants if the water infiltrates too slowly through the soil?

