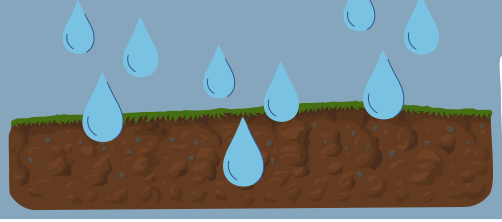
Infiltration Experiment



Name : .....

Today you are going to explore the infiltration rates of different soils in the arroyo.

Materials:

- Measuring cup
- Water
- Can, with both ends cut off
- Timer or stopwatch

Guiding Question: How do different types of soils change infiltration rates?

Hypothesis: I think that the _____ soil will infiltrate the fastest because_____.

I think that the _____ soil will infiltrate the second fastest because_____.

I think that the _____ soil will infiltrate the slowest because_____.

Process:

1. Explore the arroyo and choose three places to test the soil. Each site should have a different soil texture.
2. Describe each soil sample below.
3. Add your hypothesis above.
4. Test each soil's infiltration rate by:
   a. Press the can about ½ inch into the soil you are testing. Have one person hold the can in place.
   b. Measure out a cup of water. Have the time keeper get ready to start the clock.
   c. Pour the water and start the timer at the same time.
   d. Time how long it takes for the water to completely soak into the soil, so no puddle is visible.
   e. Record the time it took to soak in.
   f. Repeat these steps with each soil sample type.

Data:

Soil Sample 1 Description:_____

_____

_____

Sample 1 Infiltration Rate: _____cup(s) per _____ seconds.

Soil Sample 2 Description:_____

_____

_____

Sample 2 Infiltration Rate: _____cup(s) per _____ seconds.

Soil Sample 3 Description:_____

_____

_____

Sample 3 Infiltration Rate: _____cup(s) per _____ seconds.

Reflection: What were your findings?

_____

_____

_____

_____

_____

_____

_____

Look back at your hypothesis. Was it correct? Why or why not?

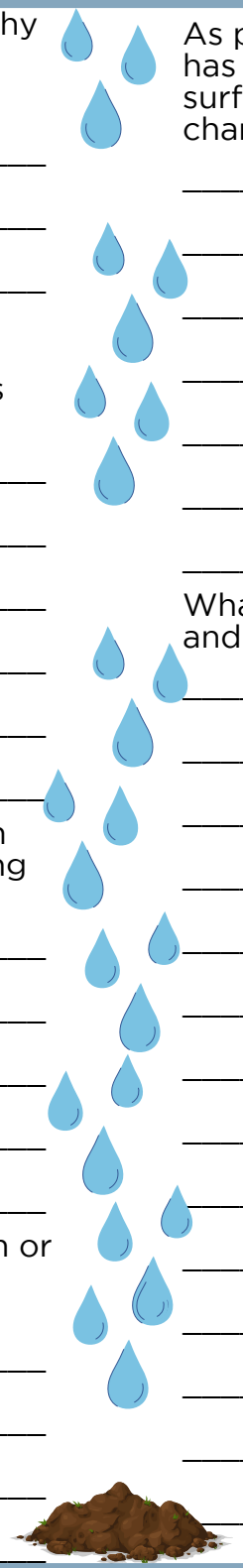
Imagine there was a rainstorm, how would different soils impact runoff?

Imagine that there were impermeable surfaces upstream from your arroyo, how would this affect the water flowing through your arroyo?

Runoff that collects and starts to flow during a rainstorm or precipitation event is called stormwater. How might stormwater change your arroyo?

As people have paved over roads and parking lots there has been an increase in the number of impermeable surfaces around Santa Fe. How do you think that this has changed the size of arroyos?

What would you suggest to increase the infiltration of rain and storm water?



Soil Triangle