

Soil (The Big Picture):

↳ and everything else

1. Concepts (What is ...; what is the importance of ...; how does ... fit with the bigger ecological framework?)
2. Methods (How do we measure ...; how would we get accurate data?)
3. WITRB question (scientific study)
"What is the relationship between"

Soil Moisture:

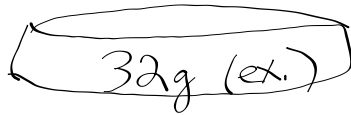
- How much water is in the soil right now?
- How much water can our soil possibly hold?

Mass of wet soil
Mass of dry soil
Mass of container

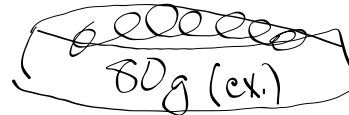
- Find mass of a petri dish
- Write initials, "per. 2"
- mass \rightarrow g
- Put on back counter

Soil moisture part 2:

1. Get a small amount (golf ball)
2. Clean yourself/shoes
3. Put soil in petri dish —
 - measure mass
 - record on the petri dish "wet: _____g"
 - place on 2nd shelf in oven
4. Clean everything



empty petri
dish



Petri dish +
wet soil



Petri dish +
dry soil

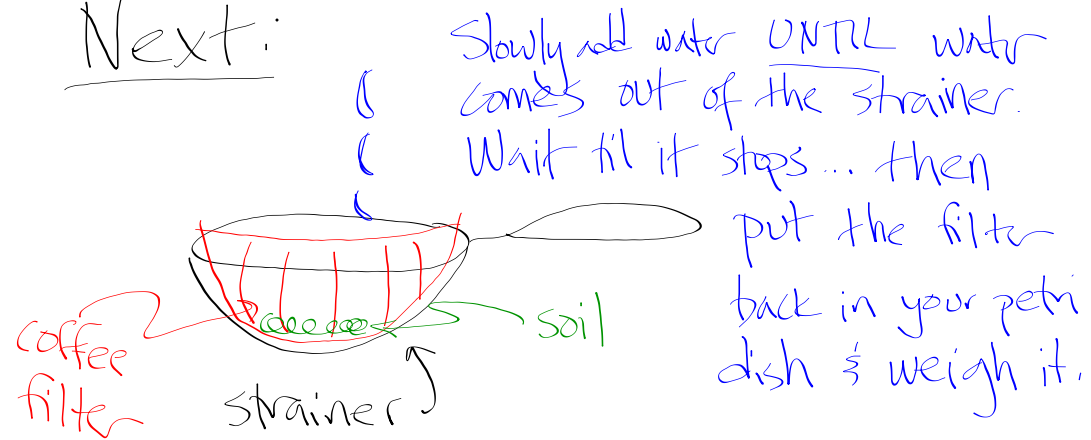
70g (ex.)

SOIL WATER CONTENT:

Amount of water in soil right now (%) can be bigger than 100%...

$$\frac{(\text{Petri dish} + \text{wet soil}) - (\text{Petri dish} + \text{dry soil})}{(\text{Petri dish} + \text{dry soil}) - (\text{Empty petri dish})} = \frac{\text{mass of water}}{\text{mass of dry soil}} \times 100 = \text{soil water content (\%)}$$

Next:



petri dish +
saturated soil
(92 ex.)

Soil water holding
capacity: maximum
amount of water your
soil can hold (%).

$$\frac{(\text{petri dish} + \text{saturated soil}) - (\text{petri dish} + \text{dry soil})}{(\text{petri dish} + \text{dry soil}) - (\text{empty petri dish})} = \frac{\text{maximum mass of water}}{\text{mass of dry soil}} \times 100 = \text{soil water holding capacity (\%)}$$