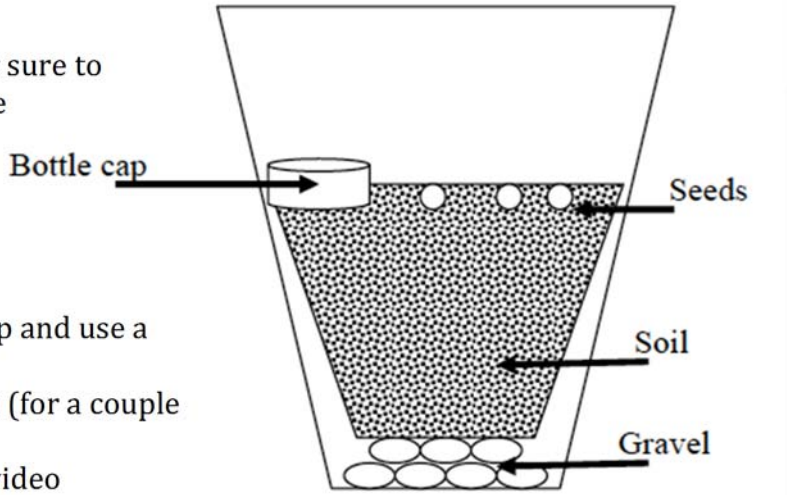
Name _____ **Hydro 9 Practice 1**

Targets	1	2 (all of 1 plus)	3 (all of 2 plus)	4 (all of 3 plus)
LE 5.7 Preparedness	Does not complete formative or summative in an effortful and timely manner, is not engaged, does not arrive on time with class materials ready to learn, does not communicate when issues arise	Completes formative or summative in an effortful or timely manner, is sometimes engaged, sometimes arrives on time with class materials ready to learn, sometimes communicates when issues arise	Completes formative or summative in an effortful and timely manner, remains engaged, arrives on time with materials ready to learn, communicates when issues arise	Completes formative or summative in an effortful and timely manner, remains engaged, arrives on time with materials ready to learn, communicates when issues arise, and is reflective on strengths and challenges within your preparedness skill
LE 5.6 Precision	Recognizes the importance of products that are planned, edited, and completed with care	Attempts products that are planned, edited, and completed with care	Creates products that are planned, edited, and completed with minimal errors	Creates products that are planned, edited, and completed free from errors or need for revision
Hydro 9	I can label a water cycle		I can develop a model to describe the cycling of water in place/form on Earth	I can incorporate the relationships between the water cycle and Earth's temperature
MP4 Watersheds and Water Cycle	I can interpret elevations and features on contour maps	(all of 1 plus) I can identify and diagram a watershed	(all of 2 plus) I demonstrate an understanding of interactions between water and Earth's environment (including watersheds and water cycles)	(all of 3 plus) You nailed it !!

Model the Water Cycle

Set Up – Done by your teacher

1. Layer of gravel in the bottom of the container.
2. Add soil to 2-4 inches deep.
3. Gently plant "enough" seeds in the soil, making sure to leave room for a cup to sit without covering the seeds
4. Sprinkle with 1500 mL (square) or 500 ml (round) of water.
5. Fill a cup(s) with 200 mL (square) or 100 ml (round) water and set the cups on the soil.
6. Cover the top of the container with plastic wrap and use a rubber band to help secure the wrap.
7. Place under grow light until plants have grown (for a couple of weeks).
8. Observe and record observations - Watch the video here.



Data:

1. Carefully remove the plastic wrap from the top of the model.

2. Using a funnel or pipet collect the water on the plastic wrap and measure its volume using a graduated cylinder.
   Record volume here: _____mL

3. Carefully remove the cup(s) from the model (try not to spill) and measure the volume left of water.
   Record volume here: _____mL

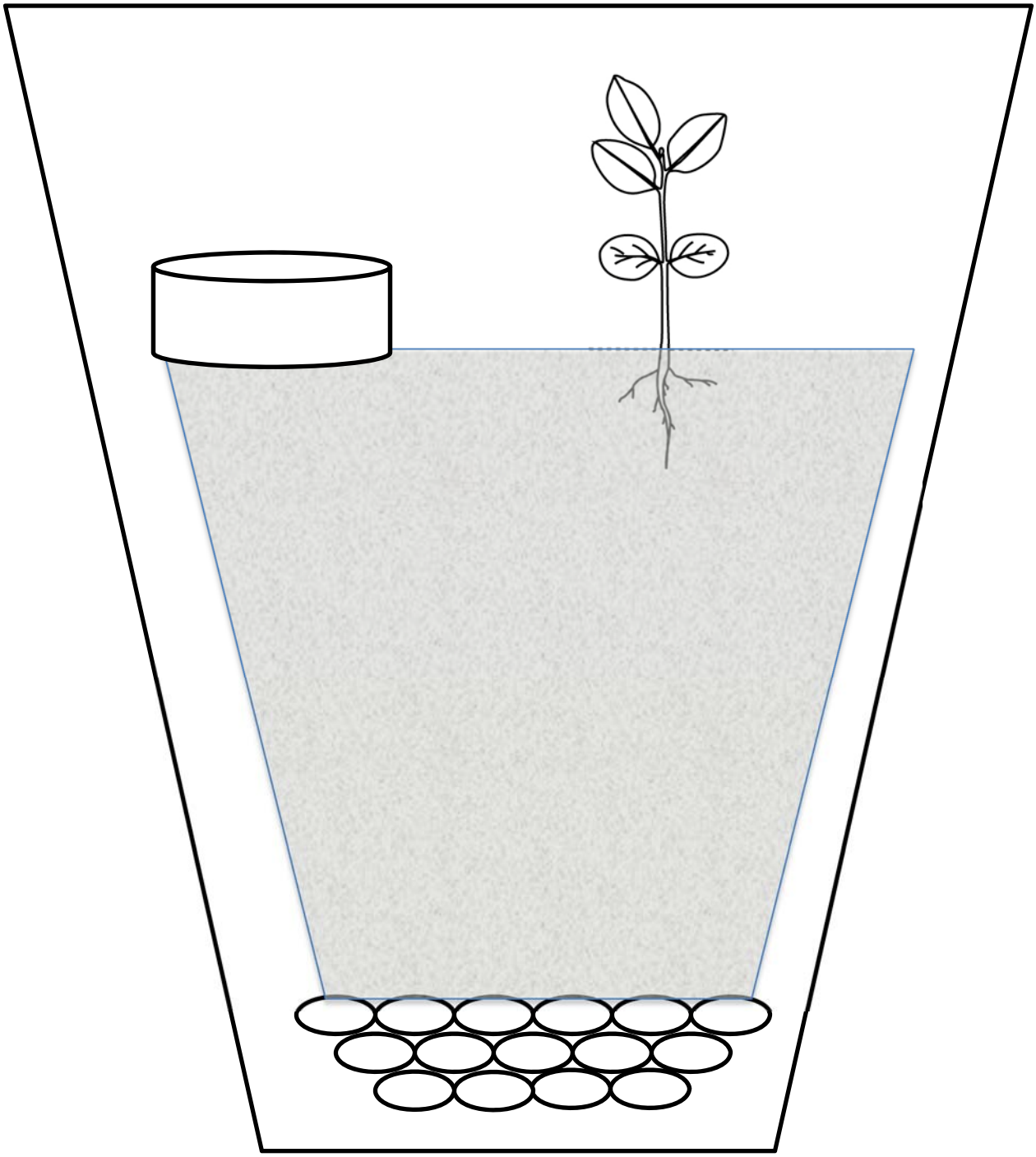
4. Remove the plants from the soil, determine their mass them using a scale.
   Mass of your plant(s): _____grams
   We will assume the mass of the plant is mostly water, 1 gram = 1mL of water.
   Record the volume of water in your plant: _____mL

Part of Water Cycle	Where each Part of Water Cycle is represented in your model	Beginning Volume	Ending Volume	Percentage (@ end)
Evaporation (water vapor)		Cannot be measured < .01%	Cannot be measured < .01%	
Condensation				
Transpiration		Cannot be measured < .01%	Cannot be measured < .01%	
I*nfiltration, Percolation, groundwater*				
Deposition and Sublimation				
Surface Water (Lakes, streams, oceans) & Runoff (Surface and channel)				
Plant Uptake		Zero @ Beginning		
Precipitation		Zero @ Beginning	Cannot be measured	
Transportation				
Melting / Freezing				
Total Water				

Continue ON THE REVERSE SIDE

Using the diagram below, label the aspects of the water cycle that are present in the model.

Use arrows to represent the movement of water from one place/form to another in the system.



Answer the following questions:

1. What parts of the water cycle were missing from our model? How might we have represented them?

2. What part of the model held the most water? How does this compare to the real water cycle? **(*Refer back to your notes from class*)**

3. What are three possible sources of (human) error in the determination of the amount of water in the different regions of the plant system?

   What could you have done differently to minimize these errors?