

L03 Uncover Your Ideas - Celery Stalk Model

Part A: Building a 'Celery Stalk Model'

1. Before beginning read all of the instructions.
2. Gather or locate all of the following materials:
 - Several celery stalks with leaves intact
 - Two 400 mL beakers
 - 100 mL graduated cylinder
 - Safety glasses/goggles
 - Scissors
 - Plastic wrap
 - Water
 - Marker
 - Food coloring
 - Rubber bands
3. Fill the beakers with 100 mL of water each. Add 2 drops of food coloring and stir the water until the food coloring is well mixed.
4. After your water is ready, cut about two centimeters off the bottom of the celery stalks.
5. Place one freshly cut celery stalk upright in each beaker water.
6. Seal the beakers with plastic wrap and a rubber band, so that no water can leave unless it goes through the celery stalks.
7. Use a marker to carefully mark the height of the water in the beaker, and to write your names and hour on the beaker.
8. At the end, your model should look like the image below.



9. Place one of the beakers in a sunny window or under a heat lamp.

10. Place the other beaker in a dark area with no sunlight.

1. Sketch each Celery Stalk Model as it looks now. Be sure to identify all the parts of the system and the system boundary.

2. Make a prediction: What do you think will happen to the two beakers of water? Why do you think that?

Part B Recording your observations

1. Revisit your models 24 hours later. Study each model carefully. What do you observe?

2. After 24 hours, measure the volume of water left in each beaker. Record the water volume in each beaker after 24 hours in the data table below.

Location	Starting Volume (mL)	End Volume (mL)
Light	100	

Dark	100	
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Part C: Answer the questions below:

- 1. What is the one difference (variable) between each of the models?

- 2. How did this difference affect the amount of water moved within the model?

- 3. Does this evidence support your prediction? Why or why not?

- 4. What is the source of energy behind the water movement? How do you know?

- 5. What real-world Earth components does each part of the model represent?

Name: _____ Hour: ____ Date: _____ **Unit 6.1**