

Name _____ Teacher _____ Date _____

3.2PT: Grading Observing Plants' Mass Changes Worksheet: Part 1

*This worksheet has "grading" in the title because at this point, students can be held accountable for correct answers. Level 4 (correct) responses to the questions are in **blue bold italics** below. There are also comments about common Level 2 and Level 3 responses to help you with grading and making decisions about what to emphasize in future lessons.*

Red italics suggest ways to grade student responses by giving them points for correct or partially correct answers. There are 5 points total on this worksheet.

Use this worksheet to harvest your radish plants after at least two weeks of growth by separating them from the paper towel and drying them in preparation for Activity 3.4: Observing Plants' Mass Changes, Part 2.

A. Separate the plants from the paper towel before drying.

It's easier to separate the radish plant roots from the paper towel before dry-down.

- Pour out excess water from the trays.
- Count how many radish seedlings grew: _____
- Count how many radish seeds did not sprout: _____
- Record the mass of an empty small envelope for your group: _____ grams and write your group name and the mass on it.
- Gently remove *all* of the plant material (seedlings, roots, and seeds that didn't grow) from the paper towel and place it in the envelope. Do not seal the envelope. Discard the yarn wicks.
- Copy the values you recorded above in to the table below.

1 point for each correctly completed box

3 points total

<i>Number of plants that grew</i>	<i>Number of seeds that didn't grow</i>	<i>Mass of empty envelope</i>
		grams

B. Dry down your plants.

You have two options for drying out your plants. Check the box of the option your class chose:

- Place the containers with paper towel and the open envelopes (carefully!) in a sunny windowsill to dry. Wait 2-5 days until they are nice and crispy before completing the rest of the instructions.
- Place the whole experiment in a barely warm drying oven until crispy. Be careful not to burn the paper towel or envelopes!

C. Observations

Record your macroscopic-scale observations below. Use drawings and/or words.

Observation *Idea starters*: How much have your radish plants grown? Which is larger, the roots or the stem/leaves? What colors are the leaves, stems, and roots? Has the paper towel changed in any way?

Observations will vary from group to group, but every student should record observations from his or her group.

2 points for observations that incorporate multiple measurable variables that accurately reflect changes that occurred in the plants.