
LESSON 7

Observing the Growth Spurt (Days 9 to 13)

Overview

Just as human beings have growth spurts, so do plants. For human beings, the growth spurt usually takes place during adolescence. For the *Brassica* plant, it usually happens some time between Day 9 and Day 13. During this time, students will closely monitor the growth of their plants by measuring their height, predicting overnight growth, and recording data. This lesson draws on measuring and graphing skills acquired in Lesson 5.

Objectives

- Students measure plant height in centimeters and record it on a graph every day for one week.
- Students predict how much their plant will grow each day.
- Students analyze their data on the growth spurt.

Background

As mentioned above, the growth spurt usually takes place between Day 9 and 13. However, plants grow at vastly different rates. Student observations are scheduled to occur for one week between Day 7 and 14 to allow for early or late bloomers and to help establish the pattern of normal growth for the plants.

The students were introduced to two techniques for measuring and graphing in Lesson 5. After this initial lesson on the growth spurt, or even before, you may decide that students are able to observe, measure, predict, and graph independently.

Life Cycle Cards 6 and 7 should be displayed as a reminder to the students to continue with their observations. Card 6 shows the plant before the growth spurt with flower buds tightly closed. Card 7 shows the plant after the growth spurt with flowers fully opened. Figure 7-1 shows these two phases. It is interesting to notice that the upward growth takes place in the stem between the leaf nodes, places where the leaves are attached.

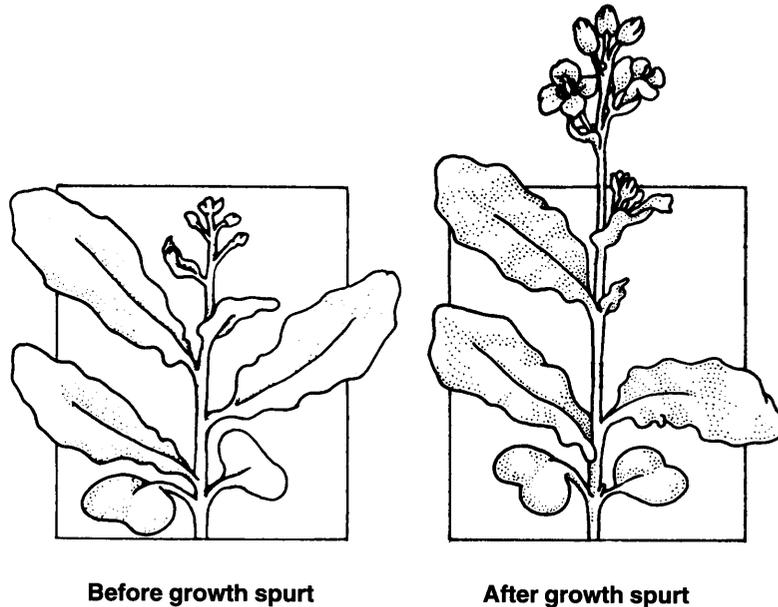
Materials

For each student

- 1 quad of plants
- 1 **Activity Sheet 3, Observing the Growth Spurt**
- 1 sheet of centimeter graph paper (see **Appendix F**)

Figure 7-1

Growth spurt



- 1 strip of paper precut to 1 centimeter wide (see **Appendix F**)
- 1 pair of scissors
- 1 student notebook

For the class

- Glue
- Life Cycle Cards 6 and 7

Preparation

Make copies of **Activity Sheet 3** and of the graph paper for each student.

Procedure

1. Begin the lesson by telling students that today they will begin keeping records of their plant's growth spurt. This will involve making observations, taking measurements, and making predictions every school day for a week.
2. Review the correct ways of measuring the plant using either the paper strips or the cubes (see Lesson 5).
3. Preview **Activity Sheet 3** with the class. Before they begin filling out the chart, check that students understand the following:
 - what is meant by a growth spurt
 - how to record their data for the week
 - what they need to know to make a prediction
4. Allow students to proceed at their own pace in measuring and recording data. If students are to work independently at unscheduled times, establish the routine during this lesson. For example, make supplies available in an easily accessible location, discuss what times during the day it would be appropriate for students to carry out the activity, specify group size, and explain expected behavior.



5. Remind students to record the plant's height on their graph each day. Also, remind them to keep their sheets in their notebooks.
6. Check individual work as often as possible during the week.

Final Activities

After Day 15, it will be interesting to pool the class information about the growth spurt. Here are some discussion questions:

- When did your plant go through its growth spurt? What proof do you have? Give evidence to back up your claim.
- How tall was your plant before the growth spurt? How tall was it after the growth spurt?
- Look at your graph. What was the most your plant grew in 24 hours?
- How close were your predictions to what really happened? Did you make better predictions after you had some practice? Or was your plant unpredictable?

Extensions



1. Many people enjoy sharing tales of the year Mom had to let the hems down twice because of an adolescent growth spurt. Ask students to interview a parent or relative about their growth spurt.
2. Practice making predictions. Pick a topic of interest, make observations, collect data, and record the class prediction. Some good topics might be related to sports events, weather, or when a "first" of something in nature (such as a robin sighting or a snow fall) will occur for that season.

Evaluation

The students' products will serve as evaluation of:

- their ability to follow directions and work independently
- organizational skills
- record-keeping skills
- interest and persistence
- the ability to take accurate measurements
- the ability to make reasonable predictions based on evidence

