

Name \_\_\_\_\_ Teacher \_\_\_\_\_ Date \_\_\_\_\_

## 3.3: Grading Observing Plants in the Light and Dark Worksheet

*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 10 points total on this worksheet.*

Use this worksheet to complete the investigation about plants in the light and dark and to record your observations, measurements, and class results.

**A. Steps in the investigation:** Check the box as you complete each step.

- Set up containers to observe plants in the light and dark. Your group may have your own container, or your whole class could share containers. Each container should have:
  - Growing plants
  - A Petri dish with blue BTB
  - A Petri dish with yellow BTB
- Close the containers, putting half of them in a well-lighted place and half of them in a dark box or closet.
- Come back the next day to observe changes in the color of the BTB.

**B. Observations during the investigation:** Record your observations in the table below.

*All students should record observations from some plants.*

*6 points total for chart*

Plants in the Light	Plants in the Dark
Time (hours or days after first putting the plants and BTB in the container): _____	Time (hours or days after first putting the plants and BTB in the container): _____
Changes in color of blue BTB: _____	Changes in color of blue BTB: _____
Changes in color of yellow BTB: _____	Changes in color of yellow BTB: _____

### **C. Results for the whole class**

Make notes about how the observations and measurements of other groups compared to yours. Describe patterns in your class data.

*Students should see the following general patterns:*

**1. Changes in color of the BTB for plants in the Light:**

*For plants in the light, yellow BTB turns blue.*

*2 points*

**2. Changes in color of the BTB for plants in the Dark:**

*For plants in the dark, blue BTB turns yellow.*

*2 points*