

## Fast Plants® Lab –Teacher Notes

*These notes provide you with some basic guidance regarding how to set-up and execute the Fast Plants lab for Growth and Development. Further details may be provided in the both the Teacher Slides and the presenter notes in the PowerPoint. As you plan, keep in mind the over-arching goal: to allow your students to make independent observations of growth and development and to create a record that will serve the class in generating questions about how organisms go from a zygote to a fully-differentiated body of cells we call an organism.*



### Supplies for the Class:

- It is easiest to order the Wisconsin Fast Plants ® Growth, Development, and Reproduction Advanced Classroom Kit™ by navigating to the Wisconsin Fast Plants® website or directly to the sales portal at Carolina Biological. You will need one kit (approximately \$86) for each class period you teach MBER-biology.
  - Go to Carolina Biological directly and search Fast Plants for the Growth, Development and Reproduction Advanced Classroom Kit (grades 6-12), currently Item #158702 at a cost of \$86.00
  - You may also go to Wisconsin Fastplants and navigate to the seed shop: <https://fastplants.org/shop/>
  - Select seeds or a kit that suits your needs. If only using the plants for Growth and Development, it is best to select the standard wildtype seeds in the Lifecycle kit.
- In ensuing years, you may buy the pre-packaged refill kit or piece together replacement materials on your own, but always be certain to order enough seeds to allow two per student to account for germination rates and attrition during the lab.
- Provide students with rulers, hand lenses, microscopes or anything you feel is needed for them to make some detailed observations of growth and development.

The kits from Wisconsin Fast Plants / Carolina Biological lists a number of investigations students can make. You should consider what you would like students to attend to as the sketch, record observations, generate questions, and list initial explanatory ideas. The key here is to generate questions. Making detailed observations and notes in the data table should be presented as a way to generate good questions.

That is, it is important to avoid making the lab about filling out the table. The goal is for us to explore the phenomenon, wonder about it and try to figure out what is happening given what we know and what we have yet to piece together.

Be certain to at least browse the Wisconsin website as they have not only sales information but also a series of helpful videos and a myriad of alternative investigations you might consider (especially as you become more comfortable successfully rearing the plants through their lifecycle).

Students should be able to move containers to their lab tables for observation. As you assemble the kit, consider how you will handle the logistics for all students making observations and measurements simultaneously over the course of about 10 minutes per day. This is will require some planning and may take a class day for students to get used to the observation and recording procedure.

During observations, provide students with the following:

- 01 GD Student Observation Record
- Rulers
- One hand lens per every two students
- Dissecting microscopes (if available)
- Petri dishes if students want to remove any parts for closer observation
- Microscope slides

### **Day one** – Planting the Seeds (45 min)

In preparation, assemble all necessary equipment and watch the video about planting.

Provide students with all necessary equipment to plant the seeds

### **Following days** – Observation Days (10 min)

Have students make daily observations and record their data on the Student Observation Record

### **Last day** (25-35min)

It takes about 10-14 days for the planarian to regenerate. On this last day It will take a little longer for students to clean up the petri dishes.

