



Generalized Artificial Selection Fast Plants Schedule

Before You Begin the Investigation (see www.fastplants.org for help getting started):

- Review Fast Plants Growing Instructions.
- Decide what type of light system you will construct or buy
- Decide what type of growing system you will construct or buy
- Decide what type of potting mix and fertilizer you will use
- Order Standard Wisconsin Fast Plants seed or kits (*Note: minimal population size for a selection investigation is about 120–180 plants per class. Plan for students to grow enough plants to achieve this population size.*)
- Obtain other materials as needed

First Generation

- DAY 1** _____ Plant Standard Wisconsin Fast Plants seeds (best done on a Monday so students can observe seedlings emerge). See www.fastplants.org and planting instructions for the growing system you chose to use.
- DAY 4** _____ Observe/measure plants. Students draw plants, record data (e.g. height, stem/leaf color). Determine a processes for having students responsible for watering and recording observations.
- DAY 8** _____ Observe/measure plants. Thin plants to approximately 1 plant per square inch (see How to Grow on www.fastplants.org)
- DAY 10** _____ Observe/measure plants. Determine what trait will be selected for and focus students' data collection procedures as needed so that data can be shared as a class.
- DAY 11/12** _____ Observe/measure plants. Combine class data to determine the range, median and mode for the selected trait in your population. Determine the selection criteria, and choose the plants that will be inter-mated to produce a new generation. Separate or cut out plants that were not selected for breeding.
- DAY 13** _____ Observe/measure plants. Make bee sticks in preparation for pollination (read about Wisconsin Fast Plants and cross-pollination at www.fastplants.org). Study flower and bee anatomy.
- DAYS 14-22** _____ Pollinate with bee sticks every or every-other day for one week (see www.fastplants.org for more information). Observe/measure plants.
- DAY 25** _____ Observe/measure plants.
- DAY 32** _____ Observe/measure plants.
- DAY 40/42** _____ Allow plants to dry out. 20 days after the last pollination, stop refilling water reservoirs.
- DAY 50/52** _____ When seed pods are dried and crispy, the seeds can be planted.

Second Generation

- DAY 1** _____ Plant the offspring seeds.
- DAYS 4-8** _____ Observe/measure and thin plants.
- DAY 10/11** _____ Observe/measure plants. Combine class data to determine the range, median and mode for the selected trait in the offspring population. Compare to data from the first generation.