Student Goal: Demonstrate understanding of and ability to appropriately apply principles of Drosophila genetics.

Objective: Complete a plan for a genetic cross to generate progeny with a specific genotype.

Assignment: Using the fly stocks listed here, write out a plan for a cross or series of crosses that will result in progeny (that you can identify!) with the genotype designated “goal”. Once your plan has been checked, execute it and collect the “goal” flies.

Goal:

+; $\frac{Elp}{CyO}$ ; $\frac{TM3, Ser}{TM6C,Sb, Tb}$ --OR-- +; $\frac{If}{CyOG}$ ; $\frac{TM3, Ser}{TM6C,Sb, Tb}$

Available stocks:

+; $\frac{Elp}{CyOG}$ ; $\frac{TM2, Ubx}{TM6B, Tb}$

+; $\frac{If}{CyO}$ ; $\frac{Di}{TM6C, Sb,Tb}$

+; *GAL4477,UAS-mCD8::GFP* ; $\frac{Di}{TM3, Ser}$

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| --- | --- | --- | --- |
|  | Achieved first try (1 point) | Achieved after troubleshooting (1 point) | Not achieved(0 points) |
| Cross planned correctly |  |  |  |
| Cross plan is as efficient as possible |  |  |  |
| Collected female virgins |  |  |  |
| Used correct virgins and males for cross |  |  |  |
| Collected and used correct intermediates (if applicable) |  |  |  |
| Identified and collected correct progeny |  |  |  |