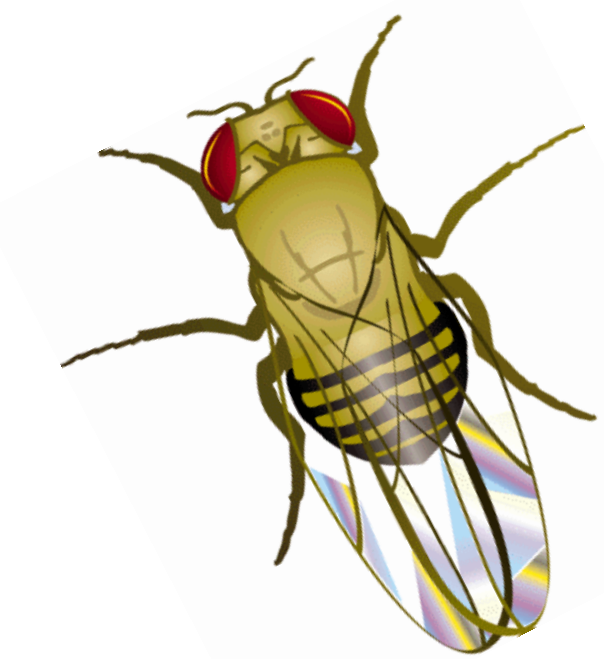


# Fruit flies and inheritance: an example of project-based learning

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**Summary:** This poster shows how genetic crossings between *Drosophila melanogaster* mutants are excellent tools to demonstrate the basic principles of heredity (the so-called Mendel's Laws) and the chromosome theory of inheritance (chromosomes are the carriers of genetic information) in teaching of Genetics. During the experience the student will have to plan the different tasks to be performed (understanding of theoretical concepts and hypothesis formulation) (**Conceptual Block**), experimental tasks (genetic crossings and data gathering) (**Practical Block**) to finally elaborate the information extracting the most relevant conclusions (presentation of data and construction of genetic maps).

## CONCEPTUAL BLOCK

### *In the Classroom:*

- The student is provided with basic theoretical information about the topic.
- The student is given a questionnaire to guide the learning process.
- The student is given an assignment.

Using wild-type flies and double mutant black | vestigial flies, design an experiment and estimate the distance between the two mutant genes.

## PRACTICAL BLOCK

### *In the Lab:*

- The student designs the experiment.
- The student conduct the experiment.
- The student gathers the data.

A protocol to perform this experiment can be found at:

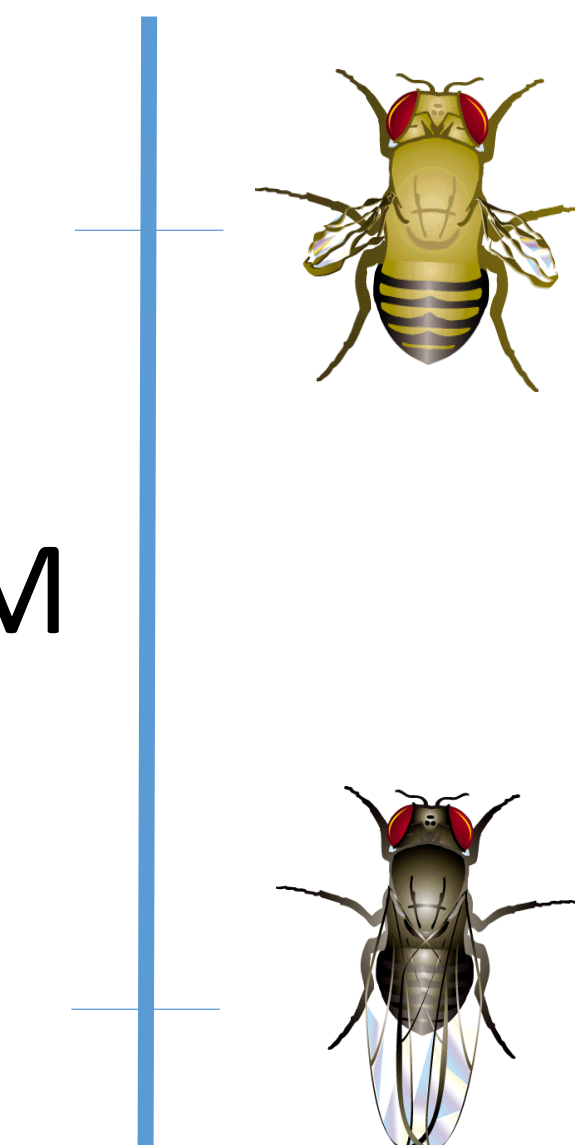


## PROCEDURAL BLOCK

### *At home and back in the Classroom:*

- The student extracts the relevant information.
- The student elaborates the data.
- The student gives a presentation outlining the most important conclusions.

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### Genetic Map

**Recombinants: 28**  
**Non-recombinants: 124**  
**Total: 152**