

1) *Dom* / + has a phenotype that differs from wild-type, and *Dom* / + / + is more severe than *Dom* / + . *Dom* / *Df* / + is phenotypically equivalent to *Dom* / + . *Df* / + is normal (does not differ from + / +). This is a **hypermorph**.

2) *Dom* / + has a phenotype which is phenotypically equivalent to *Df* / + and *Dom* / *Df* / + . *Dom* / + / + is normal (does not differ from + / +). This is a **null (haploinsufficiency)**.

3) *Dom* / + has a phenotype, and *Dom* / + / + is less severe than *Dom* / + . *Dom* / *Df* / + is phenotypically equivalent to *Dom* / + . *Df* / + is normal (does not differ from + / +). This is an **antimorph**.

4) *Dom* / + has a phenotype. That phenotype is equivalent to those seen with both *Dom* / + / + and *Dom* / *Df* / + . *Df* / + is normal (does not differ from + / +). This is an **neomorph**.

General *Drosophila* questions. These questions test your new knowledge of *Drosophila* nomenclature, serve as a review of basic mendelian genetics, and give you experience using online resources. Some of the information you need to answer these questions was presented in the fly handout. For some questions you will also need to consult the online resources flybase (flybase.bio.indiana.edu).

5. In crosses among flies in a balanced stock such as *l(2)gl* / *SM5*, *In(2LR)SM5*, *Cy*, (in other words, when the flies in the stock mate among themselves) what fraction of embryos survive to adulthood?

1/2 or 50%

6. In a cross between two strains carrying the *SM5* balancer: *l(2)gl* / *SM5*, *In(2LR)SM5*, *Cy* females X *Sp* / *SM5*, *In(2LR)SM5*, *Cy* males what fraction of embryos survive to adulthood?

3/4 or 75%

7. In this same cross, what fraction of the resulting adults will have curly wings?

2/3 or 67%

Questions about your gene. You should be able to get to flybase gene pages from NCBI using your gene accession number (e.g. the GenBank page for NP_477205 will take you to flybase.bio.indiana.edu/reports/FBgn0016978.html). You will also want to look at your gene in other *Drosophila* species on the [UCSC browser](#). I also encourage you to look at the alignment with other *Drosophila* species and otherwise explore a bit. For example, snRNP70K is at chr2L:6,969,825-6,971,736.

8. What protein refseq accession number are you using for your gene in *Drosophila*?

9. What is the cytological position of your gene (e.g. 27D or 93D)?

10. Is there a P insertion in your gene? If not, what is the nearest P element to your gene (e.g. *l(2)02107*). What phenotypes (if any) are observed in mutant alleles of your gene?

Gene-specific answers will be distributed separately.