

Monohybrid Cross Worksheet 6: Sex-Linked Inheritance

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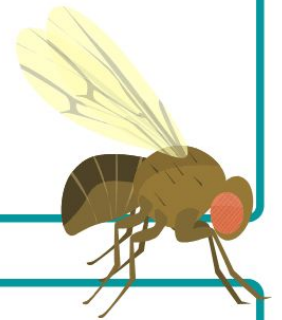
Name

Date

Match the correct definitions

- ___ 1. Non-sex chromosomes.
- ___ 2. Genes that reside on X chromosomes.
- ___ 3. Genes that reside on the Y chromosome.
- ___ 4. Common example of a Y-linked disorder.
- ___ 5. An inheritance pattern in which a trait is inherited by the second generation via a carrier from the first generation. Also known as skip generation inheritance.
- ___ 6. An individual who carries a gene mutation and is able to pass the gene mutation on to the next generation.
- ___ 7. Type of chromosome that is involved in sex determination.
- ___ 8. Genes that are found on sex chromosomes.
- ___ 9. Common example of an X-linked condition.
- ___ 10. Mode of inheritance in which a dominant gene is carried on an X chromosome.
- ___ 11. Mode of inheritance in which recessive mutations are found on the X chromosome(s).

- A. Sex chromosomes
- B. Autosomes
- C. Sex-linked
- D. X-linked
- E. Y-linked
- F. X-linked dominant inheritance
- G. X-linked recessive inheritance
- H. Crisscross inheritance
- I. Color blindness
- J. Jacobs syndrome
- K. Carrier



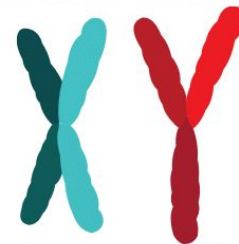
Monohybrid cross problems

12. Eye color is a known sex-linked trait in *Drosophila melanogaster*. Red eye color (R) is dominant; white eye color (r) is recessive. Identify the sex and eye colors of the following denoted genotypes:

- a. $X^R X^R$ _____
- b. $X^r Y$ _____
- c. $X^R Y$ _____
- d. $X^r X^r$ _____
- e. $X^r X^R$ _____
- f. $X^r X^r$ _____

13. Determine the possible genotypes of the following fly phenotypes:

- a. Male, red eyes: _____
- b. Female, red eyes: _____
- c. Female, white eyes: _____
- d. Male, white eyes: _____



14. A male fruit fly with white eyes is crossed with a female fruit fly that is heterozygous for red eyes.

- a. What are the genotypes of the parents? _____
- b. Prepare a monohybrid cross.
- c. What are the possible genotypes of the offspring? _____
- d. What are the possible phenotypes of the offspring?

