

Name Key**GENETICS: X LINKED GENES******In fruit flies, eye color is a sex linked trait. Red is dominant to white ****

1. What are the sexes and eye colors of flies with the following genotypes:

$X^R X^r$ female - red $X^R Y$ Male - red $X^r X^r$ female - white
 $X^R X^R$ female - red $X^r Y$ Male - white

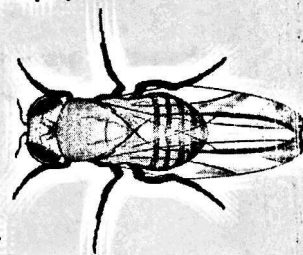
2. What are the genotypes of these flies:

white eyed, male $X^r Y$
 white eyed, female $X^r X^r$

red eyed female (heterozygous) $X^R X^r$
 red eyed, male $X^R Y$

3. Show the cross of a white eyed female
- $X^r X^r$
- with a red-eyed male
- $X^R Y$
- .

	X^r	X^r
X^r	$X^r X^r$	$X^r X^r$
Y	$X^r Y$	$X^r Y$



4. Show a cross between a
- pure red eyed
- female and a white eyed male. What are the genotypes of the parents:
- $X^R X^R$
- &
- $X^r Y$

	X^R	X^R
X^r	$X^R X^r$	$X^R X^r$
Y	$X^R Y$	$X^R Y$

How many are:

white eyed, male 0
 white eyed, female 0
 red eyed, male 2
 red eyed, female 2

5. Show the cross of a red eyed female (
- heterozygous
-) and a red eyed male. What are the genotypes of the parents?
- $X^R X^r$
- &
- $X^R Y$

	X^R	X^r
X^R	$X^R X^R$	$X^R X^r$
Y	$X^R Y$	$X^r Y$

How many are:

white eyed, male 1
 white eyed, female 1
 red eyed, male 1
 red eyed, female 1

Math: What if in the above cross, 100 males were produced and 200 females. How many total red-eyed flies would there be? 150

In humans, hemophilia is a sex linked trait. Females c
 es will either have the disease or not (but they won't ever be carriers)