

The players: B is not bald, b is bald.

Genotype:	$X^B X^B$	$X^B y$	$X^B X^b$	$X^b y$	$X^b X^b$
Phenotype:	Not bald female	Not bald male	Not bald "carrier" female	Bald male	Bald female

Example:

	$X^B$	$X^B$
$X^b$	$X^B X^b$	$X^B X^b$
$y$	$X^B y$	$X^B y$

$\frac{1}{2} X^B X^b$  — Not bald carrier female.

$\frac{1}{2} X^B y$  — Not bald male.

- 1) Cross (mate) a bald male to a carrier female.
- 2) Cross a not bald male to a carrier female.
- 3) Cross a bald male to a not not bald female.
- 4) Cross a not bald male to a not not bald female.

## Part II: Are you for another sex-linked challenge?

This time, lets look at hemophilia. Hemophilia is a genetic disorder where a person can not form a blood clot. Hemophilia is a recessive sex-linked trait. As you did in Part I, write the allele letter as a part of the X chromosome, like this:

$X^H$  or  $X^h$ ;  $y$  stays blank.

Now lets look at some traits.

- 1) Cross (mate) a carrier female with a male without hemophilia.
- 2) Cross a carrier female with a male with hemophilia.
- 3) Cross a female with hemophilia with a male without hemophilia.
- 4) Cross a female with hemophilia with a male with hemophilia.

## Part III: Now for a diffucult question?

- 1) If you're a guy, which member of your family should you look at to tell if you have baldness or hemophilia? Why? (Use a Punnett Square in your answer).