

INFO A cross between a purebred animal with red hairs and a purebred animal with white hairs produces an animal that has both red hairs and white hairs. What type of inheritance pattern is involved? \_\_\_\_\_ Hair color letter:  $H^R$  = red,  $H^W$  = white

TASKS:

- \*Pure breeding Parent Phenotypes: \_\_\_\_\_
- \*Show a monohybrid cross for the F1 generation.
- \*Show a monohybrid cross for the F2 generation including phenotypic ratios.

INFO A red-flowered sweet pea plant is crossed with a white-flowered sweet pea plant. All of the offspring are pink.

What is the inheritance pattern being expressed? \_\_\_\_\_  
Flower color letter:  $H^R$  = red,  $H^W$  = white

TASKS:

- \*Pure breeding Parent Phenotypes: \_\_\_\_\_
- \*Show a monohybrid cross for the F1 generation.
- \*Show a monohybrid cross for the F2 generation including phenotypic ratios.

INFO: Both rose plants have red and white petals on the flowers and gray thorns. The flower color is controlled by codominance and the thorn color is controlled by incomplete dominance. Flower color letter:  $F^R$  = red,  $F^W$  = white  
Thorn color letter:  $T^B$  = black,  $T^W$  = white

TASKS:

- \* Parent Phenotypes: \_\_\_\_\_
- \*Show a dihybrid cross for the offspring from these 2 plants including phenotype ratios.

INFO: Mary's father was color-blind, and her mother was not a carrier. Mary's husband is Mark. Mark's mother was color-blind, but his father was not. Mary and Mark have a son named Michael and a daughter named Michelle.

TASKS:

What is Mary's genotype for color-blindness? \_\_\_\_\_

What is Mark's genotype for color-blindness? \_\_\_\_\_

Is Mary color-blind? \_\_\_\_\_ Is Mark color-blind? \_\_\_\_\_

What are the chances that Michael is color-blind?\_\_\_\_\_ Michelle? \_\_\_\_\_  
INFO: Ronald does not have hemophilia. Ronald's wife is Renee`. Renee's mother was not a carrier for hemophilia, but her father was. Ronald and Renee` have a son named Ryan who has hemophilia. Renee` is pregnant with a girl that they will name Rissy.

**TASKS:**

What is Ronald's genotype for hemophilia?\_\_\_\_\_

What is Renee`s genotype for hemophilia?\_\_\_\_\_

What is Ryan's genotype for hemophilia?\_\_\_\_\_

What were the chances that Ryan would be a hemophiliac before he was born?\_\_\_\_\_

What are the chances that Rissy will be a hemophiliac?\_\_\_\_\_

INFO: Sally has gray eyes and is not a carrier for colorblindness. Her husband Steve also has gray eyes and is colorblind. Their children are as follows: Shane homozygous for black eyes and is not colorblind, Suzie has gray eyes and is a carrier for colorblindness, Scott is homozygous for white eyes and is colorblind, and Stacie has gray eyes and is also colorblind.

**TASKS:**

Do all of these children belong biologically to Sally and Steve? \_\_\_\_\_

If not, which one(s) do(es) not?

Show the punnet square and the parent genotypes for how you determined your answers