

Name: _____

WS- Genetics Practice #2

1. In rabbits brown fur is dominant to white fur. Which color would be used in a test cross and why would you use that color?
2. You discover a new species of flower in your back yard and determine the following information: Flowers- Red (R) and Orange (r), Leaf- Green (G) Gold (g). What phenotypic ratios would you expect from the following crosses?

a. $RRgg \times rrGg$

	Rg	Rg	Rg	Rg
rG	RrGg			
rg				
rG				
rg				

Phenotypic results=

b. $RrGg \times rrgg$

Phenotypic results=

3. Dr. Hernandez keeps orchids (a beautiful type of flower) as a hobby. Her favorite flower is white with red stripes. Her other favorite flower is white with blue stripes. When she crossed the two plants together, all of the offspring were white with purple flowers. What genetic pattern are the orchids exhibiting?

4. What types of flowers and in what ratios can she expect if she crosses her white with purple stripes with flowers that are white with red stripes? RED= $F^R F^R$, PURPLE= $F^B F^R$, BLUE= $F^B F^B$

Phenotypic results=

5. For the following crosses, tell me the phenotypes of the parents and determine the blood types that are possible in the children of these parents.

- a. $I^A i \times ii$ - parent phenotypes =

Child phenotypes=

- b. $I^B I^B \times I^A I^B$ - parent phenotypes =

Child phenotypes=

- c. $I^B i \times I^B i$ - parent phenotypes =

Child phenotypes=

d. ii x I^AI^B - parent phenotypes =

Child phenotypes=

6. In holly trees height is controlled by an incomplete dominance trait. The alleles for this trait would be Tall (H^T) and Short (H^S). Why phenotypes would you expect for these genotypes?

a. $H^T H^T$ =

b. $H^S H^S$ =

c. $H^T H^S$ =

d. What phenotypic ratio would result from a P cross of $H^T H^S \times H^T H^S$

Phenotypes=

7. Cows can be red, white, black, or roan (both red and white fur). This is an example of both codominance and multiple alleles. Use the following key to answer the questions.

Red	H^R
White	H^W
Black	h

a. What phenotypes would result from a cross between a Roan and a black cow?

Phenotypes=

b. What type of offspring would result from $H^Rh \times H^Wh$?

Phenotypes=