

White County 4-H

Rabbit Educational Activities – 10th grade

Project Year \_\_\_\_\_

4-H'er Name \_\_\_\_\_ Club \_\_\_\_\_

*Activity #1*

Marketing

1. List the ways to market your rabbits and their products. (pg 91 – 93)

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_

2. List 3 ways to advertise breeding stock.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

Define:

3. Fryers: \_\_\_\_\_

4. Stewers \_\_\_\_\_

5. Roasters: \_\_\_\_\_

6. Meaty \_\_\_\_\_

7. \_\_\_\_\_ prove another outlet for pet rabbits. (pg 92)

8. When is the best time to sell pet rabbits? \_\_\_\_\_ (pg 92)

9. \_\_\_\_\_ rabbits are used for their wool, for the purposes of crocheting and knitting fashions. (pg 93)

10. Rabbit manure is a great use as a fertilizer on gardens, plants and lawns. (pg 93) True or False

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**Activity #2**

**Rabbit Breeds—Advanced Level**

Find the breeds listed below in this word search puzzle. Draw a line through or circle the words horizontally, vertically, or diagonally forward or backward. Parts of an answer may be used twice.

A	M	E	R	I	C	A	N	S	A	B	L	E	K	N
R	R	P	A	L	O	M	I	N	O	T	O	Z	E	A
O	P	O	L	D	N	A	L	L	O	H	G	V	N	I
G	E	F	G	J	U	C	E	T	M	I	F	E	G	N
N	P	N	P	N	A	C	O	W	A	L	T	T	L	R
A	R	O	G	N	A	H	C	N	E	R	F	I	I	O
H	R	A	Q	L	F	N	T	M	A	G	H	H	S	F
S	E	Y	I	R	I	A	I	M	O	S	G	W	H	I
I	V	L	A	C	N	S	R	T	I	L	I	A	L	L
L	S	W	Z	G	H	E	H	L	A	N	F	D	O	A
G	D	C	O	G	V	F	O	S	R	S	I	I	P	C
N	B	R	I	L	C	P	H	W	P	F	Y	R	G	O
E	A	A	I	X	M	I	N	I	L	O	P	O	E	P
B	N	S	I	L	V	E	R	F	O	X	T	L	M	X
T	N	E	W	Z	E	A	L	A	N	D	B	F	S	W

American  
American sable  
Californian  
Dwarf Hotot  
English Angora  
English Lop  
English Spot  
Flemish Giant  
Florida White

French Angora  
Giant Angora  
Holland Lop  
Hotot  
Lilac  
Mini Lop  
Mini Rex  
New Zealand  
Palomino

Polish  
Rex  
Satin  
Satin Angora  
Silver  
Silver Fox  
Silver Marten  
Tan

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Activity #3

**Genetics—Advanced Level**

Gregor Mendel, an Austrian monk and practicing biologist, is referred to as the founder of genetic science. He was the first person to study inherited traits and to propose theories and laws of heredity. Mendel discovered that pure strains always breed true.

In rabbits, almost all of the genes that affect coat color are found on just four pairs of chromosomes, which have been classified into the Major Coat Color Series. This series has been labeled **A** (agouti coloration), **B** (brown coloration), **C** (color), **D** (dilution of color), and **E** (extension of black color). The genes of the **A** series are located on one chromosome pair. The genes of the **B** and **C** series are found on a second chromosome pair. The genes of the **D** series are found on a third chromosome pair, and the genes of the **E** series are located on a fourth pair of chromosomes.

A gene that is responsible for the agouti coloration may be present at each of the five (**A** to **E**) main chromosomal locations of the major coat color series. The agouti gene in a rabbit is dominant; therefore, any rabbit that has at least one agouti gene at each of the chromosomal locations (**A** to **E**) will have the agouti color. The dominant agouti gene may be replaced by alleles, or different versions of the gene.

For the following activities, refer to the Genetics section in Chapter 8 of the *Rabbit Resource Handbook* (4-H 228R) for terminology and other information that may be helpful in answering the questions.

The **A** series has three alleles: **A** (Agouti), **a<sup>t</sup>** (Tan), and **a** (Non-agouti). If both a buck and a doe possess the **AA** homozygous genotype, all offspring would have the agouti coloration (phenotype). An example using the Punnett Square is below:

		Buck F <sub>1</sub> Generation	
		A	A
Doe F <sub>1</sub> Generation	A	AA (agouti)	AA (agouti)
	A	AA (agouti)	AA (agouti)

The above Punnett Square shows a mating where both F<sub>1</sub> agouti parents are homozygous dominant **AA**.

**What are the F<sub>2</sub> results from this illustrated mating? Answer the questions below.**

1. What is the genotype of the F<sub>1</sub> generation buck in the above illustration? \_\_\_\_\_
2. What is the genotype of the F<sub>1</sub> generation doe in the above illustration? \_\_\_\_\_
3. What is the phenotype of the F<sub>2</sub> generation offspring in the above illustration? \_\_\_\_\_

## Activity

Complete the Punnett Square provided below for both the genotypes and phenotypes of the buck and doe discussed in the following statement:

If a buck and a doe possess the  $Aa$  heterozygous genotype, three offspring would have the agouti coloration, and one a non-agouti color, for a 3:1 phenotypic ratio of  $F_2$  offspring.

		Buck $F_1$ Generation	
		A	a
Doe $F_1$ Generation	A	_____	_____
	a	_____	_____

## Questions

1. What is the genotype of the  $F_1$  generation buck in the above illustration?

\_\_\_\_\_

2. What is the genotype of the  $F_1$  generation doe in the above illustration?

\_\_\_\_\_

3. What are the phenotypes of the  $F_2$  generation offspring in the above illustration?

\_\_\_\_\_

4. The phenotypic ratio of the  $F_2$  generation offspring is \_\_\_\_\_ : \_\_\_\_\_ .

5. What percent of the  $F_2$  generation offspring have the agouti color? \_\_\_\_\_%