

Genetics Practice Problems - Simple Worksheet

1. For each genotype below, indicate whether it is heterozygous (**He**) or homozygous (**Ho**)

AA <u>Ho</u>	Ee <u>He</u>	Ii <u>He</u>	Mm <u>He</u>
Bb <u>He</u>	ff <u>Ho</u>	Jj <u>He</u>	nn <u>Ho</u>
Cc <u>He</u>	Gg <u>He</u>	kk <u>Ho</u>	oo <u>Ho</u>
DD <u>Ho</u>	HH <u>Ho</u>	LL <u>Ho</u>	Pp <u>He</u>

2. For each of the **genotypes** below determine what **phenotypes** would be possible.

Purple flowers are dominant to white flowers.

PP purple
 Pp purple
 pp white

Bobtails in cats are recessive.

TT Straight / No bobtail
 Tt Straight / No bobtail
 tt bobtail

Brown eyes are dominant to blue eyes

BB Brown
 Bb Brown
 bb Blue

Round seeds are dominant to wrinkled seeds

RR Round
 Rr Round
 rr wrinkled

Name: _____

Genetics Worksheet

3. For each **phenotype** below, list the **genotypes** (remember to use the letter of the dominant trait)

Straight hair is dominant to curly.

S straight

s curly

Pointed heads are dominant to round heads.

P pointed

p round

4. Set up the Punnet squares for each of the crosses listed below.

Round seeds are dominant to wrinkled seeds.

RR x rr

	R	R
r	Rr	Rr
r	Rr	Rr

What percentage of the offspring will be round?

100%
4/4 ; 1/1

Rr x rr

	R	r
r	Rr	rr
r	Rr	rr

What percent of the offspring will be round?

50%
2/4 ; 2/4
1/2

Name: _____

Date: _____ Period: _____

Punnett Square Worksheet **R**

Directions: Read each problem carefully. Make a "key" for the trait, identify the parents involved in the cross and the gametes each parent produces. Show the Punnett square and give the ratio of both genotype and phenotype.

Before you begin....Define the following terms from your notes...

- Homozygous
- Heterozygous
- Phenotype
- Genotype
- Dominant
- Recessive

1. In rabbits, black fur is dominant over white fur. Show the cross of a heterozygous black male with a homozygous white female.

Key:

Parents & Gametes:

2. Tall is dominant over short in pea plants. Show the cross of a homozygous short plant is crossed with a homozygous tall plant.

Key:

Parents & Gametes:

3. In humans, free-ear lobes are dominant to attached. Two parented that are both heterozygous free are expecting a child. What are the chances that the child will have free ear lobes of attached?

Key:

Parents & Gametes:

4. Wrinkled seed are recessive to smooth seeds. Show a plant that always produces wrinkled seeds crossed with a heterozygous smooth seeds producing plant.

Key:

Parents & Gametes:

5. As in the previous problem... Show a heterozygous smooth plant crossed with another heterozygous smooth seed producing plant.

Key:

Parents & Gametes:

6. Blue eyes are dominant to red eyes in rabbits. Show a heterozygous blue-eyed rabbit crossed with a red-eyed rabbit.

Key:

Parents & Gametes:

7. In fruit flies, red eyes are dominant over white eyes. Show a cross between two white-eye fruit flies.

Key:

Parents & Gametes:
