

Name: _____ Block: _____ Date: _____

Punnett Square Worksheet 1

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

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

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

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

Key: Black fur = B, White fur = b

Parents: Bb, bb (male –black fur, female-white fur)

Offspring: 2 Bb, 2bb (2 black fur, 2 white fur)

Genotype Probability: 50% heterozygous black
50% homozygous white

Phenotype Probability: 50% white fur, 50% black fur

	b	b
B	Bb	Bb
b	bb	bb

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

Key:

Parents:

Offspring:

Genotype Probability:

Phenotype Probability:

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

Key:

Parents:

Offspring:

Genotype Probability:

Phenotype Probability:

3. 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:

Offspring:

Genotype Probability:

Phenotype Probability:

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

Key:

Parents:

Offspring:

Genotype Probability:

Phenotype Probability:

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

Key:

Parents:

Offspring:

Genotype Probability:

Phenotype Probability:
