

NAME _____ BLOCK _____ DATE _____

Monohybrid Cross Worksheet

- #1) Gene: Height
Alleles: Tall (T)
Short (t)
Mom: Homozygous recessive
Dad: Heterozygous

- Please complete the Punnet Square using the data above.
- Which is the dominant allele? What does being dominant tell us about this allele?
- What is the phenotype of the mother? Her genotype?
- What is the genotypic ratio of their offspring?
- What is the phenotypic ratio of their offspring?
- If they gave birth to 20 children, how many would be short?

- #2) Gene: _____? _____
Alleles: Blonde hair (B)
Brunette hair (b)
Mom: Heterozygous
Dad: Heterozygous

- Please complete the Punnet Square using the data above.

- b. Name the gene that would have Blonde and Brunette hair as two of its alleles.
- c. What is the phenotype of the father? His genotype?
- d. What is the genotypic ratio of their offspring?
- e. What is the phenotypic ratio of their offspring?
- f. What fraction of their children would be homozygous dominant?
- g. If they had 50 children, how many of these children would have brunette hair?

#2) Gene: Foot size
 Alleles: Small feet (F)
 Large feet (f)
 Mom: ____?_____
 Dad: Homozygous dominant

Ff	Ff
Ff	Ff

- g. Using the completed Punnet square above, what is the genotype of the mother? What is her phenotype?
- h. What is the phenotype of the father? His genotype?
- i. What is the genotypic ratio of their offspring?
- j. What is the phenotypic ratio of their offspring?
- j. If these parents had 5 kids, how many of them would have small feet?

Dihybrid Cross Worksheet

1. Set up a punnett square using the following information:

- Dominate allele for tall plants = D
- Recessive allele for dwarf plants = d
- Dominate allele for purple flowers = W
- Recessive allele for white flowers = w
- Cross a homozygous dominate parent (DDWW) with a homozygous recessive parent (ddww)

3. Set up a punnett square using the following information:

- Dominate allele for black fur in guinea pigs = B
- Recessive allele for white fur in guinea pigs = b
- Dominate allele for rough fur in guinea pigs = R
- Recessive allele for smooth fur in guinea pigs = r
- Cross a heterozygous parent (BbRr) with a heterozygous parent (BbRr)

2. Using the punnett square in question #1:

- a. What is the probability of producing tall plants with purple flowers?

Possible genotype(s)?

- b. What is the probability of producing dwarf plants with white flowers?

Possible genotype(s)?

- c. What is the probability of producing tall plants with white flowers?

Possible genotype(s)?

- d. What is the probability of producing dwarf plants with purple flowers?

Possible genotype(s)?

4. Using the punnett square in question #3:

- a. What is the probability of producing guinea pigs with black, rough fur?

Possible genotype(s)?

- b. What is the probability of producing guinea pigs with black, smooth fur?

Possible genotype(s)?

- c. What is the probability of producing guinea pigs with white, rough fur?

Possible genotype(s)?

- d. What is the probability of producing guinea pigs with white, smooth fur?

Possible genotype(s)?

5. Set up a punnett square using the following information:

- Dominate allele for purple corn kernels = R
- Recessive allele for yellow corn kernels = r
- Dominate allele for starchy kernels = T
- Recessive allele for sweet kernels = t
- Cross a homozygous dominate parent with a homozygous recessive parent

6. Using the punnett square in question #5:

- a. What is the probability of producing purple, starchy corn kernels?

Possible genotype(s)?

- b. What is the probability of producing yellow, starchy corn kernels?

Possible genotype(s)?

- c. What is the probability of producing purple, sweet corn kernels?

Possible genotype(s)?

- d. What is the probability of producing yellow, sweet corn kernels?

Possible genotype(s)?

7. Set up a punnett square using the following information:

- Dominate allele for normal coat color in wolves = N
- Recessive allele for black coat color in wolves = n
- Dominant allele for brown eyes = B
- Recessive allele for blue eyes = b
- Cross a heterozygous parent with a heterozygous parent

8. Using the punnett square in question #7:

- a. What is the probability of producing a wolf with a normal coat color with brown eyes?

Possible genotype(s)?

- b. What is the probability of producing a wolf with a normal coat color with blue eyes?

Possible genotype(s)?

- c. What is the probability of producing a wolf with a black coat with brown eyes?

Possible genotype(s)?

- d. What is the probability of producing a wolf with a black coat with blue eyes?

Possible genotype(s)?