

MONOHYBRID CROSS WORKSHEET 1

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Name

Date

Vocabulary: fill in the Blanks

___1. Different variations of a gene.
___2. An individual's collection of genes and alleles.
___3. An allele that is only expressed in a homozygous state.
___4. An allele that is expressed in a heterozygous state.
___5. A unit of heredity that usually encodes a protein.
___6. A diagram used to predict genotypes.
___7. When dominant alleles mask recessive allele effect.
___8. When recessive alleles have a partial phenotypic effect.
___9. A specific characteristic or attribute of an organism.
___10. The offspring generation.
___11. The generation preceding the offspring generation.
___12. Also known as allele frequency.
___13. Set of all genes found within a given population.

A. Complete dominance
B. Monohybrid cross
C. Punnett square
D. Genotype
E. Gene
F. Allele
G. Recessive trait
H. Dominant trait
I. Trait
J. Filial generation
K. Parental generation
L. Genotypic frequencies
M. Homozygous
N. Heterozygous
O. Incomplete dominance
P. Gene pool

Circle choices that match each word:

14. Heterozygous	Hn Nn aa Bb hh Yy YY Aa Gg oo EE
15. Homozygous dominant	Bb AA Ee NN Hh hh Aa Kk LL MM Gg
17. Homozygous recessive	Yy GG aa Bb Nn nn Kk LL oo ee Aa
18. Recessive allele	a N K m h H U k O p P o F A R r
19. Dominant allele	H j K k U y Y T M L F f d D P A

Complete the Punnett squares:

	a	a
A		
a		

	H	h
H		
H		

	B	B
B		
b		

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MONOHYBRID CROSS WORKSHEET 2

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Complete the Punnett squares & fill in the blanks

①

	h	h
H		
h		

Frequencies:
HH: ____
Hh: ____
hh: ____

Genotypes:
P1: _____
F1: _____

②

	a	a
A		
A		

Frequencies:
AA: ____
Aa: ____
aa: ____

Genotypes:
P1: _____
F1: _____

③

	B	b
B		
b		

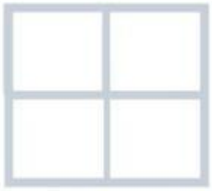
Frequencies:
BB: ____
Bb: ____
bb: ____

Genotypes:
P1: _____
F1: _____

Monohybrid cross problems

4. In pea plants, the tall (T) trait is dominant over the dwarf (t) trait. A homozygous tall plant is crossed with a homozygous dwarf plant. What are the genotypes and phenotypes of the first generation? Assume complete dominance.

Cross: ____ x ____
P1 genotypes: _____
F1 genotype(s): _____
F1 phenotype(s): _____



5. If two of the F1 generations from Question 4 are crossed with one another, what would be the genotypes and phenotypes of the F2 offspring?

Cross: ____ x ____
F1 genotypes: _____
F2 genotype(s): _____
F2 phenotype(s): _____



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MONOHYBRID CROSS WORKSHEET 3

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Monohybrid cross problems

1. A gene encoding mouse coat color has two different alleles that either encode gray (G) or white (g) fur, or dominant and recessive traits, respectively.

a. What would the genotypes and phenotypes of the F1 generation be if a heterozygous gray mouse is mated with a white mouse?

P1 cross: _____
F1 genotype(s): _____
F1 phenotypes: _____

b. What would the F1 genotypes and phenotypes be if a homozygous gray mouse mates with a white mouse?

P1 cross: _____
F1 genotype(s): _____
F1 phenotypes: _____

2a. Two mice with unknown coat colors mated and produced the following offspring: 8 gray coated- and 4 white-coated mice. What were the genotypes and phenotypes of the parents?

2b. If the parents produced all gray offspring, what were the genotypes and phenotypes of the parents?

2c. If 50% of the offspring were gray, what were the phenotypes and genotypes of the parents?

3. A species of orchids have a gene encoding either a dominant pink (P) or recessive white (p) flower color trait. If a heterozygous pink and white flower were crossed, what is the probability that the offspring have white flowers?

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