**PRACTICE MENDEL QUESTIONS:**

NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Why did Mendel choose to work with the garden pea plant?

(a) Because the pea plant is easy to work with.

(b) Because pea plants are fast growing.

(c) Because the pea plant has a number of characteristics, each with only two forms.

(d) all of the above

2. In Mendel’s first experiment

(a) the F1 displayed all purple-flowered plants.

(b) the F1 displayed all white-flowered plants.

(c) the F2 displayed all purple-flowered plants.

(d) the F2 displayed half purple-flowered and half white-flowered plants.

3. The law of independent assortment states that

(a) two factors of the same characteristic separate into different gametes.

(b) there are dominant and recessive factors.

(c) factors controlling different characteristics are inherited independently of each other.

(d) there are two factors that control inheritance.

4. Looking at your dog will give information concerning

(a) the dog’s genotype.

(b) the dog’s phenotype.

(c) the dog’s recessive alleles.

(d) the dog’s heterozygous alleles.

5. Which sentence is correct?

 (a) Different alleles of the same gene are located at the same locus on different homologous chromosomes.

 (b) Different alleles of the same gene are located at different loci on different homologous chromosomes.

 (c) Different genes of the same alleles are located at the same locus on different homologous chromosomes.

 (d) Different alleles of the same gene are located at different loci on the same chromosome.

6. An *Aa* individual

(a) has a homozygous genotype.

(b) has a heterozygous phenotype.

(c) has a heterozygous genotype.

(d) has a homozygous phenotype.

7. In Mendel’s initial experiments, an example of the F2 generation would be

(a) 75 round seed plants to 25 wrinkled seed plants

(b) 75 green seed plants to 25 yellow seed plants

(c) 75 white-flowered plants to 25 purple-flowered plants

(d) all of the above

8. Which of the following is part of the law of segregation? (1) there are two factors controlling a given

characteristic, (2) one factor is dominant over the other factor, (3) the two factors separate into

different gametes.

(a) 1 and 2

(b) 1 and 3

(c) 2 and 3

(d) 1, 2, and 3

Use the following choices for the next 3 questions:

(a) multiple alleles

(b) incomplete dominance

(c) codominance

(d) polygenic characteristics

1.What is the inheritance pattern when both alleles are expressed equally in the phenotype of a heterozygote?\_\_

2. What is the inheritance pattern when the dominant allele is not completely dominant? \_\_\_\_

3. What is the inheritance pattern associated with the ABO blood type in humans? \_\_\_\_

4. In a cross between a homozygous dominant parent and a homozygous recessive parent, what is the

chance of the offspring having a heterozygous genotype?

5. In a cross between a homozygous dominant parent and a homozygous recessive parent, what is the

chance of the offspring having the dominant phenotype?

6. In a cross between a homozygous dominant parent and a heterozygous parent, what is the chance of

the offspring having a heterozygous genotype?

7. In a cross between a homozygous dominant parent and a heterozygous parent, what is the chance of

the offspring having the dominant phenotype?

8. In a cross involving two heterozygous parents, which is the chance of the offspring having the dominant

phenotype?

**Definitions**

\_\_\_\_\_ 1. occurs when the dominant allele is not completely dominant

\_\_\_\_\_ 2. closely associated with appearance

\_\_\_\_\_ 3. an example of a characteristic due to multiple alleles

\_\_\_\_\_ 4. controlled by more than one gene

\_\_\_\_\_ 5. the expressed allele in a heterozygote

\_\_\_\_\_ 6. cell division involved in gamete formation

\_\_\_\_\_ 7. used to determine the expected percents of different genotypes in offspring

\_\_\_\_\_ 8. an alternative form of a gene

\_\_\_\_\_ 9. chance that a certain event will occur

\_\_\_\_\_ 10. only expressed when the other allele is absent

\_\_\_\_\_ 11. occurs when both alleles are expressed equally in the phenotype of the heterozygote

a.ABO blood type b.allele c. codominance d. dominant allele e. incomplete dominance

f. meiosis g. Phenotype h. polygenic characteristic i.probability j.Punnett Square

k.recessive allele