Name: _____ Block: _____ Date: _____

Mendel Webquest

Go to the following website http://www.dnaftb.org/dnaftb/1/concept/index.html Read through "Children Resemble their Parents" and go through the animation.

1. Why do we resemble our parents?
2. When left alone, pea flowers _____.
3. What is the male part of a flower?
4. What is the female part of the flower?
5. Describe self-fertilization.
6. Describe cross-fertilization.

Click on "Genes come in pairs" to answer the following questions. You will also have to read through the animation to answer the questions.

1. When Mendel looked at the traits of the pea plants, what conclusion did he make?
2. What is another name for self-fertilizing?
3. What does "pure-bred" mean?
4. What is the visible trait called?
5. What is an allele?
6. What is the pair of alleles an organism possesses called?

Read through "Genes don't blend" and the animation.

1. Summarize what the title of the section, Genes don't blend, means.
2. What is a hybrid offspring?

Read through "Some genes are dominant" and the animation.

1. Why do offspring that are a result of a cross of two different pure-bred organisms appear to have only one of the traits?

2. What does homozygous mean?

3. What does heterozygous mean?

4. What happens if you cross a heterozygous organism with a heterozygous organism?

5. Click on "Problem" at the bottom of the screen. Work through the problem.

Read through "Genetic inheritance follows rules" and the animation.

1. What is Mendel's Law of Segregation?

2. What is used to keep track of the gametes and possible offspring combinations?

3. What is the ratio of genotypes produced in the example of crossing a heterozygous yellow pea with another heterozygous pea? Ratio of phenotypes?

Learn about Mendel's experiments at http://www2.edc.org/weblabs/Mendel/mendel.html

1. Who was Gregor Mendel?

2. What did Mendel study?

3. Why did Mendel use pea plants?

4. In the first experiment, you planted 5 seeds. What were the colors of the flowers on the offspring plants?

5. How many different traits do you see in the plants?

6. List the traits that Mendel observed in his pea plants.

7. Cross 5 pairs of plant, examining the offspring of each cross. Can you find any patters of inheritance?

8. Cross a plant with round seeds with itself. What pea shapes do the offspring have?

9. Cross a plant with wrinkled seeds with itself. What pea shapes do the offspring have?

10. What did you learn about your peas in regards to pea shape?

11. When you cross two plants with wrinkled peas, what do you predict the offspring to have? What information led you to this prediction?

12. What information did Mendel gather about genetics and how traits are passed on to offspring?

13. What did Mendel call the traits that appear to mask or hide the other traits?

14. What did Mendel call those traits that seemed to be hidden?

15. Explore the different traits by crossing different plants. Circle the characteristic that is dominant for each trait.

Flower color	white	purple
Pea shape	round	wrinkled
Pod shape	inflated	constricted
Pea color	yellow	green
Pod color	yellow	green
Plant size	tall	dwarf
Position of flowers	terminal	axial

Vocabulary Review – *Use the webquest, notes or textbook to help you match the vocabulary term to its definition vocab terms may be used once or twice. ALL will be used.*

_____ 1. Father of Genetics

_____ 2. States that some alleles are dominant and others are recessive

_____ 3. The pollen from one plant fertilizes the ova from a **different** plant

_____ 4. The pairs of alleles present in a hybrid organism are

_____ 5. Only one copy of this allele must be present in order to see this trait

_____ 6. A segment of DNA that encodes information for a specific trait.

_____ 7. Term referring to the alternate variations in a trait(ex. Brown hair vs blond hair)

_____ 8. An organism's genetic make-up

_____ 9. Organism that has two different copies of an allele

_____ 10. Pairs of chromosomes encoding information for the same traits.

_____ 11. Organism that has two of identical copies of an allele

_____ 12. The pairs of alleles present in a pure-bred organism are

_____ 13. When an organism produces gametes, the two alleles separate from one another so that the each gamete carries only one allele.

_____ 14. Physical appearance of an organism

_____ 15. Two copies of this trait must be present in order to see this trait.

_____ 16. The pollen from one plant fertilizes the ova from the **same** plant.

A. Allele
B. Cross-fertilization
C. Dominant
D. Gene
E. Genotype
F. Gregor Mendel
G. Heterozygous
H. Homologous chromosomes
I. Homozygous
J. Law of Segregation
K. Phenotype
L. Principle of Dominance
M. Recessive
N. Self-fertilization