\*Go to the following website: [**http://www.dnaftb.org/dnaftb/1/concept/index.html**](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. It’s located on the right side. 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. It’s located on the right.\*

1. Summarize what the title of the section, Genes don’t blend, means.

1. What is a hybrid offspring?

\*Read through “Some genes are dominant” and the animation. It’s located on the right side.\*

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?

1. 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. It’s located on the right.\*

1. What is Mendel’s Law of Segregation?

1. 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?

Vocabulary Review –

\_\_\_\_ 1. Father of Genetics

\_\_\_\_ 2. When gametes are produced, 2 alleles separate.

A. Allele

B. Cross-fertilization

C. Dominant

D. Genotype

E. Gregor Mendel

F. Heterozygous

G. Homologous

chromosomes

H. Homozygous

I. Law of Segregation

J. Phenotype

K. Recessive

L. Self-fertilization

\_\_\_\_ 3. The pollen from one plant fertilizes the ova from a

different plant

\_\_\_\_ 4. A form of a gene is an \_\_\_\_\_\_\_\_.

\_\_\_\_ 5. Only one copy of this allele must be present in order to

see this trait

\_\_\_\_ 6. An organism’s genetic make-up

\_\_\_\_ 7. Organism that has two different copies of an allele

\_\_\_\_ 8. Pairs of chromosomes encoding information for the

same traits.

\_\_\_\_ 9. Organism that has two of identical copies of an allele

\_\_\_\_ 10. Physical appearance of an organism

\_\_\_\_ 11. Two copies of this trait must be present in order to

see the trait.

\_\_\_\_ 12. The pollen from one plant fertilizes the ova from the

same plant.

1. Because we get traits/genes from them.
2. Self fertilize
3. Stamens
4. Pistil
5. Stamens mature and drop pollen in the flower. The pistil’s eggs get fertilized by pollen.
6. Open the flower, cut the stamens, and drop in the pollen. Once it matures, dust the pistil with pollen.
7. Each trait has 2 forms (alternative form of a gene).
8. Purebred
9. 2 copies of the same gene
10. Phenotype
11. Form of a gene
12. Genotype
13. There are no blends- it’s one gene or another
14. Only one trait shows up
15. No blending, one is dominant over another
16. Two of the same alleles
17. Two different alleles
18. Mostly dominant shows, but recessive reappears
19. – Done on computer-
20. Each trait = pair of genes. Each parent makes 2 gametes. An allele gets randomly separated.
21. Punnett square
22. 3 to 1, 3 to 1