

New Bedford Public Schools
Division of Adult & Continuing Education

New Bedford High School Evening Extension

2019 – 2020 School Year
Trimester III

Learning Packet #2
for
Biology

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Email Mr. Francis with questions/concerns regarding
this packet at the email address listed above.

Due date: May 5, 2020

A Review of Biology: Genetics

Name: _____ Date: _____ Block: _____

A Review of Biology: Genetics

Directions: Use your Big Picture review sheet to answer the following questions in complete sentences.

1. What is meiosis?
2. Compare the number of chromosomes found in cells formed by mitosis and cells formed by meiosis.
3. What is fertilization?
4. What is the unique shape of DNA?
5. What are the four bases of DNA and how do they pair up?
6. What is semi-conservative replication?
7. What is unique job of RNA?
8. List and explain the 3 steps that cells use to make protein.
9. Write the complementary DNA and then RNA sequences for the following:

ATG CCA TTG GCA

10. What is a mutation?
11. When does a mutation in a parent affect the offspring?
12. What is genetics?
13. What are alleles?
14. Explain the difference between a dominant and a recessive gene. Give an example of each.
15. Explain the difference between the terms homozygous and heterozygous. Give an example of each.
16. Explain Mendel's law of segregation.
17. Explain Mendel's law of independent assortment.
18. Explain the difference between genotype and phenotype.
19. Draw a Punnett Square for the cross of a mother who is heterozygous for brown eyes and a father who has blue eyes.
20. What percentage of the children above will have brown eyes? Blue eyes?

21. Describe a trait that is controlled by multiple alleles.

22. Explain the difference between codominance and incomplete dominance.

23. What is a sex-linked trait? Give an example of a sex-linked trait.