GUIDELINES FOR COMPLETING THE ASSIGNMENT:

This packet was created to help you succeed in your upcoming Biology class. Many of the concepts covered in this packet you may have had in a previous class. You will be building on these concepts throughout the upcoming year.

This packet will count as a 50 point test grade toward your first marking period grade.

The packet will be graded for completeness and correctness. Use complete sentences to answer. Do not wait until last minute to complete.

The assignment is due on or before Friday, September 7th. Late assignments will be accepted on Monday, September 10th only for a 50% deduction. If you have questions, contact either of us through e-mail.

STUDENT’S NAME: ___________________ PARENT SIGNATURE: ___________________
Biology Summer Assignment

The summer assignment will be regarding the topic of evolution. Evolution is a central theme to the study of Biology and this assignment will give you an overview of what it is, how it occurs and how it explains not only the diversity of life but also how all life is connected.

The assignment itself will require you to define terms, answer questions and do some research. The assignment is due on September 7th. It will be counted as a test grade. Late papers will only be accepted on September 10th for half credit. If you have any questions, feel free to e-mail me during the summer at mmargel@rahway.net or spasewerk@rahway.net. Enjoy doing the assignment, and we look forward to working with you in the fall!

Assignment Description:

1. Define the following terms on a separate piece of paper

   (This will go into your notebook)

   a. Characteristic
   b. Adaptation
   c. Mimicry
   d. Camouflage
   e. DNA (Deoxyribonucleic Acid)
   f. Mutation
   g. Natural Selection
   h. Speciation
   i. Evolution
   j. Niche

   Points: 10

2. Research how the Theory of Evolution was developed.

   a. Who is credited with developing the Theory of Evolution?
   b. Talk about his observations of the finches on the Galapagos Islands.
   c. How did these observations help him come up with his theory?

   Points: 15

3. Explain natural selection, the mechanism by which evolution occurs.

   a) Name the steps that are part of natural selection.
   b) Again discuss the Galapagos’ finches and how natural selection enabled the development of so many different types of species.

   Points: 10
4. Adaptations that give a species a survival advantage are an important component of evolution.

   a) Research an adaptation for both a plant and animal species.
   b) Include a picture of this organism’s adaptation.
   c) Apply natural selection and explain why these adaptations are now seen in these populations.
   d) Find an example of mimicry, and explain how this is helpful to the organism. **
   e) Find an example of camouflage, and explain how this is helpful to the organism. **
   ** You MUST find two DIFFERENT adaptations**

5. Antibiotic resistance and natural selection

Bacteria are single-celled organisms that are responsible for many illnesses. Antibiotics are used to treat infections caused by these types of organisms. Over time, many bacteria have become resistant to the antibiotics that have in the past destroyed them.

   a) Explain how natural selection is the mechanism for such an occurrence.

Total Points 50

http://www.mbgnet.net/bioplants/desert.html
http://evolution.berkeley.edu/evolibrary/article/evo_01
http://www.globalchange.umich.edu/globalchange1/current/lectures/selection/selection.html
http://www.textbookofbacteriology.net/resantimicrobial_2.html
http://www.pbs.org/wgbh/evolution/library/01/1/l_011_20.html
http://www.lanl.gov/quarterly/q_fall03/selection.shtml
http://evolution.berkeley.edu/evolibrary/article/medicine_04
http://www.actionbioscience.org/evolution/futuyma.html