**It is best to use your old assignment to complete the study guide. The EWW! Its Bed Bugs, Natural Selection Stations, Labradors, Dive Deeper into Darwin’s Finches and Snurfles.**

**Directions:** Define the following vocabulary words

Resistance Gene Mutation Protein

Natural Selection Charles Darwin Frameshift Mutation Point Mutation

Trait Inbreeding Artificial Selection Dilute Gene:

**Directions:** Answer the following questions.

1. To kill bed bugs should we just use more insecticide? What method do you think would work best to kill bed bugs?

2. Can new traits like fur color arise in pure breed Labrador Retrievers?

3. How long does it take an organism to adapt?

4. During the station with our office supply proteins; why did the proteins change?

5. Why were the Finches on the Galapagos Islands unique?

6. What is the following describing: All living things respond to Natural Selection. Over 100 other species of moth were observed to darken over time in polluted forest. Scientist call this effect..?

7. Think of the Peppered Moth Station activity: why did the number of dark moths start to decrease over the last 50 years?

6. Go to Station 3 in your Natural Selection Stations (they are still available on my blog and ilearn). Review the picture showing the bed bugs that survive protein and the bed bugs that die protein. What do you notice?

6B. Which picture do you think the bed bugs of 1960 would look like?

7. Describe and give an example of an observable trait.

8. How do genetic traits affect an organism’s chance of survival?

9. When investigating the Peppered Moth it was found that the color was \_\_\_\_\_\_\_\_\_\_\_. Moths passed their color to the next generation. Eggs from light moths developed into light moths and dark moths turned to dark adults.

10. The dark color in the Peppered Moth was caused by a \_\_\_\_\_\_\_\_\_\_\_\_\_ in the DNA of a single moth, and the mutated gene had been passed to all of its offspring.

11. During the industrial revolution, why were the light moths more likely to be eaten?

12. What makes a trait desirable?

13. What is an example of a desirable and a trait that is not desirable?

**Fill in the blanks (also need to spell correctly)**

A. Evolution is genetic change in \_*populations*\_\_ over time. *Natural Selection* is one of the mechanisms by which evolution occurs. (1)

B. In nature, \_\_\_\_\_\_\_\_\_\_\_\_ offspring are produced than can survive. (1)

C. Organisms are (alike / genetically different). **Circle answer** (1)

D. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are helpful genetic traits. (1)

E. Can organisms acquire adaptations during their lifetime? (yes / no ) (1)

F. List two things that are limited in the environment and would therefore affect survival: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(1)

G. Who is more likely to survive and reproduce? Those with the best \_\_\_\_\_\_\_\_ for their \_\_\_\_\_\_\_\_.(1)

H. The more genes that an organisms passes on, the more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ it has. (1)

I. \_\_\_\_\_\_\_\_\_\_\_\_\_ that are more beneficial become ( more / less ) common in a population over time

**Written responses**

1. Using what you learned about Darwin and his Finches, and the related labs please explain how organisms adapt to their environment. Be sure to include how a favorable trait becomes more common.

2. CER you may use a notecard for only this question: What causes a bed bug population to stop being affected by a pesticide?

Claim

Research Evidence:

Connect to your claim:

Lab Evidence:

Connect to your claim:

Conclusion: