Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour: 3rd 4th

**Peppered Moths: Adaptations**

*Life Cycle of the Peppered Moth*

1. Why are these moths called "peppered moths?"

2. What is a lichen?

3. What adaptation do peppered moths have to help them survive?

4. What is an adaptation of the peppered moth larvae that helps them survive?

5. What adaptation allows moth larvae to survive in the winter? (Bonus: the process is called “overwintering”)

6. Moths that have more dark spots than the average moth are called what?

*Impact of Pollution*

7. **Where** and **when** was the *first* black form of the moth found?

8. What was the Industrial Revolution?

9. What was causing the different colors in the moths?

10. What is natural selection?

11. Who suggested that peppered moths were an example of natural selection?

12. What is industrial melanism?

*Kettlewell's Experiments*

13. What is an entomologist?

14. How do scientists test theories?

15. Write down ONE of Kettlewell's predictions.

16. Dark moths were found in what parts of the country?

17. How did Kettlewell directly study the moths?

18. Why did dark moths have a survival advantage?

19. When Kettlewell recaptured the marked moths, what did he find?

*Birdseye View*

20. In the simulation on the screen, I will try to behave as a bird would behave, choosing the moths that are the most obvious. At the end of each simulation, record the percent of moths captured in the table below.

|  |  |  |
| --- | --- | --- |
| **PEPPERED MOTH DATA** | Percent Dark Moths | Percent Light Moths |
| Light Forest |  |  |
| Dark Forest |  |  |

*Final Analysis*

21. Explain how the color of the moths increases or decreases their chances of survival.

22. Explain the concept of "natural selection" using your moths as an example.

23. What would happen if there were no predators in the forest? Would the colors of the moths change over time? Defend your answer?