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| **EVIDENCE 1:** In 1959 and the early 1960s, about 90% of the peppered moths had darker colored wings. Now about 10% of the peppered moths have darker colored wings, and the rest have lighter colored wings. |
| **EVIDENCE 2:**  Scientists found dark wings on peppered moths are not stains or dirt on the wings from soot or pollution. The color is in the wings. Darker wings are really darker in color, and lighter wings are really lighter in color. |
| **EVIDENCE 3:** There is variation in wing color of the peppered moth population. Some moths are very light all over, some are very dark all over, and others are different shades of darker and lighter colors in between, as these pictures show: |
| **EVIDENCE 4:**  Scientists did a study examining what kinds of offspring are produced by darker-colored parents and lighter-colored parents. Here are their results:    Darker colored moths produced offspring that were also darker in color.    Lighter colored moths produced offspring that were also lighter in color.  Light-colored moths and dark-colored moths laid the same number of eggs and produced the same number of offspring, on average. |
| **EVIDENCE 5:**  Scientists placed 1145 moths in a variety of environments over many weeks to see if they ever changed colors. They placed dark moths and light moths in environments with dark trees and black soot (pollution). They placed dark moths and light moths in environments with light trees and no black soot (pollution). They examined the moths over the lifespan of the moths to see if their wings ever changed color. This table shows their results:   |  |  | | --- | --- | | Number of moths that became lighter in color | 0 | | Number of moths that became darker in color | 0 | | Number of moths that stayed exactly the same color | 1145 | |
| **EVIDENCE 6:**  Peppered moths fly around at night and stop flying just before sunrise. During the day, they rest on tree trunks. Scientists have observed birds eating peppered moths that are resting on the trees during the daytime. Scientists wanted to find out whether peppered moths that fit the color of the trees they are on are more likely to survive. The pictures below illustrate what they did:   |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | | They glued 50 light moths on trees with light trunks. | They glued 50 dark moths on trees with light trunks. | They glued 50 light moths on trees with dark trunks. | They glued 50 dark moths on trees with dark trunks. |   They glued dead moths to the trees just before sunrise on a day with good weather. It was a warm day (high of 75 degrees Fahrenheit) with almost no wind (less than 1 mph). At the end of the day, the scientists counted how many moths were still on the tree trunks where they had been glued. This table shows the percent of moths that remained on the trees at the end of the day:   |  |  |  | | --- | --- | --- | |  | In wood with light tree trunks | In wood with dark tree trunks | | Light moths | 56% | 30% | | Dark moths | 22% | 54% |   Scientists photographed birds eating some glued moths. |