

**Chapter 12**

Use with Section 1

**ENRICHMENT****● Mechanisms of Evolution****The Peppered Moth**

In the 1800s, naturalists in England were familiar with the peppered moth. This moth gets its name from its speckled, light-colored wings. The peppered moths that naturalists had observed all looked similar and were usually found on lichen-covered tree trunks and rocks. Then in 1845, one black speckled moth was caught in Manchester, England. At that time England was becoming industrialized. Manchester, like many other cities, had factories pouring out smoke and soot and other forms of pollution. The pollution spread to the surrounding countryside and killed the lichens. The soot covered tree trunks, rocks, and even the ground, making everything black. During this time, more and more black peppered moths were found. By 1950 very few light-colored moths could be found—almost all were black.

How did the peppered moth change so much in just 100 years? The moth had changed as its surroundings had changed. Trees and rocks covered with lichens had been light colored. Covered with soot, they became

black. Against the light background, the light-colored moths were hard to see. But against the dark background, they were easy for birds to find and eat. In these new dark surroundings, the dark moths more often survived and produced offspring. Thus, within 100 years the peppered moth totally changed color.



1. No black peppered moths had been found before 1845. Where did this black moth come from? Why was a black moth not found before? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Explain how the peppered moth example fits with three factors that Darwin said govern natural selection. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Explain how the peppered moth example also fits with the model of punctuated equilibrium. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_