

The Peppered Moth

name _____ per _____

The Peppered Moth is common in Britain and Ireland. It is found all over in forests, backyards and parks. Their natural predators are birds and bats. Peppered Moths are normally white with black speckles across the wings. This patterning makes it well camouflaged against lichen-covered tree trunks (see picture) However, in the 19th century more and more coal was being used in factories and to heat homes. Coal smoke causes air pollution which had killed off lichens on trees. The smoke also turns surfaces such as tree trunks and walls black. This pollution happened for many years.



1. How do you think this would affect the moth population?



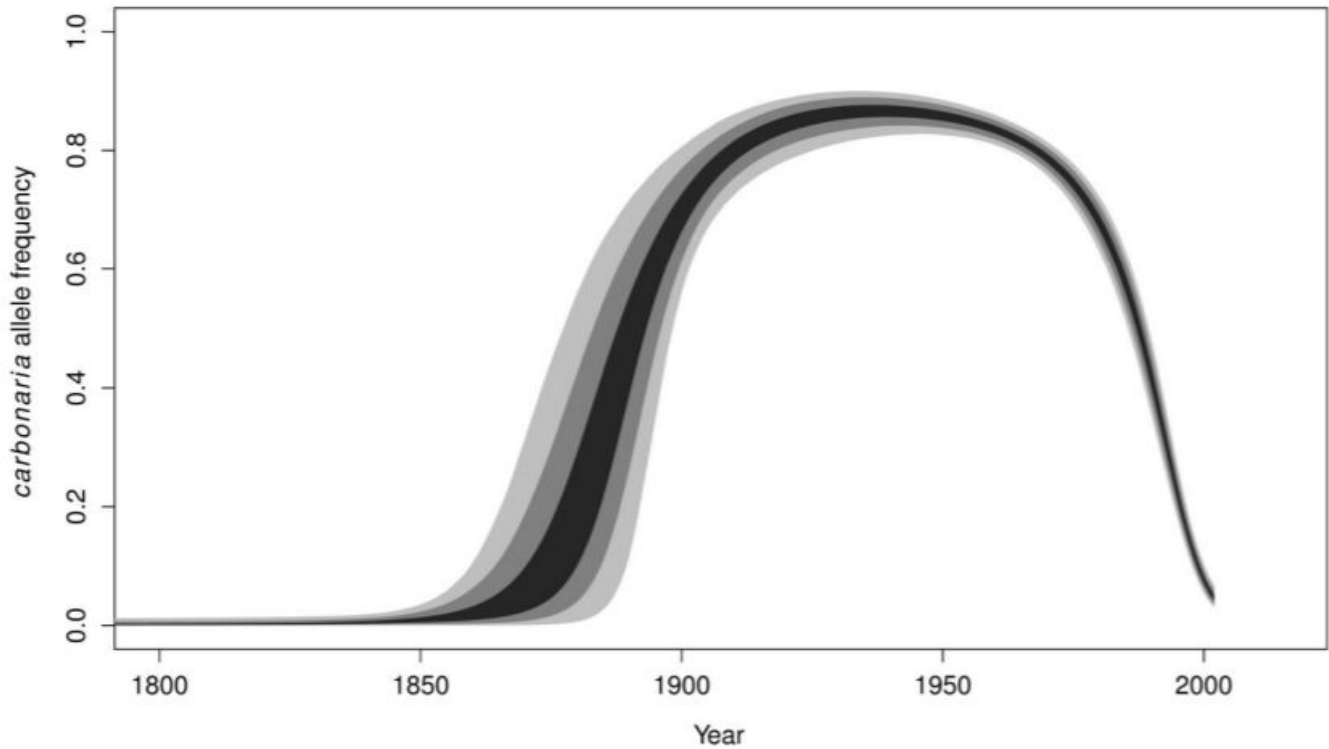
Around 1850, the first black colored moths began to appear in cities and towns. By 1900, almost all of the peppered moths found were black. Finally, governments enacted laws to help control air pollution. As the air quality improved, tree trunks became cleaner and lichen growth increased.

Use a line graph to show how both colors of moth changed over time. Attach the graph when you turn this in.

Year	Percentage of Light Moths Captured	Percentage of Dark Moths Captured
1850	99%	1%
1870	40%	60%
1890	10%	90%
1910	2%	98%
1930	2%	98%
1950	2%	98%
1970	2%	98%
1990	30%	70%
2010	90%	10%

Highly Proficient Opportunity - staple this to the back of your paper

The two alleles for moth color are called *typica* (speckled) and *carbonaria* (black)



Use your knowledge of genetics and natural selection to explain the following

1. Which was more common in the population in 1930?
 - a. The dark moths
 - b. The dark color allele
2. Explain how your answer to #1 is possible.

Moth color follows a complete dominance pattern. Black (*carbonaria*) is dominant.

3. Why was the dominant phenotype only 1% of the population in 1850?
