

# Conceptual Biology

## Chapter 9: Evidence of Evolution

### *Mechanisms of Evolution*

Suppose you have a population of peppered moths in which the allele frequencies are 50% light allele and 50% dark allele. For each of the events below, list the mechanism of evolution involved and the event's effect on allele frequencies.

Event	Mechanism of evolution (natural selection, mutation pressure, genetic drift, or gene flow)	Effect on allele frequencies (increases frequency of the light allele, increases frequency of the dark allele, or change cannot be predicted)
1. Some light moths migrate into the population from a nearby unpolluted area.	Gene flow	increases frequency of the light allele
2. Pollution in the town increases.	Natural selection	increases frequency of the dark allele
3. A storm kills half the moths in the population.	Genetic drift	change cannot be predicted
4. Some dark moths migrate into the population from a nearby polluted area.	Gene flow	increases frequency of the dark allele
5. Just by chance, dark moths leave more offspring than light moths one year.	Genetic drift	increases frequency of the dark allele
6. Dark moths survive better than light moths.	Natural selection	increases frequency dark allele