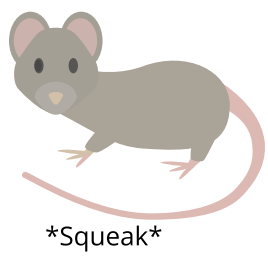
Forces of Evolution

Report by **Scott Lucitt and Matthew Yuro**

What are the forces of evolution?

There are four forces of evolution that cause life to change over time. Let's follow a mouse named Maurice and his friends to see how this works!



Squeak

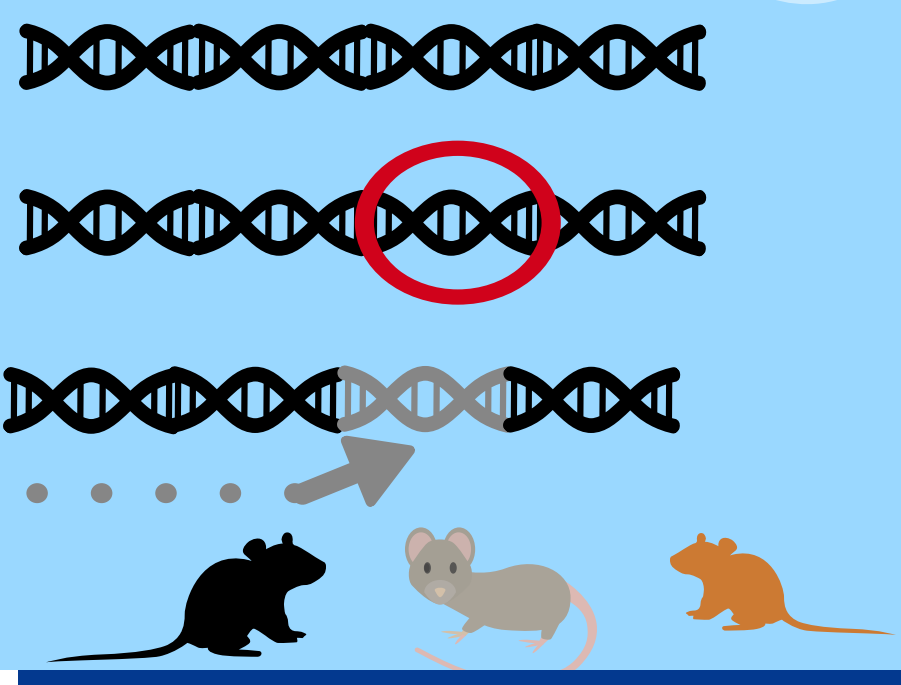
1. Mutation[1] **2. Natural Selection**[2] **3. Genetic Drift**[3] **4. Gene Flow**[4]

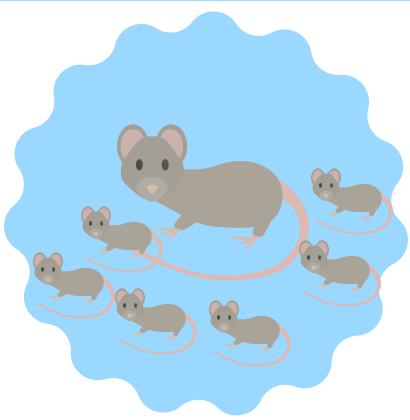
This is Maurice's Population[5]

A population is a group of organisms from the same species that can have families and live in the same place at the same time.

Maurice has a mutation

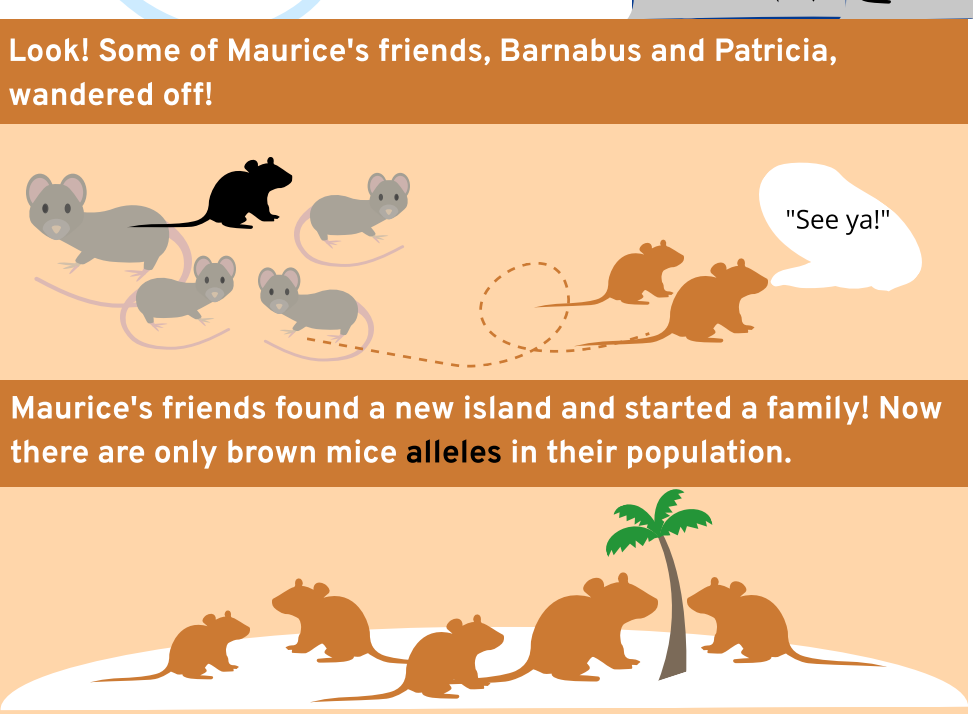
- All organisms have DNA, the instructions for how they look and function.
- Parts of this DNA, called alleles,[6] control specific traits like color.
- Maurice was born with a special new allele different from his friends and family. This is called a mutation.
- Maurice's mutation turns his fur grey instead of black or brown.

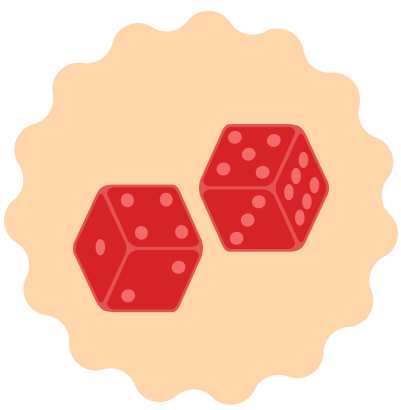




Natural Selection

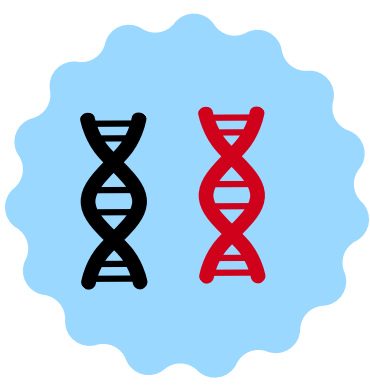
Mice that are best suited to their environment have big families and give their alleles to their kids.





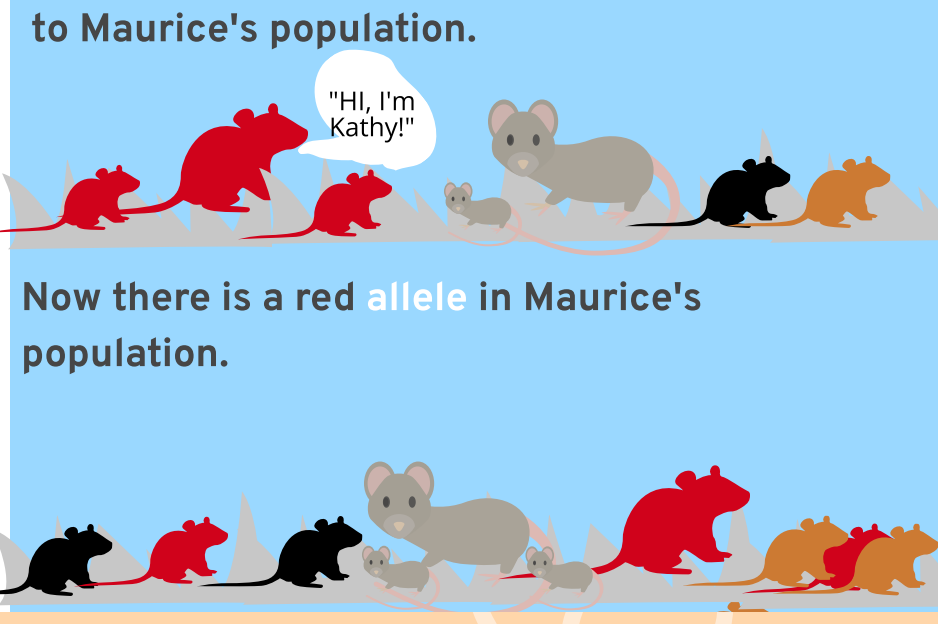
Genetic Drift

Due to random events certain alleles, like color, can become more common in a population.

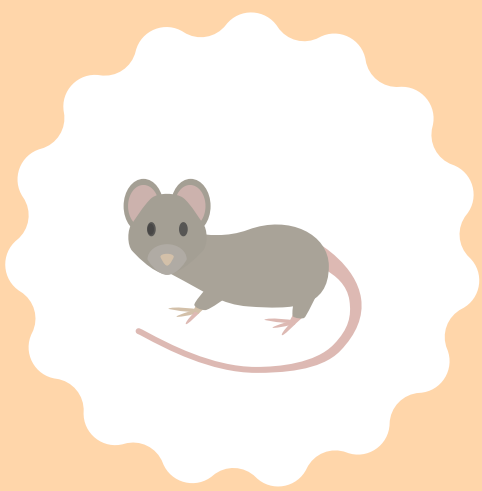


Gene Flow

Two separate populations meet and their alleles get mixed together.



Conclusion



Together we saw how the forces of evolution affected Maurice and his friends!

Mutations, Natural Selection, Genetic Drift and Gene Flow all alter the allele frequencies in populations. Evolution occurs as a population's alleles change over time. This is why there are so many different kinds of plants and animals in today's world!

References

1. "Mutation." *Genome.gov*, https://www.genome.gov/genetics-glossary/Mutation.
2. "Natural Selection." *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., https://www.britannica.com/science/natural-selection.
3. "Genetic Drift." *Genome.gov*, https://www.genome.gov/genetics-glossary/Genetic-Drift.
4. "Gene Flow." *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., https://www.britannica.com/science/gene-flow.
5. "Population Ecology." *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., https://www.britannica.com/science/population-ecology.
6. "Allele." *Genome.gov*, https://www.genome.gov/genetics-glossary/Allele.
Referenced: Parrish, Adam. "Infographics for Kids |." Infographics for Kids |, 19 Oct. 2016, www.creativefreedom.co.uk/icon-designers-blog/infographics-for-kids.