

Name _____

Evolution in Action: The Fascinating World of Viral Mutations

Open-Ended Response Answer Key

1. Viruses mutate through random errors during replication when they make mistakes in copying their genetic material, leading to changes in their genetic code.
2. An example of selective pressure driving the evolution of viruses is the use of antiviral medications, which can select for drug-resistant strains of viruses that are better able to survive and replicate in the presence of these medications.
3. It is important for scientists to monitor viral mutations to track the emergence of new variants that may affect the effectiveness of treatments and vaccines, as well as to understand how viruses evolve and spread.
4. Vaccines may need to be updated to address new viral variants by incorporating genetic sequences from these variants into the vaccine to ensure that it remains effective against circulating strains.

