

Name \_\_\_\_\_

## Battling Viral Infections: Challenges and Solutions

### Open-Ended Response Questions

1. Describe the concept of antiviral resistance and explain why it poses a significant challenge in the treatment of viral infections.
2. Discuss the importance of broad-spectrum antivirals in combating viral diseases and explain why their development is crucial for public health.
3. Explain how viral mutation and variability influence the effectiveness of vaccines and antiviral drugs in controlling viral infections, providing examples where appropriate.
4. Explore the factors contributing to the difficulty in vaccine development for viruses with high mutation rates, such as HIV and influenza, and discuss potential strategies to overcome these challenges.

