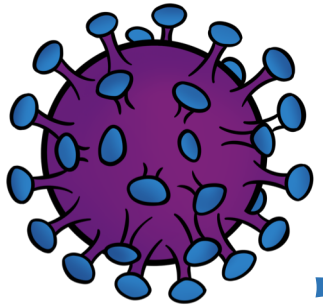
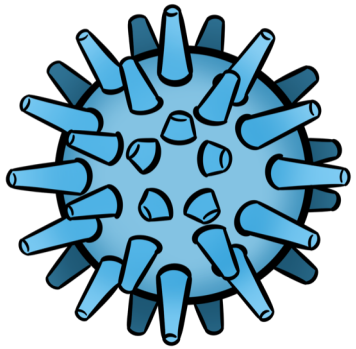
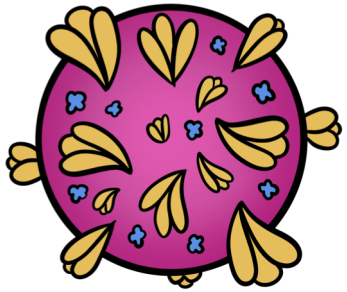
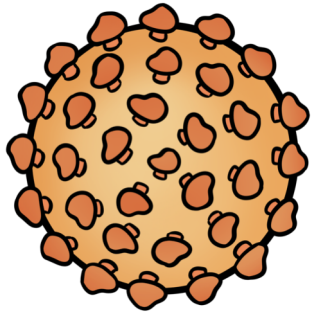


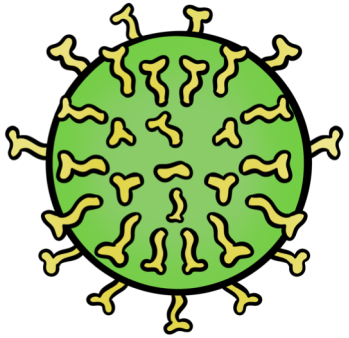


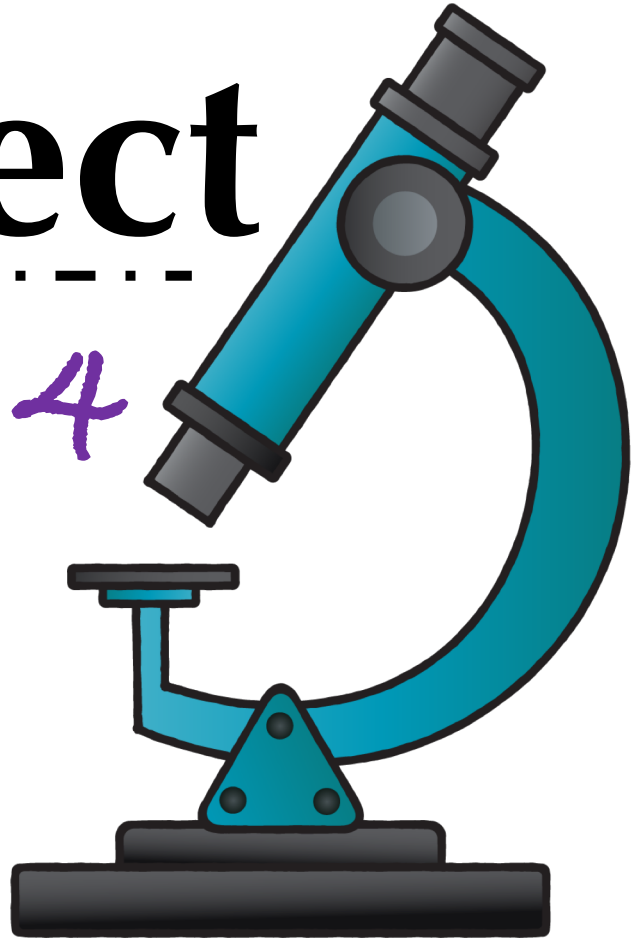


The Virus Project

Mystery Virus 4



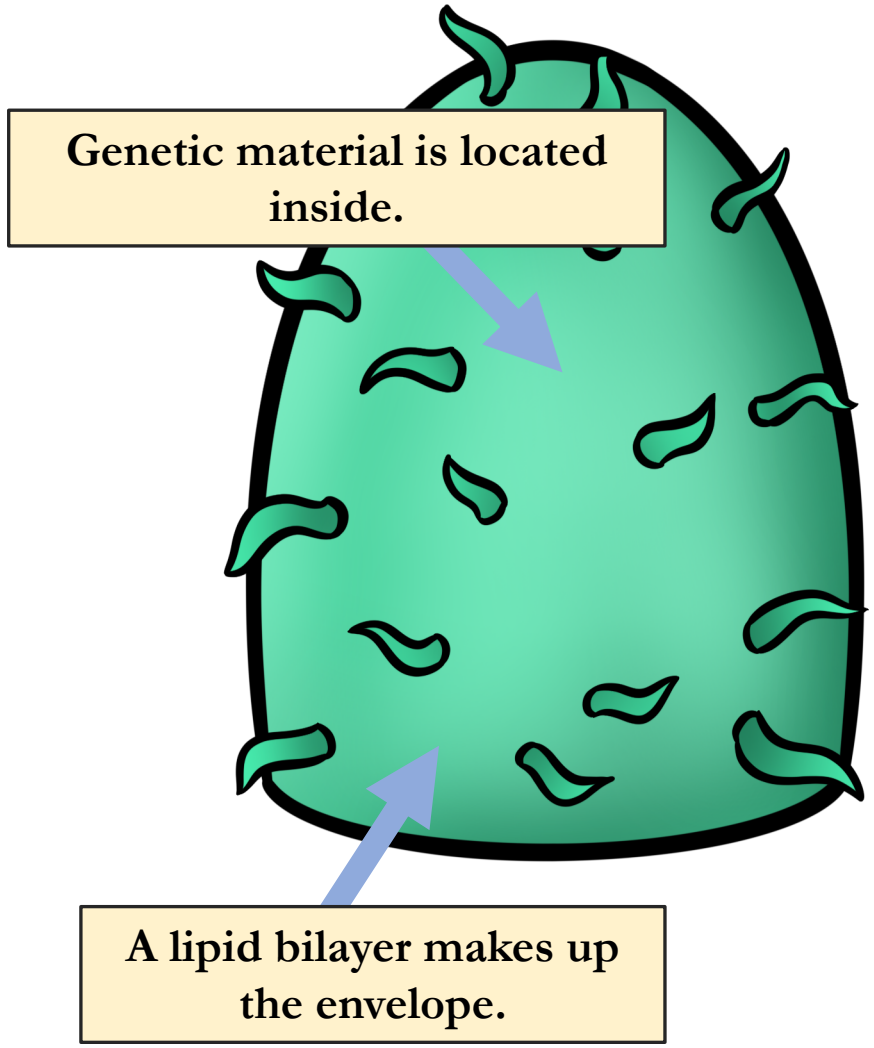




Note: This mystery virus is based upon a real-life virus.

Research Card #1 Mystery Virus 4

- This mystery virus contains single stranded RNA as its genetic material.
- It has an "envelope" around it. The envelope is made of a lipid bilayer membrane. The virus has a notable bullet-like shape.
- The "spikes" on the outside of the virus help it "find" and attach to a potential host cell.
- It enters the cell through endocytosis after attaching to the host cell.

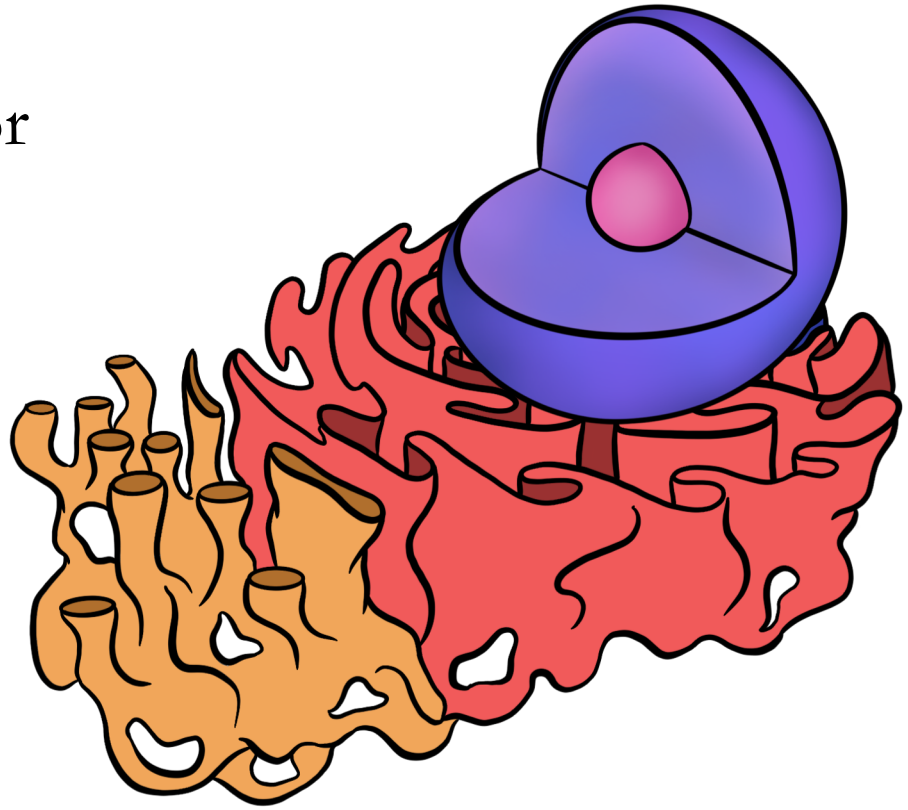


Research Card #2 Mystery Virus 4

- Once inside of the cell, the virus uses its proteins to make mRNA. Then, it uses the cell's machinery, located in the cytoplasm, for translation.

- Once enough viral proteins are made, the viral particles begin to assemble.

- The virus "buds" from infected cells, covering itself in the lipid bilayer membrane from a host cell as a protective envelope.

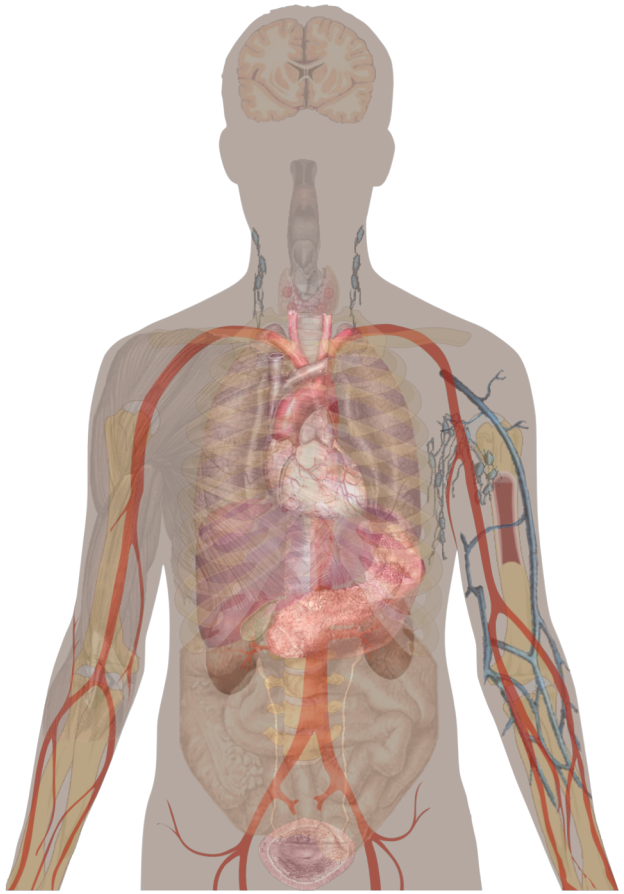


Research Card #3 Mystery Virus 4

- Once inside the body, the virus infects the central nervous system (CNS). From there, the virus is able to infect other tissues and organs in the body. The mouth and salivary glands are major sites of viral reproduction.

- Initial symptoms mimic those of the flu. However, the symptoms progress to cerebral dysfunction, confusion, insomnia, hallucinations, abnormal behavior and delirium.

- The virus is spread primarily through the saliva of an infected host (normally, through a bite wound). The virus has a wide range of mammalian hosts; the most likely to spread the disease are unvaccinated, infected dogs.

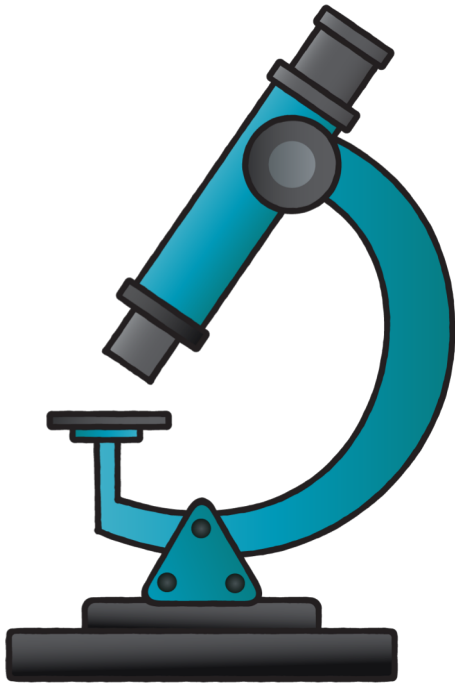


Research Card #4 Mystery Virus 4

- At this time, there are no known mutations that confer immunity in the human population to this particular virus.

- Infection with this virus is largely fatal (for humans at least, but some animals infected with the virus can live for years after infection).

- This virus is known to have infected animals for over the past 1,000 years. It has changed host species over the course of its evolution. Research on this virus continues…



Viruses are so small that they must be viewed using an electron microscope. Many experiments are carried out with cells purposely infected to better understand the biology of the virus and how antivirals might work.