

**Coronavirus WebQuest (powered by 3DMD), Part I**

**Name:** \_\_\_\_\_

**Videos**

Go to

<https://www.3dmoleculardesigns.com/The-Science-of-Coronaviruses/What-Are-Coronaviruses.htm>

**Video #1: What is a Virus**

1. What is a virus?
2. In what ways are influenza (the flu) and coronaviruses similar?

**Video # 2: Are Viruses Dead or Alive**

3. How does Dr. Herman describe viruses in terms of being “alive” or “dead”?

**Video #3: What are Coronaviruses**

4. Describe the shape and appearance of a coronavirus. Don't worry about color.
5. What is the nucleic acid inside the coronavirus? How many nucleotides does it have?

**Video #4: History of Coronaviruses**

6. What was the name of the first coronavirus discovered?
7. How many people did it kill?
8. What was the next coronavirus? How many died from it?
9. What is the virus causing the 2020 pandemic? What is the full name of the disease it causes?

10. Why is it COVID-19?

11. What is the primary suspected source of coronaviruses?

12. How do we know that there are so many different coronaviruses?

**Video #5: The Structure of Coronaviruses**

13. What does the yellow part represent in the model?

14. What do the magenta part represent, and why is it important?

15. What is the nucleic acid inside the virus? How does it use that to make more viruses?

**Modeling-**

Go to <http://www.markhoelzer.com/corona/jmol1.html#>

Make a screenshot or export a JPEG of the model for each of these objects. Either email to the instructor or attach to your document.

[Full Virus](#)

[Viral Membrane](#)

[Viral Genome](#)

[Spike Proteins](#)

[ACE2 Receptor](#)

[Reset Image](#)

**Extension-** Make the coronavirus model from

[https://www.3dmoleculardesigns.com/3DMD-Files/Science-of-Coronaviruses/ColorCoronavirusP  
aperActivity.pdf](https://www.3dmoleculardesigns.com/3DMD-Files/Science-of-Coronaviruses/ColorCoronavirusP<br/>aperActivity.pdf). Use <https://youtu.be/1j56OrhLLrg> to assist you.