

Grade 9 and 10

Distance Learning Module 4: Week of: April 20th – 24th

Viruses

Content Area: Honors Biology - Modified from [Unit #4 - Inheritance](#)

Targeted Goals from Stage 1: Desired Results

Content Knowledge:

Viruses consist of a protein coat surrounding genetic material

Viruses can replicate inside the host cell by 2 different mechanisms

DNA contains the genetic information that controls functions and traits.

DNA and RNA work in harmony to create the proteins that are essential to life.

Vocabulary:

gene expression, mutation, protein synthesis, transcription, translation, capsid, genome

Skills:

Compare and contrast the two forms of viral replication.

Model the processes of viral transcription and translation

Expectation:

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Monday: Investigate different different types of viruses: - Work through the HHMI Virus Explorer interactive - Complete the corresponding student	HHMI Virus Explorer Virus Explorer Student Worksheet Monday Exit Slip	Return to Google Classroom and answer the Exit Slip Questions 1. What are 3 ways viruses can differ from one another? 2. Describe the different types of genomes viruses can have.

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
worksheet		3. Explain how the size, scale, and components of a virus allow it to infect and take over a cell.
Tuesday: Describe the structure of viruses: - Review the Virus Structure Google Slides presentation - Draw and label a diagram of a virus	Virus Structure	Take a picture of your virus model and submit through Google Classroom
Wednesday: Compare and Contrast the two methods of viral replication: - Review the Virus Life Cycle Google Slides presentation - Watch the Amoeba Sisters video on viral replication and answer embedded questions - Draw a model of the two methods of viral replication showing how they are connected	Virus Life Cycle Amoeba Sisters Viruses (Teachers assign version with Edpuzzle questions embedded))	Answer Edpuzzle questions with video Take a picture of your model of viral replication and submit through Google Classroom
Thursday: Review virus structure and replication: - Watch the Virus Rap (at least twice) - Watch the HIV Life Cycle video	Mr. W's Virus Rap HHMI HIV Life Cycle	Return to Google Classroom (posted in Classwork as a "Question") and answer the following questions: What was explained well in each video? What was confusing? What new information did you learn?
Friday: Investigate Retroviruses: - Watch the Khan Academy video on retroviruses - Create a flowchart to show how information contained in the viral RNA is transcribed and translated into viral proteins	Khan Academy Retroviruses	Submit your flowchart through Google Classroom Complete Google Forms Quiz (review of entire week)

Week criteria for success (attach student checklists or rubrics):

Assignment	Criteria for Success
Virus Explorer	Exit slip responses are complete and scientifically accurate
Virus Model	Model of virus is neat and clearly labeled with all important components
Viral Replication	Embedded Amoeba Sisters video questions are answered correctly Model of viral replication clearly and accurately shows the connection between the lytic and lysogenic cycle
Virus review videos	Classroom Question responses are complete, thoughtful, and reflective
Retrovirus Infection	Flowchart contains all important steps in viral infection and is scientifically accurate Google Forms Quiz is complete and 80% of responses are correct

Supportive resources and tutorials for the week (plans for re-teaching):

Learn Genetics at Utah.edu (link posted in Google classroom)

Khanacademy - biology-of-viruses link posted in Google classroom)