

Bacteria vs Virus

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Grade / Course: *Science Highschool, Introductory college*

Length of Activity: *120 minutes*

Lesson Summary:

Students will investigate review bacteria and viruses and demonstrate the differences between the two with respect to: cell make up, ability to grow and reproduce and effectiveness of antibiotics on the treatment of illness.

Lesson Objective:

To allow students to investigate the make up and mechanisms of disease caused by bacteria and viruses as well as the affective treatment of their respective diseases.

Resources/Technology – Teacher

Interactive Whiteboard or inclass screen and projector

Online Resources

- <http://www.sumanasinc.com/webcontent/animations/content/herpessimplex.html>
- <https://www.youtube.com/watch?v=s8jhJXgC-bk> Viruses described (different types and replication of viruses)
- <https://www.khanacademy.org/science/health-and-medicine/infectious-diseases/influenza/v/when-flu-viruses-attack> (video on viruses and their mechanism of causing disease.
- “Inside a Cell”
<http://bit.ly/gBnwLc> “Cells Alive”

Resources/Technology – Students

Computer Lab or Student Laptop setting, personal access to the Internet

Venn Diagram Worksheet

- <https://www.youtube.com/watch?v=Rpj0emEGShQ> Replication of viruses
- <https://www.youtube.com/watch?v=S-JMug8vCFY> Bacteria described and classified
- <https://www.cellsalive.com/ecoli.htm> watch bacteria move and grow, in addition to testing knowledge of bacteria
- <https://www.youtube.com/watch?v=X1GT2bKgcI8> The mechanism of antibiotic treatment on bacteria and viruses

Intended Learning Outcomes

- Students will learn the components of both bacteria and viruses and their mechanism of pathogenicity
- Students will do self study through online videos interactive websites to learn about both bacteria and viruses.

Instructional Activities

The teacher will review and present materials through PowerPoint slides and and interactive whiteboard. Teacher will provide links to activities and instructions on how to

complete Venn Diagram. Students will do individual self study and complete the assessment.

Learner Assessment

Student will show the difference by completing the Venn Diagram with knowledge they have obtained through self study and inclass learning.

See example of potential assessment results:

https://www.google.ca/search?q=bacteria+vs+virus+worksheet&client=firefox-b-ab&dcr=0&tbm=isch&source=iu&ictx=1&fir=I8rVKaNeqqP-HM%253A%252COzt8pE9s1WfclM%252C_&usg=__oppOJvQ86SuYNIsym0y9p3tFcnA%3D&sa=X&ved=0ahUKEwiB2pqe4v3XAhUM4oMKHQqkAB0Q9QEIMDA B#imgsrc=I8rVKaNeqqP-HM:

Bacteria vs Viruses Assessment

Complete the following venn diagram with the information you have learned on bacteria and viruses. Some items you should include are: cell components, method of replication, the effect on humans, antibiotic treatment.

