

UNIT OF STUDY

Title: Classification of Prokaryotes	Subject/Course: Biology	Length: 1 week
Topic: Classification and the Diversity of Life (2)	Grade: 10 th grade	Designer: Woods
UNIT GOALS AND EXPECTATIONS		
<p>IMPORTANT CONCEPTS/UNDERSTANDINGS: The great diversity of organisms is the result of more than 3.5 billion years of evolution that has filled every available niche with life forms. Natural selection and its evolutionary consequences provide a scientific explanation for the fossil record of ancient life forms, as well as for the striking molecular similarities observed among the diverse species of living organisms. The millions of different species of plants, animals, and microorganisms that live on earth today are related by descent from common ancestors. Biological classifications are based on how organisms are related. Organisms are classified into a hierarchy of groups and subgroups based on similarities which reflect their evolutionary relationships. Species is the most fundamental unit of classification.</p>	<p>ESSENTIAL QUESTIONS: How are bacteria and viruses related? Why are bacteria considered common ancestors for all living things? How are viruses and bacteria important and useful to humans?</p>	
<p>SLE(s): CDL.7.B.6 Compare and contrast the structures and characteristics of viruses (lytic and lysogenic cycles) with non-living and living things CDL.7.B.7 Evaluate the medical and economic importance of viruses</p> <ul style="list-style-type: none"> ▪ Vaccines ▪ prions 	<p>CDL.7.B.9 Classify bacteria according to their characteristics and adaptations CDL.7.B.10 Evaluate the medical and economic importance of bacteria</p> <ul style="list-style-type: none"> ▪ antibiotics ▪ pesticides 	
<p>SPECIFIC DECLARATIVE KNOWLEDGE – What I know Explain how the two groups differ. Describe the characteristics that are used to identify prokaryotes. Explain why bacteria are vital to maintaining the living world. Describe the structure of a virus. Explain how viruses can cause infection. Explain how bacteria can cause disease. Identify differences between bacteria and viruses.</p>	<p>SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do</p>	
UNIT ASSESSMENTS (Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)		
<p>“Viruses and Bacteria: Diseases and treatment” research “Viral Replication” Lab 18-1-Pairs Work</p>		
<p>Traditional Assessments: Test Quizzes “Swine Flu” Open Response</p>	<p>Other Evidence of Learning: “Viral Replication” Lab 18-1-Pairs Work “How Are Bacteria Affected by Heat?” Lab Report</p>	
ACTIVITIES AND LEARNING EXPERIENCES		Resources
<p>“Viral Replication” Lab 18-1-Pairs Work</p>		<p>Prentice Hall Textbook-Biology</p>

<p>“How are Bacteria Affected by Heat?” Lab 18-2 –Groups Understanding: Viruses Video Powerpoint Establish Habits of Mind for Science in Critical Thinking, Creative thinking, and Self Regulated Thinking Vocabulary Strategy Daily Notebook Entries</p>	<p>Internet Powerpoint Lab Equipment</p>
Career Connections	
Epidemiologist	