

**Science**  
**Unit 3: Classifying Life Forms**

<b>Essential Understandings</b>	<ul style="list-style-type: none"> <li>▪ Physical characteristics reflect an organism's methods to find food and reproduce.</li> <li>▪ There are many levels of classification.</li> <li>▪ Living things are classified by internal and external physical characteristics.</li> <li>▪ The system of classification changes over time based on new knowledge.</li> </ul>
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>▪ What characteristics do scientists use to categorize life forms?</li> <li>▪ What are the levels in the two current systems?</li> <li>▪ How do species use adaptations to find food and reproduce?</li> </ul>
<b>Essential Knowledge</b>	<ul style="list-style-type: none"> <li>▪ Classification is based on comparing and contrasting an organism's physical and behavioral characteristics, from the most specific (DNA/species) to the most general (cellular structure/domain).</li> <li>▪ There are three domains.</li> <li>▪ There are six kingdoms (plants, animals, fungi, protists, archaeobacteria, eubacteria).</li> <li>▪ Organisms are named based on binomial nomenclature (genus and species).</li> <li>▪ Structural and behavioral adaptations allow organisms to survive in a changing environment.</li> <li>▪ Classification systems change as new knowledge is gained.</li> </ul>
<b>Vocabulary</b>	<ul style="list-style-type: none"> <li>▪ <u>Terms:</u> <ul style="list-style-type: none"> <li>○ Taxonomy, dichotomous key, classification, structural characteristics, behavioral characteristics, eukaryote, prokaryote, levels of classification, adaptation,</li> <li>○ Latin terms (adaptations instead of characteristics)</li> </ul> </li> </ul>
<b>Essential Skills</b>	<ul style="list-style-type: none"> <li>▪ Use a dichotomous key.</li> <li>▪ Recognize and groups objects by common characteristics.</li> <li>▪ Read a dichotomous key and classify objects based on characteristics.</li> <li>▪ Explain the difference between structural and behavioral adaptation.</li> </ul>

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<p style="text-align: center;"><b>Related Maine Learning Results</b></p>	<p><u>Science</u> E. The Living Environment E1.Biodiversity Students differentiate among organisms based on biological characteristics and identify patterns of similarity.</p> <ol style="list-style-type: none"> <li>a. Compare physical characteristics that differentiate organisms into groups (including plants that use sunlight to make their own food, animals that consume energy-rich food, and organisms that cannot easily be classified either way.)</li> <li>b. Explain how biologists use internal and external anatomical features to determine relatedness among organisms and to form the basis for classification systems.</li> <li>c. Explain ways to determine whether organisms are the same species.</li> <li>d. Describe how external and internal structures of animals and plants contribute to the variety of ways organisms are able to find food and reproduce.</li> </ol>
<p style="text-align: center;"><b>Sample Lessons And Activities</b></p>	<ul style="list-style-type: none"> <li>▪ Classify various living and non-living things.</li> <li>▪ Use a dichotomous key to identify living things.</li> </ul>
<p style="text-align: center;"><b>Sample Classroom Assessment Methods</b></p>	<ul style="list-style-type: none"> <li>▪ Create a Creature</li> <li>▪ Dichotomous Key of Ordinary Objects Lab</li> </ul>
<p style="text-align: center;"><b>Sample Resources</b></p>	<ul style="list-style-type: none"> <li>▪ <u>Publications:</u> <ul style="list-style-type: none"> <li>○ ScienceSaurus</li> <li>○ <a href="http://www.windows2universe.org/earth/Life/classification_intro.html">http://www.windows2universe.org/earth/Life/classification_intro.html</a></li> <li>○ <a href="http://www.sciencenetlinks.com/interactives/class.html">http://www.sciencenetlinks.com/interactives/class.html</a></li> <li>○ <a href="http://www.quia.com/rr/11806.html">http://www.quia.com/rr/11806.html</a></li> </ul> </li> <li>▪ <u>Videos:</u> <ul style="list-style-type: none"> <li>○ DVD and VHS resources in the BJHS library</li> </ul> </li> </ul>