Science
Unit 3: Classifying Life Forms

Essential Understandings	▪ Physical characteristics reflect an organism's methods to find food and reproduce. ▪ There are many levels of classification. ▪ Living things are classified by internal and external physical characteristics. ▪ The system of classification changes over time based on new knowledge.
Essential Questions	▪ What characteristics do scientists use to categorize life forms? ▪ What are the levels in the two current systems? ▪ How do species use adaptations to find food and reproduce?
Essential Knowledge	▪ 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). ▪ There are three domains. ▪ There are six kingdoms (plants, animals, fungi, protists, archaeobacteria, eubacteria). ▪ Organisms are named based on binomial nomenclature (genus and species). ▪ Structural and behavioral adaptations allow organisms to survive in a changing environment. ▪ Classification systems change as new knowledge is gained.
Vocabulary	▪ <u>Terms</u>: o Taxonomy, dichotomous key, classification, structural characteristics, behavioral characteristics, eukaryote, prokaryote, levels of classification, adaptation, o Latin terms (adaptations instead of characteristics)
Essential Skills	▪ Use a dichotomous key. ▪ Recognize and groups objects by common characteristics. ▪ Read a dichotomous key and classify objects based on characteristics. ▪ Explain the difference between structural and behavioral adaptation.

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Related Maine Learning Results	Science E. The Living Environment E1.Biodiversity Students differentiate among organisms based on biological characteristics and identify patterns of similarity. 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.) b. Explain how biologists use internal and external anatomical features to determine relatedness among organisms and to form the basis for classification systems. c. Explain ways to determine whether organisms are the same species. 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.
Sample Lessons And Activities	▪ Classify various living and non-living things. ▪ Use a dichotomous key to identify living things.
Sample Classroom Assessment Methods	▪ Create a Creature ▪ Dichotomous Key of Ordinary Objects Lab
Sample Resources	▪ Publications: o ScienceSaurus o http://www.windows2universe.org/earth/Life/classification intro.html o http://www.sciencenetlinks.com/interactives/class.html o http://www.quia.com/rr/11806.html ▪ Videos: o DVD and VHS resources in the BJHS library