

# It's Classified

Grades 9-12  
Educational Program Guide

**PASS**

**High School Science Process** 1.1, 1.2, 1.3, 2.1, 2.2, 4.1, 4.2, 4.4, 4.5, 4.7, Biology 3.1

**OAS**

**HS-LS4-4** | Science Practices 1, 2, 3, 4, 5, 6, 7, 8 | Core Ideas LS4

## Program Overview

In this 50 minute, hands-on session students will learn how scientists classify and name specimens based on species characteristics. Students will work in small groups to measure, describe and use quantitative and qualitative data to identify several specimens from the museum's collection. The session will end with a discussion of how classification and taxonomy are used by scientists to understand the natural history of a species.

## Objectives

After participating in this program, students will be able to:

- Be able to identify important characteristics of mammals, amphibians, reptiles, birds, trilobite fossils and/or marine shells.
- Understand the purpose of identifying and classifying organisms scientifically.
- Understand and use qualitative and quantitative characteristics to identify organisms.

## Background

Taxonomy is the process by which scientists identify, name and classify organisms into groups based on similar characteristics. Swedish botanist Carl Linnaeus is credited with having revolutionized taxonomy by developing a formal system for naming species called binomial nomenclature. This is the same system scientists use today to assign a binomial or scientific name to specimen. In binomial nomenclature, a species is assigned a two-part, Latin name that is a combination of the genus and species.

## At the Museum

### Hall of Ancient Life

After your school group program, head to the Hall of Ancient Life to see a number of different trilobites from the Cambrian, and Ordovician periods.

### Hall of Natural Wonders

Also, visit the Hall of Natural Wonders to identify some mammal, bird, reptile and amphibian specimens used in the program

## Vocabulary

**Taxonomy** The science of identifying, naming and classifying specimens.

**Scientific Name** The two-part name of a specimen which includes its genus and species.

**Genus** A group of like species with common ancestry.

**Species** A specific natural population that can interbreed and produce fertile offspring.

**Plastron** The flat, bottom portion of a turtle shell.

**Carapace** The upper portion (top) of a turtle shell. The carapace on most turtle shells is domed.

**Dental Formula** The number, type and placement of teeth in an animal's mouth.