SCIENCE MUSEUM OF MINNESOTA DINOSAUR ASSEMBLY, GRADES K-2

Find out what fossils teach us about dinosaurs! Your students will learn how scientists compare the physical features left behind by dinosaurs in fossils to animals we know today. They'll uncover fossils from the past and assemble a life-size dinosaur skeleton puzzle!

GENERAL OUTLINE:

An item from a dinosaur – Thinking like a scientist
The Dinosaurs assembly program draws on the natural enthusiasm primary aged students have for dinosaurs to give them experience in "thinking like a scientist." Students explore how scientists know that dinosaurs existed by carefully examining what they left behind - fossils!

What scientists can learn from bones
Students practice "thinking like a scientist" when they compare observations about femur bones and fossils from other organisms to develop conclusions.

Deinonychus Skeleton: Clues about the animal.
As the presenter "digs" into modeled layers of rock, students discover and compare plant and animal fossils. When they reach the "bones" of a Deinonychus dinosaur, students use scientific thinking to assemble the skeleton and make conclusions about this creature's appearance and behavior.

Learning Goals:

- Science is the process of making observations, collecting data and making interpretations based on the physical evidence.
- Different theories may explain the same set of observations.
- Fossils provide evidence of plants and animals that lived long ago.
- Models are used to learn about real life objects and events.

Vocabulary Introduced:

- Scientist
- Observation
- Fossil

Program Length: 40 minutes
Audience Size: Up to 150 students
Preparation: Science Museum Instructor brings all equipment and materials needed. School provides two tables for demonstrations, and access to electricity. Allow 45 minutes before and after programs for set-up and take-down.

MN Academic Standard Strand: The Nature of Science and Engineering (0.1.1.2.1, 1.1.1.1.1, 1.1.1.1.2)
NGSS Science and Engineering Practices: Analyzing and Interpreting Data (1-ESS1-1), Constructing Explanations and Designing Solutions (1-LS3-1)
NGSS Crosscutting Concepts: Structure and Function (2-LS2-2)

If you have further questions on bringing programming to your school, please contact our Outreach Registration Coordinator at (651) 221-4748 or schooloutreach@smm.org.

DINOSAURS RESIDENCY, GRADES K-2

Concepts, Learning Goals, & Logistics

Overview

Become paleontologists for the day by comparing teeth from modern day and prehistoric animals. Using collected evidence, students will identify whose teeth are whose. Then they apply this knowledge to investigate what these dinosaurs may have had for lunch!

Dinosaur Dentists Session

Students work in pairs to handle replicas of teeth from prehistoric animals and sort them into groups using properties they observe about the teeth. They explain their reasoning and propose ideas for what the teeth tell scientists about the animals. Sorting continues with replicas of teeth from modern day animals where students make connections between tooth size and animal size, tooth shape and food. The pairs go back and apply these ideas to the prehistoric teeth as they match the tooth to the animal and develop their conclusions about the foods these animals ate. Students satisfy their desire to handle real teeth by examining teeth from *Edmontosaurus* and *Dromaeosaurus*.

Science Learning Goals:

- Students engage in the practice of science by making observations and comparison, collecting comparison, collecting data, and interpreting physical evidence.
- Fossils provide evidence of plants and animals that lived long ago.
- The shape and size of teeth provides information about the animal's food, and may relate to an animal's size.

Vocabulary Introduced: Scientist, Observations

Program Length: 50 minutes
Audience Size: Up to 30 students
Preparation: Science Museum instructor brings all needed equipment and materials. School provides two tables for assembly demonstration and access to electricity. Allow 60 minutes before and after program for set-up and take-down. School provides classroom space for the residency sessions. Materials can be moved from room to room, or taught in a designated space with tables and chairs for students and two tables for teaching materials and equipment.

MN Academic Standard Strand: The Nature of Science and Engineering (0.1.1.2.1, 1.1.1.1.1, 1.1.1.1.2)
NGSS Science and Engineering Practices: Analyzing and Interpreting Data (1-ESS1-1), Constructing Explanations and Designing Solutions (1-LS3-1)
NGSS Crosscutting Concepts: Structure and Function (2-LS2-2)

If you have further questions on bringing programming to your school, please contact our Outreach Registration Coordinator at (651) 221-4748 or schooloutreach@smm.org.