

# Dinosaur Feasts

## Teacher Guide

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Grade Levels: 4 – 5

### Program overview

How did dinosaurs eat? Students will compare dinosaur and modern animal skulls, jaws, and teeth to answer this question. The specialized food processing characteristics of both carnivores and herbivores will be explored.

### Objectives/Student Learning Outcomes

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

- Compare dinosaurs to modern animals to figure out food processing lifestyles.
- Determine whether dinosaurs and modern animals ate plants, meat or both types of food.
- Discuss food processing characteristics of dinosaurs and modern animals.

### Background

If scientists know what an animal eats they can begin to understand how it fits into an ecosystem. Modern animals can be observed in their natural habitat and in the lab. On the other hand, extinct creatures leave only fossils to be studied. Fossils include bones, teeth or shells, other types of fossils are known as trace fossils: tracks, skin impressions and coprolites (poop). All of these provide scientists with clues about an animal's life style.

We can better understand extinct animals by comparing their food processing characteristics (teeth, jaws, claws, etc.) represented by fossils to those of modern animals. An example of this method would be a comparison between a modern tiger and an extinct dinosaur called allosaur. The teeth of the tiger are elongated, curved and conical tapering to a point; similarly, the allosaur has long serrated and slightly curved teeth that taper to a point. This simplified example would lead scientists to conclude that allosaurs were carnivorous like tigers are.

P.A.S.S.

GRADE 4

Science Process – 1.2, 2.1,  
4.4, 5.3

Life Science – 3.1, 3.2

GRADE 5

Science Process – 1.2, 2.1,  
4.4, 5.3

Life Science – 2.1

## At the Museum

To enhance the learning experience of the *Dinosaur Feasts* program, have the students visit the museums galleries. Students can compare dinosaurs (Ancient Life Gallery) and modern animals (Natural Wonders Gallery) looking for characteristics that define an animal's food processing tools. Some things to consider:

- Deinonychus – Wolf and Hawk
- Tenontosaurus – Deer and Bison

## Supplementary/Enrichment Activities

### Science

1. Have students complete the "Word Puzzle" to reinforce the basic concepts covered in the program.
2. Study your own teeth by looking at them in a mirror. Have students hypothesize how each type of tooth is used. Test student hypotheses using carrots: ask students to rake off carrots outer layer, bite off a piece of the carrot, and chew the carrot. Have students identify which of their teeth they used for each task. Have them record their findings.

### VOCABULARY

**Browser:** A specific type of plant eater. Browsers eat woody plants and twigs. During the dinosaur period there was no grass so plant eating dinosaurs were more like modern browsers than grazers.

**Carnivore:** Meat eater; an animal that eats other animals.

**Digest:** To convert food into simpler chemical compounds that can be absorbed and assimilated by the body.

**Food Chain:** The transfer of energy from one kind of living thing to another.

**Gastrolith:** Stomach stones swallowed by dinosaurs to assist in the processing of food. Similar to grit swallowed by birds.

**Grazer:** Animals that eat grass.

**Herbivore:** Plant eater; an animal that eats only plants.

**Scat:** Animal poop; fossilized poop is called a coprolite.

## Additional Resources

### For Elementary

*Dinosaurs*, by Angela Royston. Dorling Kindersley, 1991

*Dinosaur for A Day*, by Jim Murphy. Scholastic, 1992

*A Dinosaur Named After Me*, by Bernard Most. Harcourt Brace Jovanovich, 1991

*How Big Were the Dinosaurs?* By Bernard Most. Harcourt Brace, 1994

*The Ultimate Dinosaur Book*, by David Lambert. Dorling Kindersley, New York, 1993

### For Teachers

*The Dinosauria*, edited by David Weishamp, Peter Dodson, and Halszka Osmolska. University of California Press, Berkeley 1990

*Dinosaurs: the science behind the Stories*, Judith G. Scotchmoor, Brent H. Breithaupt, Dale A. Springer and Anthony R. Fiorillo. Society of Vertebrate Paleontology, Northbrook, 2002

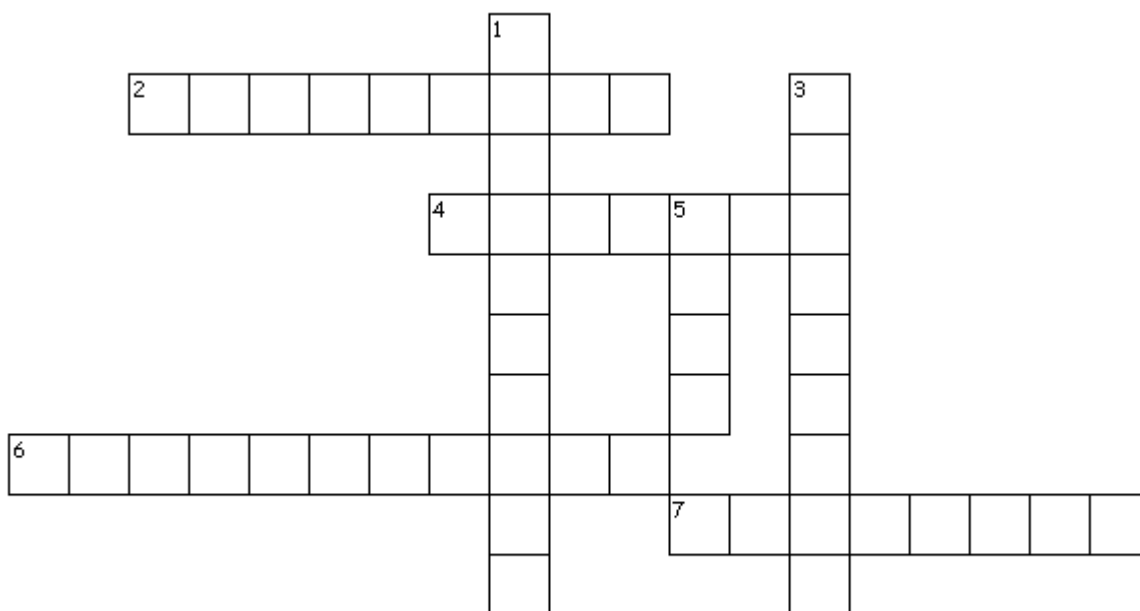
*A Guide to Dinosaurs*, edited by Michael K. Brett-Surman. Fog City Press, San Francisco, 2002

*The Illustrated Encyclopedia of Dinosaurs*, by Dr. David Norman. Color restorations by John Sibbick. Crescent Books, New York, 1985

*Investigating Science with Dinosaurs*, by Craig A. Munsart. Teacher Idea Press, 1993

# Dinosaur Feasts

## Word Puzzle



### Across

2. An animal that eats meat.
4. A specific type of herbivore that eats leaves and twigs, but not grasses.
6. Fossilized stomach stones swallowed by dinosaurs, similar to grit swallowed by birds.
7. Jagged edges of a knife, or tooth to help cut through meat.

### Down

1. Fossilized animal droppings.
3. An animal that eats plants.
5. Another name for animal poop that rhymes with sat .



## *Answer Sheet for*

### *Dinosaur Feasts*

#### *Word Puzzle*

##### **Across**

2. An animal that eats meat. (**CARNIVORE**)
4. A specific type of herbivore that eats leaves and twigs, but not grasses. (**BROWSER**)
6. Fossilized stomach stones swallowed by dinosaurs, similar to grit swallowed by birds. (**GASTROLITHS**)
7. Jagged edges of a knife, or tooth to help cut through meat. (**SERRATED**)

##### **Down**

1. Fossilized animal droppings. (**COPROLITES**)
3. An animal that eats plants. (**HERBIVORE**)
5. Another name for animal poop that rhymes with sat. (**SCAT**)

