The Case of the Talking Skulls Outreach Pre-Visit

Thank you for scheduling an educational experience with the Putnam Museum. In this 45 minute program, the Putnam Museum's Education Specialist will lead this hands-on program in which your students will explore animal skulls and adaptations. We look forward to seeing you and thank you for your interest in the Putnam Museum's education programs.

Title: The Case of the Talking Skulls
Focus: Biology
Target Audience: Grades: 4-8
Focus Question: How do you identify an animal by examining the skull?

Learning Objectives:

1. Identify animals as carnivores, herbivores and omnivores by looking closely at animal skulls.
2. Describe how an animal's teeth tell us what that animal eats.
3. Describe how eye position indicates whether an animal is predator or prey.

Background Information: Animal skulls are great tools for teaching students about the diversity of wildlife and the special role each animal plays in its natural habitat. Your students will learn to "read" the clues that skulls provide by participating in this lively hands-on lesson: predator or prey? Herbivore, carnivore, or omnivore? Nocturnal or diurnal?

You can "set the stage" for my visit by:

- introducing the vocabulary on the enclosed page.
- Introduce the difference between herbivores, carnivores, and omnivores.

I will arrive at least **15 minutes prior** to the scheduled time in order to prepare for the presentation.

<u>Please provide:</u>

- **Two tables-**one to set Mystery Skull Challenge on, one to set teaching materials on

School Staff supervision is required during the program. Please confirm my visit with the school office and any other faculty involved.

Key Words:

Anatomy	The structure of an animal or plant, or of any of its parts
Canine	The large, pointed tooth of a carnivore used for piercing and holding prey
Carnivore	An animal that eats meat
Diurnal	An animal that is active mostly in the daylight hours
Herbivore	An animal that eats plants
Incisor	A chisel-shaped tooth adapted for cutting located in the front of the mouth
Molars	The teeth in the back of the mouth used for tearing and cutting
Omnivore	An animal that eats both plant and animal material
Orbits	Eye sockets
Nocturnal	An animal that is active mostly at night
Predator	An animal that eats other animals
Prey	The animal eaten by another animal

Standards and Curriculum:
Iowa Standards: SS.6-8.H.1, H.3, H.4, H.6
Illinois Learning Standards: 12.B.2a, 12.B.2b

For More Information:
Teeth: http://animaldiversity.ummz.umich.edu/site/topics/mammal_anatomy/kinds_of_teeth.html
Predator Prey Game: http://www.uga.edu/srel/kidsdoscience/kidsdoscience-predator-game.htm
Nocturnal Animals: http://library.thinkquest.org/25553/english/interact/lessons/noctlp.shtml

Further Activities for your classroom:

Predator and Prey Game
Materials: predator and prey cards, predator chart, game data sheet, compost sign
(Go to http://www.uga.edu/srel/kidsdoscience/kidsdoscience-predator-game.htm)

Directions:

PREDATORS can only eat certain PREY items.	Prey must learn to survive.
Hawk	2 snakes, 4 mice, or 1 snake & 2 mice
Alligator	4 fish, 3 frogs, 2 fish and 2 frogs
Kingsnake	2 snakes, 3 mice, or 1 snake and 2 mice
Praying mantis	5 insects
Bobcat	2 rabbits, 5 mice, or1 rabbit and 3 mice

1. Six “Predators” are given animal cards. The rest of the class is given prey cards.
2. Predators can only “eat” certain foods. See chart.
3. Predators “eat” their prey by documenting how many and where they found their prey.
4. If the predators don’t eat enough or they eat the wrong food they go to the compost bin.
5. If the prey is eaten it goes to the compost bin.
6. Whoever is last standing with “a full belly” survives.

Bullfrog	2 frogs, 4 fish, or 6 insects

Nocturnal Animals

Materials: lights that can turn off, blinds closed

Directions:

1. Have students get into pairs and face each other. Students should look at the size of their partner’s pupils.
2. Turn off the lights for a minute or two and then have students look at each other’s eyes again.
3. Ask students if they saw a difference in pupil size and how an animal might be better suited to see in the dark.