**How Can A Mammal Skull Be Classified?**

**I. Introduction**

 An animal’s skull indicates many things about the animal itself. By examining an animal’s skull, you can learn which senses were critical to the animal’s survival, if it was a predator or prey animal, and what types of food it ate.

 In this Virtual Lab, you will learn how to classify mammals based on the characteristics of their skulls.

**II. Procedure**

 1. Start the activity by going to the following website :

<http://glencoe.mheducation.com/sites/dl/free/0078802849/383956/BL_27.html> .

 A classification poster with the orders of mammals is on the wall. Clicking an order name shows

 traits and skull information for that mammalian order. A skull guide provides information about

 different types of skulls.

 2. Click on an animal skull. An enlarged version of the skull will appear. Look at the skull

 carefully. Answer the following questions. You can use your answers as a field guide to help

 identify other skulls.

 - Find the nasal passage. Is it relatively large or small?

 - Are the auditory bullae relatively large or small?

 - Are the eye orbits relatively large or small?

 - Are the eye orbits placed forward on the skull or on the side?

 - Do the teeth have the characteristics of a carnivore, an herbivore, or an omnivore?

 - Is there evidence, based on the bone structure that the lower jaw could move side-to-side?

 - Was the animal a predator or prey?

 - Compare your answers to the information on the mammal classification poster to identify the

 mammal order.

 3. Select the appropriate order for the skull from its pull-down menu.

 4. Check your answer by clicking “Check”. Feedback will be provided if your answer is

 incorrect. Repeat steps 1-3 until all 5 skulls have been correctly classified.

 5. Click the “Reset” button to have five new skulls displayed.

**III. Data**

 1. Record the data for 10 skulls in the Table below.

|  |  |  |
| --- | --- | --- |
|  |  **Mammal Order** |  **Order Example** |
| Skull #1 |  |  |
| Skull #2 |  |  |
| Skull #3 |  |  |
| Skull #4 |  |  |
| Skull #5 |  |  |
| Skull #6 |  |  |
| Skull #7 |  |  |
| Skull #8 |  |  |
| Skull #9 |  |  |
| Skull #10 |  |  |

**IV. Analysis & Conclusions**

 **1. How do the various characteristics of animal skulls indicate the importance of one sense**

 **over another?**

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 **2. What skull features do prey animals have in common?**

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 **3. What skull features do predator animals have in common?**

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 **4. What can be learned by studying the dentition of various mammal skulls?**

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 **5. How do carnivore and primate skulls differ?**

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 **6. Describe the characteristics of each of the animal skulls that you classified.**

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