



## Hoofin' It! Lesson 1, Activity 3: Vertebrate Mysteries

### Mystery #1

- A major characteristic of this vertebrate group is many of them have hair.
- Animals in this group have a backbone.
- Vertebrates in this group cannot “unhinge” their jaws and therefore cannot swallow large prey or food; rather, they have to “chew” it. This has led to specialized teeth and feeding habits.
- This group of vertebrates includes “marsupials.”
- Like several other vertebrate groups, this group breathes with lungs.
- Most babies in this group are born alive and nurse milk.
- This vertebrate group is highly specialized with many glands found in the skin.
- Large, well developed brains are another major characteristic of this group.
- Like one other vertebrate group, this group is warm-blooded and maintains a high body temperature.

### Mystery #2

- This vertebrate group is comprised of the three taxonomic classes called, Agnatha, Chondrichthyes, and Osteichthyes.
- One type of vertebrate found in this group has no jaw.
- The skeleton of one type of vertebrate found in this group is made of “cartilage”.
- Like two other vertebrate groups, animals in this group are cold-blooded.
- This group lays eggs.
- Vertebrates in this group used to have lungs but they turned into “swim bladders”.
- All the vertebrates in this group are adapted for a life in water.
- Like one other vertebrate group, animals in this group breathe with gills.
- Like all vertebrates, this group has a backbone.

### Mystery #3

- Some animals in this group have no legs!
- This vertebrate group has some animals that lay eggs while others give birth to live young.
- All animals in this vertebrate group are cold-blooded.
- Vertebrates in this group have a back bone.
- Like several other vertebrate groups, this group breathes with lungs.
- Dinosaurs were part of this vertebrate group.
- Some members of this group spend a great deal of time in the water.
- Vertebrates in this group have “unhinged” jaws which allow them to swallow prey or food whole. Often they don’t need to eat for several days.
- This group of vertebrates has “dry” skin, usually covered with protective scales.
- There are no native species\* of this group found currently in Alaska.

#### **Mystery #4**

- This is the only vertebrate group to have hollow bones.
  - The most massive bone found in this group of vertebrates is the “keel” or “breast bone”.
  - Like another group of vertebrates, they maintain a high rate of metabolism and body temperature.
  - This group of vertebrates is warm-blooded.
  - Like other vertebrates, this group lays eggs.
- These vertebrates have scales.
  - It is theorized that this group of vertebrates were the descendants of dinosaurs.
  - These vertebrates adapted to a highly specialized method of movement or locomotion.
  - This group of vertebrates have lungs but also an air sac.
  - Like all vertebrates, this group has a back bone.

#### **Mystery #5**

- Unlike another group of vertebrates, this group needs to have “moist” skin in order to breathe.
  - This group doesn’t have scales.
  - This vertebrate group is unique in that they breathe with either lungs, gills, or through the skin.
  - Animals in this vertebrate group lay eggs.
  - Vertebrates in this group have a backbone.
- Animals in this vertebrate group don’t have claws and can have two or four legs.
  - This group of vertebrates is cold-blooded.
  - Some animals in this group of vertebrates are unique in that they are born with gills and then develop lungs. They have two live stages.
  - At least one species\*\* of this group is currently found in Alaska.