

## Biology Laboratory Practical: Version A

Name: \_\_\_\_\_  
Student ID #: \_\_\_\_\_  
Teacher: \_\_\_\_\_ Period: \_\_\_\_\_

**Introduction.** Comparative anatomy is the study of different organisms' bodies. Scientists will often examine the structure and shape of different organisms' bodies and making detailed observations about which features are more or less similar in different organisms. Organisms with similar body features often live in similar habitats, eat like foods, or behave in similar patterns. Understanding the similarities and differences among organisms helps scientists understand how these organisms live together in ecosystems and how they are related to each other.

**The Task.** You will be given footprints from five different birds. Several of these footprints have been labeled with the type of bird that they come from, and one specimen comes from an unknown bird. Your goal is to classify the unknown bird based on its footprint. You will have one class period (but no more than 60 minutes if your class is longer) to plan and carry out your investigation.

**The guiding question of this investigation is:** *What type of bird made the unknown footprint?*

**Materials.** You can use any of the following materials:

### Specimens

- 1 footprint from an unknown bird (A)
- 2 footprints from predatory birds (B and C)
- 2 footprints from perching birds (D and E)

### Equipment

- 1 Ruler
- 1 Protractor
- 1 Electronic balance
- 1 Magnifying Glass
- Stereoscope
- Calipers

### Part 1: Design your investigation.

1. How will you collect the data you need to answer the guiding question? Describe the procedure you will follow during your investigation with enough detail so someone else can replicate it.

2. What are some strengths of the investigation you designed? (What makes your investigation scientific?)

3. What are some weaknesses of the investigation you designed? (What makes your investigation less scientific?)

**Part 2.** Carry out your investigation and collect the data you need to answer the guiding question.

1. Record your data (observations and/or measurements) in the space below.

2. Why did you decide to make these observations and/or measurements? (Why were these the most appropriate data to collect?)

**Part 3:** Analyze your data and then answer the following questions.

1. What is your claim? (Your answer to the guiding question.)

2. What is your evidence to support your claim?

3. Why is your evidence important? (Defend or justify your choice of evidence to support your claim).

## Biology Laboratory Practical: Version B

Name: \_\_\_\_\_  
Student ID #: \_\_\_\_\_  
Teacher: \_\_\_\_\_ Period: \_\_\_\_\_

**Introduction.** Comparative anatomy is the study of different organisms' bodies. Scientists will often examine the structure and shape of different organisms' bodies and making detailed observations about which features are more or less similar in different organisms. Organisms with similar body features often live in similar habitats, eat like foods, or behave in similar patterns. Understanding the similarities and differences among organisms helps scientists understand how these organisms live together in ecosystems and how they are related to each other.

**The Task.** You will be given skulls from five different mammals. Several of these skulls have been labeled with the type of mammal that they come from, and one specimen comes from an unknown mammal. Your goal is to determine the diet of the unknown mammal based on its skull. You will have one class period (but no more than 60 minutes if your class is longer) to plan and carry out your investigation.

**The guiding question of this investigation is:** *What was the diet of the unknown mammal?*

**Materials.** You can use any of the following materials:

### Specimens

- 1 skull from an unknown mammal (A)
- 2 skulls from herbivores (B and C)
- 2 skulls from carnivores (D and E)

### Equipment

- 1 Ruler
- 1 Protractor
- 1 Electronic balance
- 1 Magnifying Glass
- Stereoscope
- Calipers

### Part 1: Design your investigation.

1. How will you collect the data you need to answer the guiding question? Describe the procedure you will follow during your investigation with enough detail so someone else can replicate it.

2. What are some strengths of the investigation you designed? (What makes your investigation scientific?)

3. What are some weaknesses of the investigation you designed? (What makes your investigation less scientific?)

**Part 2.** Carry out your investigation and collect the data you need to answer the guiding question.

1. Record your data (observations and/or measurements) in the space below.

2. Why did you decide to make these observations and/or measurements? (Why were these the most appropriate data to collect?)

**Part 3:** Analyze your data and then answer the following questions.

1. What is your claim? (Your answer to the guiding question.)

2. What is your evidence to support your claim?

3. Why is your evidence important? (Defend or justify your choice of evidence to support your claim).