

International College
Middle School
Life Science Test
Animal Characteristics and Adaptations

Page 1 of 4

Name: _____ Grade 7 _____

October 31, 2007

Duration: 50min

Grade Estimation: /100

(2%) Neatness and clarity of handwriting

I. (24%) Circle the best answer:

- A tiger's stripes hide it in tall grass. This is an example of
 - a. behavior
 - b. mimicry
 - c. camouflage
 - d. size as a defense

- An animal cell has a nucleus; it is _____
 - a. heterotrophic.
 - b. detritivore.
 - c. eukaryotic.
 - d. prokaryotic.

- Which of these is true of animals?
 - a. Some animals are not capable of sexual reproduction.
 - b. All animals are capable of asexual reproduction.
 - c. All animals are capable of sexual reproduction.
 - d. No animals are capable of sexual reproduction.

- Which of the following is a behavioral adaptation that helps a prey avoid predators?
 - a. a moose's large size
 - b. a porcupine's sharp quills
 - c. a skunk's bad-smelling spray
 - d. a turtle's hard outer shell

- Why do herbivores eat more food?
 - a. They have more off spring to care for.
 - b. Animals have less energy value than other foods.
 - c. Herbivores are always large animals.
 - d. Plants have less energy value than other foods.

Observe the figure:

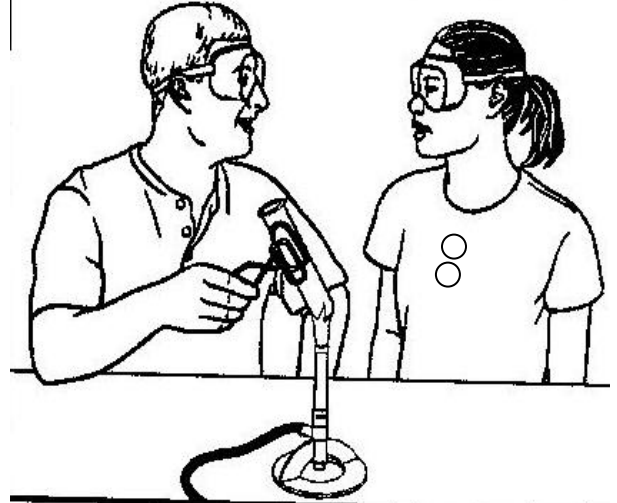
- Which word best describes the animal in the diagram?
 - a. Herbivore
 - b. Invertebrate
 - c. Scavenger
 - d. vertebrate

- The above fish has _____ symmetry
 - a. bilateral
 - b. radial
 - c. asymmetry
 - d. non of the above

- Which of the following is an adaptation that helps fish swim easily in water?
 - a. a wide mouth
 - b. small teeth
 - c. a bony vertebra
 - d. narrow, elongated body

II. Examine each of the following drawing.

a. (6%) Identify three safety laboratory procedures that are shown in the above drawing.



b. (6%) Briefly describe **two** unsafe laboratory procedures in the drawing **and correct** them to make it safe.

c. (9%) Name **three** laboratory equipments in the above diagram. Describe the function of each.

Equipment	Function

d. (6%) Identify **two objects** in the picture that have:

Radial symmetry: _____, _____

Bilateral symmetry: _____, _____

III. (6%) Study the graph below and answer the questions that follow:

a. The weight that shows the highest survival rate is : _____

b. The weight that shows the lowest survival rate is : _____

c. Read the following hypothesis:

Babies with a birth weight of 2.5kg have the best chance of survival.

Does the data in the graph support this hypothesis? Explain.

IV. (14%) Fouad grew lima beans in his garden but they grew slowly. He wondered if projecting red light to his beans would make them grow faster. He placed two lima bean plants under red light and observed them for four weeks.

a. State a hypothesis for his experiment.

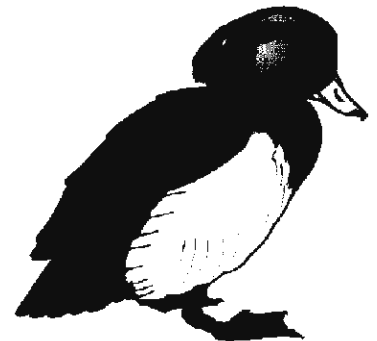
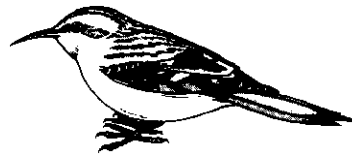
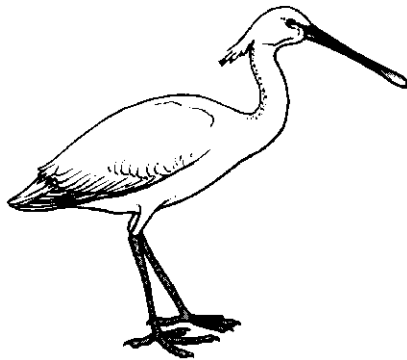
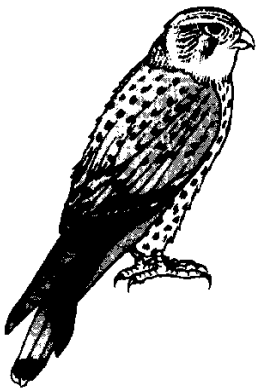
b. Give the control group that Fouad can use in his experiment.

c. What is the variable(s) in this experiment?

d. Give three possible and valid constants for his experiment.

V. (12%) The drawings show four birds. The boxes a, b, c and d contain adaptations about the birds.

i) On the lines provided, write the letter that best describes the appropriate adaptation for each animal.



a.

It swims on lakes or rivers and feeds mainly on water snails and plants.

b.

It climbs up tree trunks and picks insects out of small cracks.

c.

It swoops down to catch small birds and mammals. It tears pieces of its prey with its beak.

d.

It stands in water and feeds mainly on small fish, insects and frogs.

The above boxes describe certain characteristics of animals.

ii) Identify **two animal characteristics** displayed in:

Box a.

(13%) Use the following paragraph to answer the questions that follow.

An Encounter

A marine biologist recalls the day he watched a group of killer whales attack a sea lion.

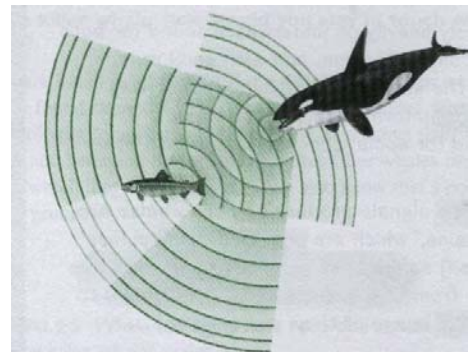
“The sea lion slowly made his way toward the shore. The killer whales were not concerned by our presence and continued to search for it. Suddenly, when the sea lion was about 91m from shore, the whales apparently detected it with their sonar. Sonar are sound waves that move away from their source and spread out in all directions. When the sound waves hit an object, they bounce off and travel back to the source.”

“The whales then dove altogether, accelerating toward it. We saw nothing for 30 seconds, and then the water exploded around it. One after another, the whales charged the sea lion, diving around, under, and over it, smashing it from below and above with their flukes and ramming (strike with violence) it with their heads. Despite this fearsome attack, the sea lion resurfaced every minute or so and continued its slow progress toward shore.”

Adapted from Life Science Day Book

a. Name three behavioral adaptations that helped the killer whales attack their prey.

b. Looking at the diagram, explain how the killer whale uses sound waves to locate an object.



c. Whales share some characteristics with other animals. From your knowledge and paragraph, describe the two characteristics that are common to sea lions and whales.

d. (2%) **Bonus:** why do you think the killer whales move to the surface during their attack?

Good Luck