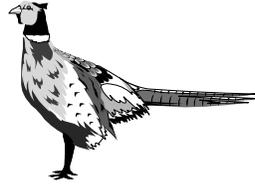


1. Using the key provided, drawing III can be identified as which bird?



(90. cm)
I



(69. cm)
II



(50. cm)
III



(31. cm)
IV



(20. cm)
V



(7.5 cm)
VI

Taxonomic Key to North American Birds

1.a. Larger than 40. cm	2
1.b. Not larger than 40. cm	4
2.a. Hooked beak	3
2.b. Beak not hooked	<i>Phasianus colchicus</i>
3.a. Feathers over eyes that look like ear	<i>Bubo virginianus</i>
3.b. No Feathers that look like ears	<i>Haliaeetus leucocephalus</i>
4.a. Head one solid color of feathers	5
4.b. Head not solid color of feathers	<i>Colinus virginianus</i>
5.a. Bill flat	<i>Anas platyrhynchos</i>
5.b. Bill pointed	<i>Archilochus colubris</i>

- A *Bubo virginianus*
- B *Haliaeetus leucocephalus*
- C *Colinus virginianus*
- D *Anas platyrhynchos*

2. Which of the cells characterized in the chart below is a prokaryotic cell?

	Ribosome	Cell Wall	Chloroplast	Nuclear Membrane	Plasma Membrane
Cell A	✓	✓	✓	✓	✓
Cell B	✓			✓	✓
Cell C	✓	✓			✓
Cell D	✓	✓		✓	✓

- A Cell A
- B Cell B
- C Cell C
- D Cell D
-
3. An organism is eukaryotic, multicellular, heterotrophic, and has a cell wall. To which kingdom does it belong?
- A Animal
- B Fungi
- C Plant
- D Protist
4. In order to maintain good health, a person's normal glucose level must remain within a given range. Which two systems control the blood glucose level?
- A endocrine and skeletal
- B endocrine and digestive
- C circulatory and lymphatic
- D digestive and lymphatic

5. The structure of the digestive tube in the grasshopper and earthworm consists of many folds. The folds affect the efficiency of food absorption by which of the following functions?

A increasing surface area
 B reducing transpiration
 C increasing hormone secretion
 D reducing storage of sugar

6. How would the seeds in Figure 1 and Figure 2 be classified?

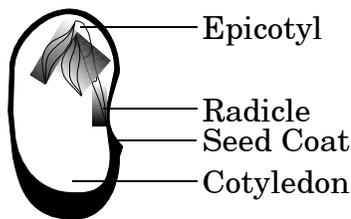


Figure 1

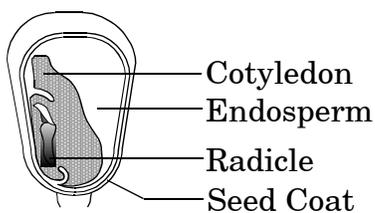


Figure 2

A ferns
 B mosses
 C angiosperms
 D gymnosperms

7. The fertilized eggs of most mammals follow a similar pattern of early development. Which sequence is the typical pattern, beginning with the earliest stage?

A fetus→embryo→zygote
 B fetus→zygote→embryo
 C zygote→fetus→embryo
 D zygote→embryo→fetus

8. How is the folded structure of the villi in the small intestine related to the function of villi?

A It decreases blood flow.
 B It provides protection.
 C It increases absorption.
 D It provides support.

9. Many factors can affect human fetal development. Which would have the **most damaging** effect on fetal development?

A increasing food intake
 B decreasing exercise
 C smoking cigarettes
 D increasing exercise

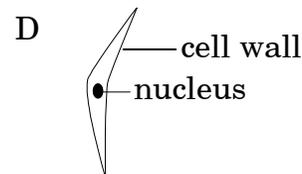
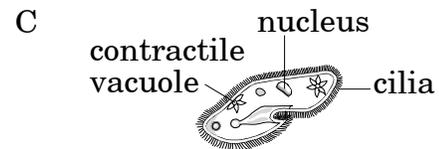
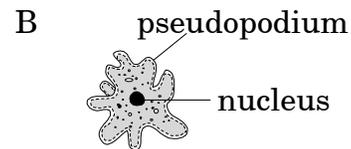
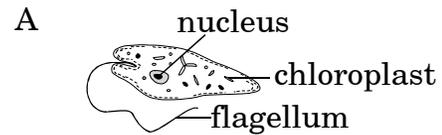
10. Which would **most likely** be caused by environmental conditions?

- A lung cancer
- B hemophilia
- C cystic fibrosis
- D sickle cell anemia

11. Which statement about animal behavior is **most accurate**?

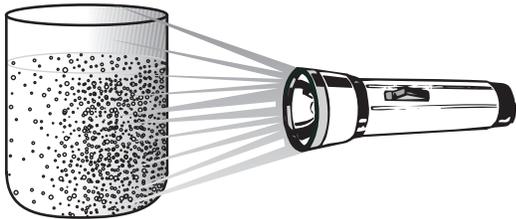
- A Innate behaviors can be changed as a result of individual experiences.
- B Innate behaviors are generally complex and require time to perfect.
- C A complex nervous system is necessary for learned behavior.
- D Learned behaviors are acquired as a result of individual experience.

12. Which these organisms will **most likely** show a positive phototactic response?



13. Bacteria living in nodules on the roots of legumes have the ability to fix atmospheric nitrogen into a water-soluble form that plants can use. The bacteria absorb sugar from the plants' roots. Which describes the relationship between the bacteria and the legume plants?
- A commensalism
 - B mutualism
 - C parasitism
 - D predation

14. *Euglena* are one-celled organisms containing chlorophyll. A culture of *Euglena* is placed into a beaker in a dark room with a flashlight shining on one side, as shown in the diagram. The *Euglena* gather on one side of the beaker.



What can be inferred about *Euglena* from this experiment?

- A *Euglena* show a positive response to light.
- B *Euglena* show a positive response to darkness.
- C *Euglena* show a negative response to light.
- D *Euglena* do not react to light.

15. Which is an advantage of social grouping?
- A increased competition for limited resources
 - B increased chance of detection by predators
 - C increased protection from predators
 - D increased risk of minor infections
16. Estivation is a period of inactivity for animals experiencing conditions of extreme heat. Estivation serves the same function as which activity practiced by animals in cold environmental conditions?
- A camouflage
 - B hibernation
 - C migration
 - D mimicry

End of Goal 4 Sample Items

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Biology Goal 4

Sample Items Key Report

- 1 Objective: 4.01**
Analyze the classification of organisms according to their evolutionary relationships.
a. The historical development and changing nature of classification systems.
b. Similarities and differences between eukaryotic and prokaryotic organisms.
c. Similarities and differences among the eukaryotic kingdoms: Protists, Fungi, Plants, Animals.
d. Classify organisms using keys.
Thinking Skill: Analyzing **Correct Answer:** A
- 2 Objective: 4.01**
Analyze the classification of organisms according to their evolutionary relationships.
a. The historical development and changing nature of classification systems.
b. Similarities and differences between eukaryotic and prokaryotic organisms.
c. Similarities and differences among the eukaryotic kingdoms: Protists, Fungi, Plants, Animals.
d. Classify organisms using keys.
Thinking Skill: Organizing **Correct Answer:** C
- 3 Objective: 4.01**
Analyze the classification of organisms according to their evolutionary relationships.
a. The historical development and changing nature of classification systems.
b. Similarities and differences between eukaryotic and prokaryotic organisms.
c. Similarities and differences among the eukaryotic kingdoms: Protists, Fungi, Plants, Animals.
d. Classify organisms using keys.
Thinking Skill: Applying **Correct Answer:** B
- 4 Objective: 4.02**
Analyze the processes by which organisms representative of the following groups accomplish essential life functions including:
Unicellular protists, annelid worms, insects, amphibians, mammals, nonvascular plants, gymnosperms and angiosperms. Transportation, excretion, respiration, regulation, nutrition, synthesis, reproduction, and growth and development.
Thinking Skill: Knowledge **Correct Answer:** B
- 5 Objective: 4.02**
Analyze the processes by which organisms representative of the following groups accomplish essential life functions including:
Unicellular protists, annelid worms, insects, amphibians, mammals, nonvascular plants, gymnosperms and angiosperms. Transportation, excretion, respiration, regulation, nutrition, synthesis, reproduction, and growth and development.
Thinking Skill: Applying **Correct Answer:** A
-

**Biology Goal 4
Sample Items Key Report**

- b. Learned behavior.
- c. Social behavior.

Thinking Skill: Knowledge **Correct Answer:** D

12 Objective: 4.05

Analyze the broad patterns of animal behavior as adaptations to the environment.

- a. Innate behavior.
- b. Learned behavior.
- c. Social behavior.

Thinking Skill: Analyzing **Correct Answer:** A

13 Objective: 4.05

Analyze the broad patterns of animal behavior as adaptations to the environment.

- a. Innate behavior.
- b. Learned behavior.
- c. Social behavior.

Thinking Skill: Applying **Correct Answer:** B

14 Objective: 4.05

Analyze the broad patterns of animal behavior as adaptations to the environment.

- a. Innate behavior.
- b. Learned behavior.
- c. Social behavior.

Thinking Skill: Analyzing **Correct Answer:** A

15 Objective: 4.05

Analyze the broad patterns of animal behavior as adaptations to the environment.

- a. Innate behavior.
- b. Learned behavior.
- c. Social behavior.

Thinking Skill: Applying **Correct Answer:** C

16 Objective: 4.05

Analyze the broad patterns of animal behavior as adaptations to the environment.

- a. Innate behavior.
- b. Learned behavior.
- c. Social behavior.

Thinking Skill: Applying **Correct Answer:** B