

# Practice Test

## Biology

**HIGH SCHOOL**

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Student Name

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School Name

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District Name



Massachusetts Department of  
**ELEMENTARY & SECONDARY  
EDUCATION**

This is a practice test. Your responses to practice test questions must be recorded on your Practice Test Answer Document.

Mark only one answer for each multiple-choice question. If you are not sure of the answer, choose the answer you think is best.

### **HOW TO ANSWER OPEN-RESPONSE QUESTIONS**

- Read all parts of each question carefully.
- Make each response as clear, complete, and accurate as you can.
- Support your responses.
- Check your answers.

# Biology

## DIRECTIONS

This practice test contains two multiple-choice questions and one open-response question. Mark your answers to these questions in the spaces provided on page 4 of your Practice Test Answer Document.

1 In comparisons of the evolutionary relationships among four species of birds, which of the following would be **most** useful?

- A. colors of feathers
- B. gene sequences
- C. nesting behaviors
- D. patterns of migration

2 Many animals have either internal or external skeletons that provide support and structure. Which of the following parts of plant cells play a similar role?

- A. cell membranes
- B. cell walls
- C. chloroplasts
- D. cytoplasm

Question 3 is an open-response question.

- **BE SURE TO ANSWER AND LABEL ALL PARTS OF THE QUESTION.**
- **Show all your work (diagrams, tables, or computations) in your Practice Test Answer Document.**
- **If you do the work in your head, explain in writing how you did the work.**

Write your answer to question 3 in the space provided on page 4 of your Practice Test Answer Document.

**3** The box below shows a list of supplies that are available in a laboratory.

- four flasks with stoppers
- floodlight
- tap water
- graduated cylinders
- small aquarium plants
- four small fish
- bromthymol blue (a chemical indicator that changes color from blue to yellow as the level of carbon dioxide in a solution increases)

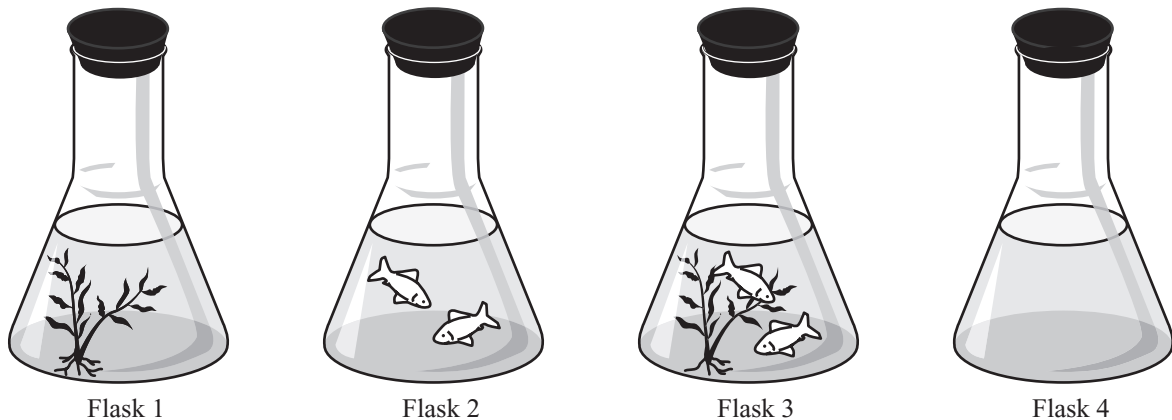
The class sets up an experiment with the four flasks as shown.

**Flask 1:** 100 mL water, 1 mL bromthymol blue, plant

**Flask 2:** 100 mL water, 1 mL bromthymol blue, 2 small fish

**Flask 3:** 100 mL water, 1 mL bromthymol blue, 2 small fish, plant

**Flask 4:** 100 mL water, 1 mL bromthymol blue



All four flasks are stoppered and placed under the floodlight.

- a. What color would the solution in **each** flask be after a few hours?
- b. Explain how the processes that have occurred in **each** flask result in the observed color of the bromthymol blue solutions.

**MASSACHUSETTS COMPREHENSIVE ASSESSMENT SYSTEM**  
High School Biology  
Practice Test Answer Document

<p>School Name: _____</p> <p>District Name: _____</p> <p>Last Name of Student: _____</p> <p>First Name of Student: _____</p>	<p style="text-align: center;"><b>Marking Instructions</b></p> <ul style="list-style-type: none"><li>• Use a No. 2 pencil only.</li><li>• Do not use ink, ballpoint, or felt tip pens.</li><li>• Make solid marks that fill the circles completely.</li><li>• Erase cleanly any marks you wish to change.</li><li>• Make no stray marks on this form.</li><li>• Do not fold, tear, or mutilate this form.</li></ul>
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**NO TEST MATERIAL  
ON THIS PAGE**

