

# Biology Toolkit: Indicator 1.2.1

Student Handout: Biology: Indicator 1.2.1

## Goal 1.0 Skills And Processes

Expectation 1.2 The student will pose scientific questions and suggest investigative approaches to provide answers to questions.

Indicator 1.2.1 The student will identify meaningful, answerable scientific questions.

## Public Release - Selected Response Item - Released in 2009

Biology Indicator 1.2.1

Use the information below to answer the following item.

Scientists have observed that when a largemouth bass tries to eat a whirligig beetle, the fish is likely to get more than just a meal. Once inside the mouth of a bass, the beetle releases a foul-tasting substance into the fish's mouth. The fish responds to this by swishing the beetle around in its mouth, spitting the beetle out into the water, and scooping the beetle back into its mouth. The bass is exhibiting a "flushing" behavior. Unlike other insects, whirligig beetles do not release all of their foul-tasting substance the first time they are pulled into a predator's mouth. Each time the bass scoops the beetle back into its mouth, more of the substance is released. The bass must exhibit "flushing" again and again. If the bass tires of "flushing" before the beetle runs out of its foul-tasting substance, the beetle can avoid becoming the bass's next meal.

Which research question about the largemouth bass and whirligig beetle would best match the scientists' observations?

- A. How long do fish spend rinsing their food?
- B. What is the favorite food of a largemouth bass?
- C. Which insects produce the most foul-tasting substances?
- D. Does the slow release of a foul-tasting substance increase survival?

Correct Answer

- D. Does the slow release of a foul-tasting substance increase survival?

## Item

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