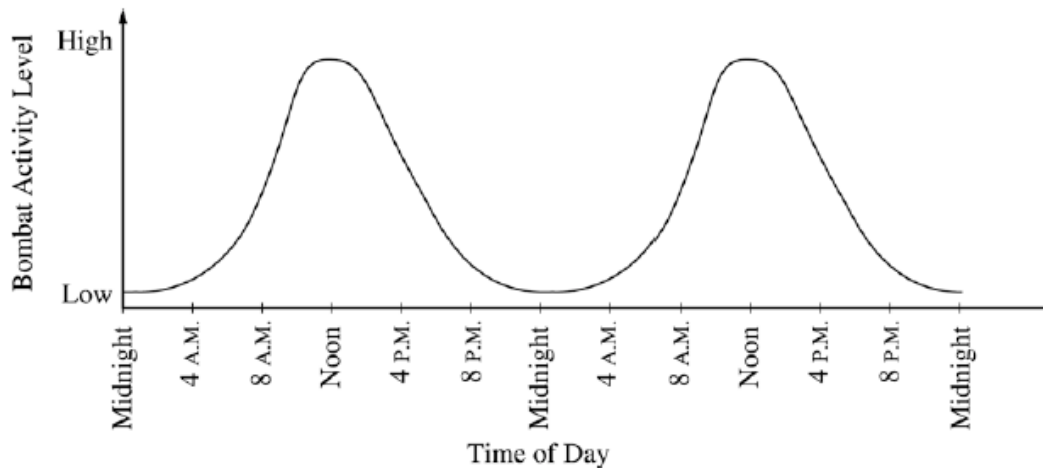


**ECOLOGY / ANIMAL BEHAVIOR FRQ 3**

Answers must be in essay form. Outline form is not acceptable. Labeled diagrams may be used to supplement discussion, but in no case will a diagram alone suffice. It is important that you read the question completely before you begin to write.

The activities of organisms change at regular time intervals. These changes are called biological rhythms. The graph depicts the activity cycle over a 48-hour period for a fictional group of mammals called pointy-eared bombats, found on an isolated island in the temperate zone.



- a. **Describe** the cycle of activity for the bombats. **Discuss** how **three** of the following factors might affect the physiology and/or behavior of the bombats to result in this pattern of activity.
- temperature
  - food availability
  - presence of predators
  - social behaviors
- b. **Propose** a hypothesis regarding the effect of light on the cycle of activity of bombats. **Describe** a controlled experiment that could be performed to test this hypothesis, and the results you would expect.

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