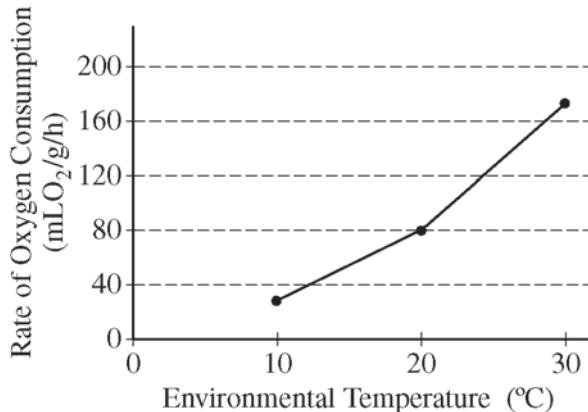
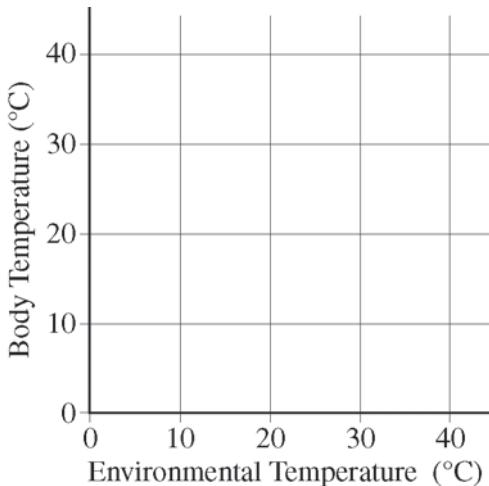


2014 AP® BIOLOGY FREE-RESPONSE QUESTIONS

EFFECT OF ENVIRONMENTAL TEMPERATURE
ON RATE OF OXYGEN CONSUMPTION



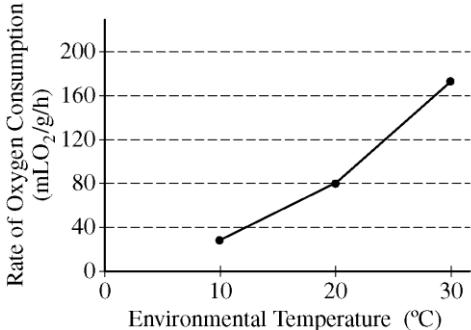
7. (a) Based on the graph, **describe** a specific method of thermoregulation used by the species of animal. **Provide** support for your answer using the data.
- (b) On the labeled axis provided below, **draw** a line to indicate the most likely relationship between body temperature and environmental temperature in the species.



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Question 7

EFFECT OF ENVIRONMENTAL TEMPERATURE
ON RATE OF OXYGEN CONSUMPTION



- (a) Based on the graph, **describe** a specific method of thermoregulation used by the species of animal. **Provide** support for your answer using the data. (**2 points maximum**; LO 2.21, 2.24, 2.27)

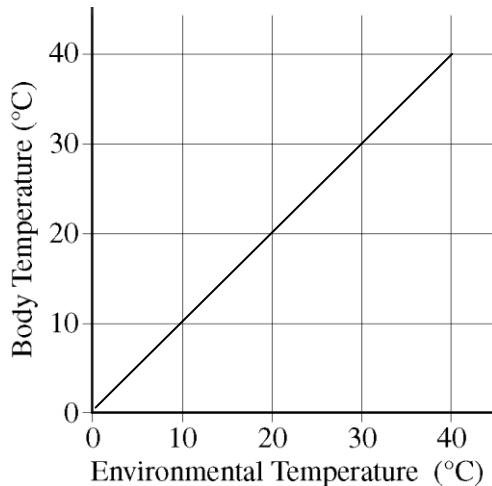
NOTE: students may only earn points within one row.

Describe method (1 point)	Support (1 point)
This species is an ectotherm/incapable of endoregulation	<ul style="list-style-type: none">Increased metabolic rate/O₂ consumption rate/respiration rate with increased temperatureDecreased metabolic rate/O₂ consumption rate/respiration rate with decreased temperatureIf the animal were endothermic, O₂ consumption rate/respiration rate/metabolic rate would increase with decreasing temperature
Behavior to adjust body temperature, i.e., seeking shade, basking in the sun, burrowing in mud, evaporative cooling	<ul style="list-style-type: none">Increased metabolic rate/O₂ consumption rate/respiration rate with increased temperatureDecreased metabolic rate/O₂ consumption rate/respiration rate with decreased temperatureThis species is ectothermic/incapable of endoregulation

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Question 7 (continued)

- (b) On the labeled axis provided below, **draw** a line to indicate the most likely relationship between body temperature and environmental temperature in the species. (**1 point**; LO 2.22)



- Line/curve with positive slope