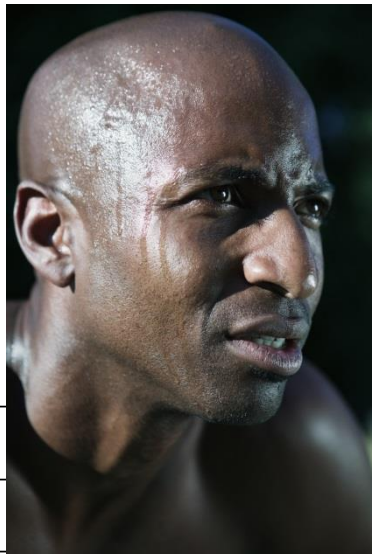
Name: Class:

Student worksheet

3.7 Homeostasis regulates through negative feedback

Pages 56–57 and 191



Homeostasis

1 What is homeostasis?

_____

_____

_____

2 When does negative feedback occur?

_____

_____

3 Conversely, what would positive feedback do?

_____

_____

4 Outline the negative feedback mechanism that the body experiences when it is too cold.

_____

_____

5 Outline the negative feedback mechanism that the body experiences when it is too hot.

_____

_____

6 What would be the effect of positive and negative feedback in the following circumstances?

a The body becomes too hot.

- positive feedback

_____

_____

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- negative feedback

_____

_____

b The body has too much glucose in the blood:

- positive feedback

_____

_____

- negative feedback

_____

_____

7 What would happen to the body if it was unable to release the hormones which control homeostasis?

_____

_____

_____

_____

8 How are glucose molecules able to provide you with energy?

_____

_____

_____

_____

9 Why is too much glucose in the blood unhealthy?

_____

_____

_____

_____

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Extend your understanding

10 After you eat, sugar moves from your food and into your blood, essentially giving you a sugar high, which you interpret as having more energy. Answer the questions under the following graph.

a When do you have the most energy?

b When do you have the least energy?

c When blood sugar levels are too low, how do you feel?

d What should you do when they are too low?

e If this graph represents blood sugar levels after eating a banana, on the graph, draw what your blood sugar levels would look like after eating a Mars Bar.

f Why do doctors recommend that you eat slow-release foods?

g What happens when you eat sugary foods? What impact does this have on your energy levels?

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