The Endocrine System

This section explains how the endocrine system works to control activities in the body.

Use Target Reading Skills

As you read, identify the effects of pituitary hormones. Write the information in the graphic organizer below.

Hormones and the Endocrine System

1. What does the endocrine system control?

2. The endocrine system is made up of ____________________________________________
   that produce chemicals that control body processes.

3. Is the following sentence true or false? Endocrine glands release their chemical products through delivery tubes. ____________
The Endocrine System (continued)

4. The chemical product of an endocrine gland is a(n) __________________________, or chemical messenger.

5. How do hormones affect the body?
   __________________________________________________________________________
   __________________________________________________________________________

6. Circle the letter of each sentence that is true about hormones.
   a. Hormones can regulate only the tissues and organs near the glands that produce them.
   b. Nerve impulses from the brain can cause the release of hormones.
   c. Hormones can cause a slower, but longer-lasting response than nerve impulses.
   d. Any hormone can affect any organ in the body.

7. A hormone interacts only with certain __________________________, cells that recognize the hormone’s chemical structure.

Functions of Endocrine Glands

Match the endocrine glands with the functions of the hormones they produce.

<table>
<thead>
<tr>
<th>Glands</th>
<th>Functions of the Hormones</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ 8. thyroid glands</td>
<td>a. Control changes in a male’s body and regulate sperm production</td>
</tr>
<tr>
<td>___ 9. adrenal glands</td>
<td>b. Trigger the body to respond to emergencies</td>
</tr>
<tr>
<td>___ 10. ovaries</td>
<td>c. Helps the development of immune system</td>
</tr>
<tr>
<td>___ 11. testes</td>
<td>d. Control the release of energy from food molecules</td>
</tr>
<tr>
<td>___ 12. thymus</td>
<td>e. Control changes in a female’s body that trigger egg development</td>
</tr>
</tbody>
</table>

13. Circle the letter of each sentence that is true about the hypothalamus.
   a. The hypothalamus links the nervous system and the excretory system.
   b. The hypothalamus is located on the kidneys.
   c. The hypothalamus sends nerve messages and produces hormones.
   d. The hypothalamus plays a major role in maintaining homeostasis.
14. What is the pituitary gland?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

15. Is the following sentence true or false? The pituitary gland releases hormones in response to nerve impulses or hormone signals from the hypothalamus. ________________________

Negative Feedback

16. How does negative feedback work to control the amount of a hormone in the blood?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

17. Complete the cycle diagram to show how thyroxine, a hormone produced by the thyroid gland, is regulated by negative feedback.

Thyroid stops producing e. ____________________________.

Thyroid stimulating hormone (TSH) is released by the a. ____________________________ gland.

Pituitary stops producing d. ____________________________.

Thyroxine is produced by the b. ____________________________ gland.

Hypothalamus senses cells need more energy.

Hypothalamus senses cells have enough energy.