

## Chapter 16 Lesson 1: The Endocrine System

### Introduction:

In this lesson, you learned about the glands that make up the endocrine system. One of these glands, the thyroid, secretes hormones that regulate everything from bone growth to metabolism. When something goes wrong with this vital gland, a wide variety of problems can result. You can find out more about how to recognize and treat thyroid problems at this Web site run by the Cleveland Clinic.

### Links to Explore:

#### Thyroid Disease

<http://www.clevelandclinic.org/health/health-info/docs/2000/2011.asp?index=8541>

### Directions:

- Click on the link and read the fact sheet on thyroid disease.
  - Answer the following questions:
1. What is the difference between hyperthyroidism and hypothyroidism?
  2. Who is more likely to develop thyroid problems, men or women?
  3. Why is iodine deficiency no longer a common cause of hypothyroidism in the United States?
  4. List three symptoms of hypothyroidism.
  5. How is thyroid disease diagnosed?
  6. What is the most common treatment for hyperthyroidism?

### Answers:

1. With hyperthyroidism, the thyroid produces too much hormone, causing the body to use energy faster than it should. With hypothyroidism, the thyroid produces too little hormone and the body uses energy slower than it should.
2. Women are five to eight times more likely than men to have thyroid problems.
3. Because of the widespread use of iodized salt
4. Any three of the following:
  - Fatigue
  - Frequent, heavy menstrual periods
  - Forgetfulness
  - Weight gain
  - Dry, coarse skin and hair
  - Hoarse voice
  - Intolerance to cold
5. With the thyroid stimulating hormone (TSH) test

6. The use of radioactive iodine to disable the thyroid. This often results in hypothyroidism, requiring the use of synthetic thyroid hormone.

**Additional Links to Explore:**

Use the links below to gather additional information on the activity topic. When appropriate, have students extend their research to include important concepts contained in these Web sites.

**How Your Thyroid Works**

<http://www.endocrineweb.com/thyfunction.html>

**The American Thyroid Association**

<http://www.thyroid.org/>

**Small Gland, Big Problems: Diagnosing Thyroid Disease**

<http://www.med.umich.edu/opm/newspage/2003/thyroid.htm>