



## Unit I – Basics of Biology

### Chapter 24 The Endocrine System

#### Lab # 24 Endocrine System

**Note to Teacher:** While students are engaged in their lab setting, have them listen to the music track to "They Swim and They Roll" at the beginning of VSU Lecture 24, "Reproduce, Reproduce". Brain research indicates that when we listen to something different while we are learning something new, neurons will be connected which will help us remember the information more efficiently.

#### Strategy

You will conduct a lab where you will use Professor Paul's Power Point Slides, pages two thru forty five from VSU Lecture 24 "Reproductive & Endocrine Systems". You will use the lyrics of the song "They Swim and They Roll" along with the Power Point Slides, pages two thru forty five to trace how hormones impact reproduction. On a poster board, you will illustrate the hormones in the male and female and where they are produced and how they impact the reproductive process. You will work in partners.

**Teacher's Note:** In this lab exercise, pair up a left brain child with a right brain. This challenges the class to work in a real world scenario. This activity should take about fifty minutes. For some classes, it may take longer than two class periods.

You will conduct the challenge activity at the end of the lab.

#### Materials

**Note to Teacher:** Most of the materials you will need for this lab, you can order them from Carolina Biological Supply.

Poster Board

Pages two thru forty from VSU Lecture 24 "Reproductive & Endocrine Systems" Power Point Slides

Scotch Tape

Several sheets of colored paper

Marking Pens (Blue or Black)

All Purpose Glue



Score: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Class/Teacher: \_\_\_\_\_

School: \_\_\_\_\_

### Procedure

- 1.) Pair up in teams of two as directed by your teacher.
- 2.) Draw all the parts of the endocrine system. If you do not have artistic skills, you may want to trace the parts of the endocrine system.
- 3.) Using the Power Point Slides pages two thru forty five from VSU Lecture 24 "Reproductive & Endocrine Systems illustrate the glands that make up the endocrine system and how each one of them functions.
- 4.) Students, when you get stuck, get help from your teacher. In many instances, you and your teacher may have to get creative and use other charts of the endocrine system and cut them up to make your illustration of the endocrine system.

### Analysis & Questions

- 1.) Why is the endocrine system important?
  - a. It helps regulate reproduction.
  - b. It helps keep the brain functioning.
  - c. It is associated with signaling molecules known as hormones.
  - d. None of the above
- 2.) Hormones regulate the many, but varied, functions of an organism like:
  - a. Mood
  - b. Growth and development
  - c. Tissue function
  - d. Metabolism
  - e. All of the above
- 3.) True or False: Typical endocrine glands include the pituitary, thyroid, and adrenal glands?
- 4.) Which is not an endocrine disease?
  - a. Obesity
  - b. Skin cancer
  - c. Thyroid disease
  - d. Diabetes mellitus
- 5.) Hyperfunctions can occur as a result of:
  - a. Loss of suppression
  - b. Agenesis
  - c. Atrophy
  - d. Hyposecretion

6.) Which is known as “The Master Gland?”

- a. Pituitary gland
- b. Adrenal gland
- c. Hypothalamic gland
- d. Thyroid gland

7.) True or False: People who have surgery to remove the thyroid gland for cancer or other problems usually have problems maintaining normal body weight and function.

8.) Each parathyroid is:

- a. Small
- b. Yellow
- c. Green
- d. Smooth
- e. A, B, and D

9.) The endocrine cells secrete pancreatic juices, which are used in the \_\_\_\_\_ as an important part in the digestive system.

- a. Stomach
- b. Duodenum
- c. Liver
- d. Intestines

10.) Alpha cells:

- a. Secrete glucagon
- b. Inhibit the secretion on glucagon
- c. Secrete insulin
- d. Inhibit the secretion of insulin

### Conclusion

1.) You should be able to answer all questions related to endocrine system illustration.

### Challenge

1.) You should be able to do a Power Point Presentation on the forty five slides that you used to do your endocrine system illustration. If you aspire to someday be an Endocrinologist, here is your first opportunity to show how much you already know. Be able to discuss your drawings from your endocrine system illustration in such a way that it confirms you have internalized the information.

Reference:

Gardner, H. (1991). The unschooled mind: How children think and how schools should teach. New York: Basic.

McCarthy, B. (1987). The 4Mat system: Teaching to learning styles with right/left mode techniques. Barrington IL: EXCEL.

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