

Endocrine, Immune & Integumentary Systems

Media Type: DVD

Duration: 15 minutes

Goal: To understand the basic anatomy of the endocrine, immune and integumentary systems.

Description:

Take a visual, introductory journey through the endocrine, immune, and integumentary systems. Using a variety of special effects, endoscopic video of organs inside a living organism, three-dimensional graphics and specimens of dissected organs, experts of human anatomy, animal science, muscle biology and comparative anatomy use more than a century of combined experience to give an understanding of what makes higher level organisms function. This program offers a comparative view of the organ systems elements of different animal species and classes, including fish, poultry, cattle, sheep, goats, pigs and humans, offering a wider perspective and a more thorough understanding of the structures and functions within these systems.

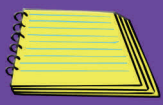
Objectives:

1. To understand the basic functions of the endocrine, immune and integumentary systems.
2. To understand the different types of the endocrine, immune and integumentary systems.
3. To identify basic structures associated with the endocrine, immune and integumentary systems.

Horizontal Alignment

Core-Subject Area	Foundation Concept	Basic Understanding
Language Arts	<i>Application of Writing Skills</i>	• Descriptive and informative writing • Utilizing reference materials • Vocabulary enhancement
	<i>Analysis of Text, Literature and Information</i>	• Developing listening and comprehension skills • Creating visual representations
	<i>Technology Applications in Literature</i>	• Utilizing presentation processing software • Internet-based research
Science	<i>Scientific Thinking and Investigating</i>	• Analytical skills • Collecting data • Compare/contrast findings • Classification/organization skills
	<i>Scientific Laws and Principles</i>	• Cycles, structures and processes • Principles of biology, anatomy and physiology • Physical and chemical reactions

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Lesson Plan

Class 1: Begin the *What Do I Know Activity*. Distribute the *Endocrine, Immune & Integumentary Systems Vocabulary Handout and Worksheet* to be filled out during the presentation. Show the *Endocrine System - Part 1*. Complete the *Endocrine System Assessment*. Assign the *Comparing Systems Project* for homework.



Video
9 min.

Class 2: Show the *Immune System - Part 1*. Complete the *Immune System Assessment*. Allow students to begin working on the *Systems Outline Activity*. Assign the *Model Systems Project* for homework.



Video
3 min.

Class 3: Show the *Integumentary System - Part 1*. Complete the *Integumentary System Assessment*. Allow students to finish the *What Do I Know Activity* and the *Systems Outline Activity*. With any remaining class time students should work on their *Projects*.



Video
3 min.

Class 4: Allow students to present and turn in their *Projects*.



Lesson Links

InnerBody

- <http://www.innerbody.com>



Career & Technical Student Organizations

FFA

- Dairy Cattle Evaluation
- Horse Evaluation
- Livestock Evaluation
- Poultry Evaluation



Career Connections

- iCEV50841, Katherine Chauncey, Ph.D., R.D., Associate Professor, Health Sciences Center, Texas Tech University
- iCEV51095, Susan Bozeman, D.V.M., Owner & Veterinarian, Bozeman Animal Clinic
- iCEV50027, Frank Garry, D.V.M., Veterinary Professor, Colorado State University

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Lab Activities

What Do I Know

Directions:

Before watching the presentation for the endocrine, immune and integumentary systems, have each student write down what they already know about the systems. Have them discuss what they wrote, which can include organs and body parts involved in the systems, the roles played, how the body uses the systems on a daily basis or any other knowledge they may have. After the presentation, have them make another list describing anything they learned which they did not previously know. Discuss these as well, noting any changes in their lists and whether the students were surprised by the facts of the systems.

Systems Outline

Directions:

Divide the class into five groups. Assign each group either humans, cattle, horses, poultry or pigs. Using poster board or another large piece of paper, have the students draw an outline of the animal body, then draw the different parts of either the endocrine, immune or integumentary system within the outline. When finished, have students present their drawing to the class, identifying the different parts they noted and why they are important.



Projects

Comparing Systems

Directions:

Divide the class into four groups and assign each group either sheep, swine, cattle or horses. Groups should research the difference in the human endocrine, immune and integumentary systems and the systems in the animal they were assigned. Groups will compile their findings into a Microsoft® PowerPoint® presentation. The presentation should include a diagram of each of systems with the main organs labeled. It should also contain the differences between animal and human systems. Have groups present their findings to the class.

Model Systems

Directions:

Assign each student an organ or other body part which plays an important role in the endocrine, immune or integumentary system. As homework, instruct them to create a model of this body part using materials found in their home. Have the students bring their model in as well as a short report stating its importance to the human body.