

How To: Animal Dissection

Media Type: Video

Duration: 45 min.

Goal: To discover how to dissect an animal and identify organs of the body.

Description:

Because pigs and humans share so many similarities, fetal pigs are often used in dissections to explore human anatomy and physiology. Observe as experts discuss and explain dissection vocabulary, such as dorsal, ventral, anterior, posterior/caudal, lateral, median, proximal and distal. Experts also demonstrate proper dissection techniques of a fetal pig, providing insight on human body systems, as well as identification of key organs and their roles in maintaining health.

Objectives:

1. The student will discover the techniques of dissecting an animal.
2. The student will be able to distinguish between animal body systems.
3. The student will differentiate between animal body parts.



Agriculture, Food & Natural Resources Career Cluster (AG)

Cluster	Standard
	Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster™.
	Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources Career Pathways.
Animal Systems Career Pathway (AG-ANI)	Analyze historic and current trends impacting the animal systems industry.
	Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production.
	Classify, evaluate and select animals based on anatomical and physiological characteristics.
	Apply principles of effective animal health care.

College & Career Readiness Anchor Standards for Reading

Reading Standards for Literacy in Science & Technical Subjects			
Key Ideas & Details	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.		
	<table border="1"> <tr> <td>9-10.1</td> <td>Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</td> </tr> </table>	9-10.1	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
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Craft & Structure	Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.		
	Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.		
	<table border="1"> <tr> <td>9-10.4</td> <td>Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.</td> </tr> </table>	9-10.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
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College & Career Readiness Anchor Standards for Reading

Reading Standards for Literacy in Science & Technical Subjects

Integration of Knowledge & Ideas	Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.	
	9-10.7	Translate quantitative or technical information expressed in words in a text into visual form and translate information expressed visually or mathematically into words.
	11-12.7	Integrate and evaluate multiple sources of information presented in diverse formats and media in order to address a question or solve a problem.

College & Career Readiness Anchor Standards for Writing

Writing Standards for Literacy in History/Social Studies & Technical Subjects

Text Types & Purposes	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	
	9-10.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
Production & Distribution of Writing	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	
	9-10.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
Research to Build & Present Knowledge	Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	
	Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	
	Draw evidence from literary or informational texts to support analysis, reflection, and research.	
	9-10.7	Conduct short as well as more sustained research projects to answer a question or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
	9-10.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
9-10.9	Draw evidence from informational texts to support analysis, reflection, and research.	

College & Career Readiness Anchor Standards for Speaking and Listening

Speaking & Listening Standards

Comprehension & Collaboration	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	
	9-10.1	Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
	11-12.1	Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

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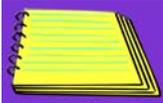
Common Core Standards

College & Career Readiness Anchor Standards for Speaking and Listening

Speaking & Listening Standards

Presentation of Knowledge & Ideas	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	
	Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.	
	Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.	
	<i>9-10.4</i>	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
	<i>9-10.5</i>	Make strategic use of digital media in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
	<i>9-10.6</i>	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
<i>11-12.4</i>	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.	

How To: Animal Dissection



Lesson Plan

Class 1: Distribute the *How To: Animal Dissection Vocabulary Handout* and *Worksheet* to be completed during the presentation. Show the *How To: Animal Dissection - Part 1*, *How To: Animal Dissection - Part 2* and *How To: Animal Dissection Part - 3* segments. Have students complete *Assessment I*. Show the *How To: Animal Dissection - Part 5* segment. Students should complete *Assessment II*. Show the *How To: Animal Dissection - Part 7* segment. Have students complete *Assessment III*. Show the *How To: Animal Dissection - Part 9* and *How To: Animal Dissection - Part 10* segments. Students should complete *Assessment IV*. Show the *How To: Animal Dissection - Part 12*, *How To: Animal Dissection - Part 13* and *How To: Animal Dissection - Part 14* segments. Students should complete *Assessment V*. Complete the *Frog Dissection & Tools Activity*. If student licenses have been purchased, an interactive version of this *Activity* is available in the “*Interactive Activities*” section. Assign the *Body System Diagram Project* for homework.

Class 2: Complete the *Dissection Activity*. When students finish allow them to work on the *Body Systems Diagram Project*.

Class 3: Complete the *How To: Animal Dissection Crossword*. Administer the *How To: Animal Dissection Final Assessment*. Have students present their *Body Systems Diagram Project* to the class.



Video
37 min.



Lesson Links

Whitman College

- <http://www.whitman.edu/biology/vpd/>



Career & Technical Student Organizations

FFA

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



Career Connections

Using the *Career Connections Activity*, allow students to explore the various careers associated with this lesson. See the *Activity* for more details. *If student licenses have been purchased:* Students will select the interviews to watch based on your directions. *If only a teacher license is purchased:* Show students all the career interviews and instruct them to only complete the interview form for the required number of interviews.

- iCEV50855, John Pipkin, Ph.D., Professor, Animal Science, West Texas A&M University
- iCEV50084, Gary Smith, Ph.D., Emeritus Professor, Department of Animal Sciences, Colorado State University
- iCEV50021, Brenda Darby, Research Technician, Department of Animal and Dairy Science, University of Georgia
- iCEV50027, Frank Garry, D.V.M., Veterinary Professor, Colorado State University

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Lab Activities

Frog Dissection & Tools

Directions:

The students will fill out the *Frog Dissection & Tools Activity*. Students should imagine they are helping friends who know nothing about dissection dissect a frog in class. Once students have completed the *Activity* discuss it as a class. If student licenses have been purchased, an interactive version of this *Activity* is available in the “Interactive Activities” section.

Dissection

Directions:

Provide the students with a small animal, such as a frog, and the proper tools required for dissection. While closely monitoring them, have students work in pairs to dissect the animal and examine the different body systems located within.



Projects

Body Systems Diagram

Directions:

In order to better understand body systems, students will draw and diagram each one. Divide students into five groups and assign each one a body system — respiratory, digestive, circulatory, excretory & urinary or reproductive system. Each group will create their assigned system and diagram the parts. Allow students to use any materials in the classroom and encourage them to be creative. Groups will present their body systems to the class.