

Veterinary Medical Practices: Laboratory Procedures

Media Type: Video
Duration: 22 minutes

Goal: To help students understand the importance of laboratory procedures and how to perform common laboratory tests.

Description: Students will be able to describe and explain the importance of proper laboratory procedures as well as how to collect, handle, prepare and examine fecal, blood and urine specimens. Students will also learn about normal and abnormal results obtained from complete blood counts and other laboratory tests. Preparation of microscope slides, preservation of specimens and performing common laboratory tests are also provided.

Objectives:

1. To describe tests and explain the importance of proper laboratory procedures.
2. To demonstrate the procedures used in collecting, handling, preparing and examining fecal, blood and urine specimens.
3. To discuss normal and abnormal results obtained in complete blood counts.
4. To explain sensitivity testing and how to read test results.
5. To prepare microscope slides, preserve specimens and perform common laboratory tests including fecal flotation, microfilaria smear, packed cell volume.

Horizontal Alignment

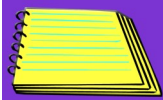
Core-Subject Area	Foundation Concept	Basic Understanding
Language Arts	<i>Application of Writing Skills</i>	<ul style="list-style-type: none"> • Editing/proofreading • Composition mechanics • Descriptive, informative, creative and persuasive writing • Organizing logical arguments • Brainstorming • Utilizing reference materials • Enhancing grammatical mechanics • Vocabulary enhancement
	<i>Analysis of Text & Information</i>	<ul style="list-style-type: none"> • Drawing inferences and generalizations • Reading/content literacy • Critical thinking • Creative thinking • Values and ethics • Expression of thoughts and ideas • Communication skills • Developing listening and comprehension skills • Literary interpretation • Creating visual representations
	<i>Technology Applications in Literature</i>	<ul style="list-style-type: none"> • Utilizing presentation processing software • Internet-based research

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Horizontal Alignment

Core-Subject Area	Foundation Concept	Basic Understanding
Science	<i>Scientific Thinking & Investigating</i>	<ul style="list-style-type: none">• Critical thinking and scientific problem solving• Real-world investigations and applications• Analytical skills• Technology-based research• Evaluating conclusions• Classification/organization skills
	<i>Scientific Laws & Principles</i>	<ul style="list-style-type: none">• Cycles, structures and processes• Principles of biology, chemistry, anatomy, physiology or psychology

Veterinary Medical Practices: Laboratory Procedures



Lesson Plan

Class 1: Distribute the *Veterinary Medical Practices: Laboratory Procedures Worksheet* and *Vocabulary Handout* for students to use as reference materials during the presentation. Distribute the *Blood Samples Student Handout* and the *Microfilaria Smear Student Handout*. Show the *Veterinary Medical Practices: Introduction to Lab Procedures* and *Blood Examinations* segments.



Video
7 min.

Class 2: Remind students to continue using the *Worksheet* and *Vocabulary Handout* as reference materials. Distribute the *Fecal Samples Student Handout*. Show the *Veterinary Medical Practices: Fecal Examinations* segment. Distribute the *Under the Microscope Activity* and allow the remainder of the class for students to work.



Video
9 min.

Class 3: Remind students to continue using the *Vocabulary Handout* and *Worksheet* while viewing the presentation. Distribute the *Urine Samples Student Handout* and the *Culture & Sensitivity Testing Student Handout*. Show the *Veterinary Medical Practices: Urine Examinations* and *Culture & Sensitivity Tests* segments. Hand out the *Laboratory Test Importance Project* and allow the remainder of the class for students to work.



Video
6 min.

Class 4: Distribute the *Veterinary Medical Practices: Laboratory Procedures Assessment* and allow time for students to complete it. Then, allow the remainder of the class for students to complete their *Projects*.



Lesson Links

American Veterinary Medical Association

- <http://www.avma.org>

Merck Manuals

- <http://www.merckmanuals.com/vet>



Career & Technical Student Organizations

FFA

- Veterinary Science Project



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.

- iCEV50006, Kerry Blanton, Veterinarian, South Plains Veterinary Clinic
- iCEV50055, Wendy MacPherson, Veterinary Technician, Emergency Pet Hospital at Collier County in Naples, FL
- iCEV50076, Frank Saiz, Veterinary Technician, Animal Hospital of Lubbock, TX

Veterinary Medical Practices: Clinical Examinations



Lab Activities

Under the Microscope

Directions:

It is very important for students to understand what they are looking for when examining a specimen under a microscope after a fecal flotation. In order to detect any parasites, they must know what they look like. Instruct students to research fecal flotation and common parasites found after examining a fecal flotation. They may use the presentation, Internet, books and any other resources available. Students must include at least two parasites for large and small animals, information about the parasites life cycle, how the parasite is transmitted to the animal and what the parasite looks like under a microscope slide. After conducting their research, instruct students to create a drawing which identifies what the parasites will look like after a fecal flotation under a microscope slide. Then, have them list the additional information and attach it with their drawing. Students must also include a citation sheet with their drawing.



Projects

Laboratory Test Importance

Directions:

Students will write a minimum two page paper explaining the importance of laboratory tests discussed within the presentation. The paper must include what the test detects, why it is important, how it is performed, how often it should be performed and how it aides in prevention. They may use the presentation, Internet, library and any other resources available. Students must also include a citation sheet with their paper.