

# AVMA Animal Hospital Video Game



## Teacher Guide with Student Activities

AVMA Animal Hospital is a time-management game in which players assume the role of a veterinarian. As players advance through the game, they treat dogs, cats, guinea pigs, birds, and turtles and learn about each animal's ailments, diagnostics, and treatments. Not only is the game fun, but it's also an exciting way for children in grades 4-8 to learn.

This guide is designed to help you take advantage of the game to engage your students with scientific concepts and practices and to get them excited about possible careers in science, including veterinary medicine.

*AVMA Animal Hospital was developed by Game Gurus. This guide was developed by Teon Edwards. Development of this video game and guide was funded in part through a grant provided by the American Veterinary Medical Foundation (AVMF).*

# TOC

This guide is a companion to the AVMA Animal Hospital game. Use it to supplement and extend the learning... and fun... your students experience playing the game.

## Contents:

Overview.....	3
About the Game.....	3
Veterinary Medicine Learning Goals.....	3
Next Generation Science Standards.....	3
About AVMA.....	5
Process of Symptoms, Diagnostics and Treatment.....	5
Career Path Information.....	6
Resources.....	7
Activities.....	8
Activity: Bringing the Game into the Classroom.....	8
Activity: Playing a Paper Version of the Game.....	10
Student Sheet: Sick Dog — Symptoms and Test.....	12
Student Sheet: Skin Scraping — Diagnosis and Treatment.....	13
Student Sheet: Healthy Dog — Results.....	14
Activity: Digging into a Diagnosis—Graphing Blood Work Data.....	15
Student Sheet: Graphing—Rufus and Butter.....	17
Activity: Interviewing a Pet Owner.....	19
Student Sheet: Pet Interview.....	20
Additional Materials.....	21
Writing and Researching.....	21
Connecting with Other Classroom Activities.....	22
Extension: A Visit by a Veterinarian.....	22

# OVERVIEW

## About the Game

*AVMA Animal Hospital* is a time-management game in which each player assumes the role of a veterinarian. The player starts out as a New Veterinarian and works his or her way up the ranks to become Chief Veterinarian of the *AVMA Animal Hospital*. The more efficient the player is at diagnosing and treating the animals, the more points he or she scores. However, if a player can't get to all the animals in time, that's not a problem. The player can just try again, building knowledge and skills. As a player advances through the game, he or she treats dogs, cats, guinea pigs, birds, and turtles, learning about each animal's ailments, diagnostics and treatments.

*AVMA Animal Hospital* is available to play on [computer](#), [iPad](#) or [Android tablet](#).

To see the game in action, check out the [video on YouTube](#) and try playing it for yourself.

Grades: 4-8

## Veterinary Medicine Learning Goals

- To expose middle school students to veterinary medicine in an interesting and fun way
- To teach students that there is an inseparable relationship between animals and humans
- To introduce students to the process of *symptoms*, *diagnostics* and *treatment* of disease
- To interest students in a career involving biology, mathematics and applied science

## Next Generation Science Standards

Through the *AVMA Animal Hospital* game and the activities in this guide, students touch upon the following standards:

### 4. Structure, Function and Information Processing

*Students who demonstrate understanding can:*

- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

### Science and Engineering Practices

#### Engaging in Argument from Evidence

- Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s).
- Construct an argument with evidence, data, and/or a model. (4-LS1-1)

### Disciplinary Core Ideas

#### LS1.A: Structure and Function

- Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1)

# OVERVIEW

## 5. Matter and Energy in Organisms and Ecosystems

### Disciplinary Core Ideas

#### LS1.C: Organization for Matter and Energy Flow in Organisms

- Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. (secondary to 5-PS3-1)

#### MS. Structure, Function, and Information Processing

*Students who demonstrate understanding can:*

- MS-LS1-1. Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.
- MS-LS1-2. Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.
- MS-LS1-3. Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

### Science and Engineering Practices

#### Engaging in Argument from Evidence

- Engaging in argument from evidence in 6–8 builds on K–5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world(s).
- Use an oral and written argument supported by evidence to support or refute an explanation or a model for a phenomenon. (MS-LS1-3)

### Disciplinary Core Ideas

#### LS1.A: Structure and Function

- All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). (MS-LS1-1)
- Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2)
- In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions. (MS-LS1-3)

### Crosscutting Concepts

#### Scale, Proportion, and Quantity

- Phenomena that can be observed at one scale may not be observable at another scale. (MS-LS1-1)

#### Crosscutting Concepts: Patterns

- Graphs, charts, and images can be used to identify patterns in data.

# OVERVIEW

## About AVMA

The *American Veterinary Medical Association* (AVMA), established in 1863, is a not-for-profit association representing more than 84,000 veterinarians working in private and corporate practice, government, industry, academia and uniformed services.

The mission of the AVMA is to improve animal and human health and advance the veterinary medical profession. Education is an integral part of its mission.

## Process of Symptoms, Diagnostics and Treatment

The *AVMA Animal Hospital* game has players go through a quick version of the process of symptoms, diagnostics and treatment over and over again. Below is some background information with more about this process.

Since pets can't tell us what's wrong, a veterinarian has to be able to gather information to help determine the cause of a pet's problem and how to resolve it. The first step is determining the symptoms (clinical signs) the pet is showing. The pet's owner can usually help a lot here, because they know their pets and know when something isn't normal. Perhaps their pet is eating or drinking more than usual, or seems more quiet than usual, or is having problems going up stairs. The veterinarian gets a history, which includes information such as how long the problem has been going on, what the owner is seeing that's abnormal, and any past medical problems the pet has had. This information helps the veterinarian start forming an idea of what's wrong. For example, if a pet comes in for excessive scratching, and the owner says they've recently changed their pet's food, perhaps a food allergy is the cause of the problem.

Once a history is obtained, the veterinarian performs a thorough nose-to-tail examination of the pet, checking for any abnormalities that could indicate a problem. Then, combining the history and examination findings, the veterinarian forms a list of possible causes (diagnoses) of the problem. Once that list is made, they develop a plan to figure out which of the items on the list is causing the problem. Diagnostics are performed to help figure this out. Some examples of diagnostics include blood tests, urine tests and radiographs (x-rays). The results of a diagnostic test might rule out a potential cause of the problem or clearly indicate that one of the possible diagnoses is the cause of the problem.

Once the cause of the problem has been determined, treatment is intended to improve or resolve the condition. Examples of treatments include antibiotics and many other medications or surgery.

# OVERVIEW

## Career Path Information

One of the primary goals of the game and this guide is to interest middle school students in a career involving biology, mathematics, and applied science, such as veterinary medicine.

Below is some background information on possible career paths in veterinary medicine:

- 1. Private/Clinical Practice**—Care for companion animals, food supply and farm animals, and/or other species such as horses, fish and/or pocket pets, such as hamsters, mice, guinea pigs, and gerbils. These veterinarians can also specialize in specific areas such as surgery, internal medicine, ophthalmology, oncology or dentistry.
- 2. Teaching & Research**—Veterinarians teach veterinary medicine and/or work in laboratories to develop ways to reduce or eliminate the threat of animal and human diseases. They can also care for lab animals.
- 3. Regulatory Medicine**—These veterinarians work in state and federal agencies (state departments of agriculture, United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS), Food Safety & Inspection Service (FSIS)). They oversee the quarantine and inspection of animals imported to the U.S., help ensure food safety, and work with regulatory agencies on proper drug usage by monitoring the development and testing of new vaccines for safety and effectiveness. Veterinarians are also employed as legislative staff members to impart scientific input to state and federal laws, and are on staff at the Centers for Disease Control and Prevention (CDC) working on human health issues.
- 4. Public Health**—Veterinarians work to control and prevent both animal and human diseases by investigating zoonotic diseases through the Centers for Disease Control & Prevention (CDC). Some work at the Food and Drug Administration (FDA) on safety issues with medicines and food additives. Others may work at the Environmental Protection Agency (EPA) studying the effects of pesticides and other pollutants on people and animals. Veterinarians in the Department of Homeland Security (DHS) also protect the health and safety of animals by developing disease surveillance and anti-terrorism procedures and protocols.
- 5. Uniformed Services**—Veterinarians in the US Army Veterinary Corps work on biomedical research and development. They also provide food safety and security inspections for all of the Armed Services. In addition, they are responsible for providing care to military working dogs, ceremonial horses, working animals of many Department of Homeland Security organizations, and pets owned by service members. These veterinarians are an essential component of the military medical research team, contributing their skills in the development of life saving medical products that protect all service members. Military veterinarians play a vital role rebuilding and improving animal care systems in underdeveloped and war-damaged countries, improving the health of the animals and thus improving the quality of life for the human community.

# OVERVIEW

**6. Industry**— Veterinarians work in the pharmaceutical and biomedical research arena testing and supervising the production of drugs, chemicals, antibiotics and vaccines for both humans and animals. They oversee the humane treatment of laboratory animals. They can also be found in the agricultural chemical industry, pet food companies, private testing labs, and lab animal medicine.

For more, see the [AVMA Career Brochures](#) and the Career Profiles videos from the AVMA on the [SchoolTube Channel](#).

## Resources

- [American Veterinary Medical Association \(AVMA\)](#)
- AVMA: [Career PowerPoint Presentations](#) — Downloadable PowerPoint presentations, presenter notes, and other information on veterinary medicine for different grade levels. (Designed for use by veterinarians presenting to classes, but adaptable for use by teachers and others.)
- AVMA: [Career DVD: Veterinary Medicine, It's more than you think!](#) — Free for teachers upon request, this DVD educates students, 6th grade and higher, about the diverse opportunities in veterinary medicine.
- AVMA: [Career Brochures](#) — A collection of brochures, including downloadable PDF versions in both English and Spanish, with information on careers in veterinary medicine.
- AVMA: [Knowledge Base](#) — A portion of the AVMA Web site with useful information and resources on animals, veterinary medicine, veterinary careers, materials for K-12 educators, and more.
- AVMA: [SchoolTube Channel](#) — A collection of videos on pets, veterinarians, veterinary medicine, and more that are appropriate for use in schools.
- AVMA: [YouTube Channel](#) — A collection of videos for various audiences, including pet owners and members of the AVMA, as well as schools. Only some of the videos will be classroom appropriate.
- [Cornell College of Veterinary Medicine: Veterinary Consultant](#) — A user-friendly means of searching for veterinary information by symptoms (signs) or diagnosis.
- [Merck Veterinary Manual](#) — An online version of a medical manual for veterinary professionals.
- [Web MD: Healthy Pets](#) — Web site with basic information on pet care, training, health, and more, with a focus on cats and dogs.

## Other Veterinary Medicine Sites

The following sites are geared toward people who are thinking about joining or who are already in fields related to veterinary medicine.

- [American Pre-Veterinary Medical Association \(APVMA\)](#) — Web site for the APVMA, a national organization that promotes and stimulates interest in the field of veterinary medicine and provides resources to students.
- [Association of American Veterinary Medical Colleges \(AAVMC\)](#) — Web site for AAVMC, a non-profit association dedicated to advancing veterinary medical education and facilitating numerous collaborative efforts among veterinary educators, including providing information for people interested in veterinary careers.
- [National Association of Veterinary Technicians in America \(NAVTA\)](#) — Web site for NAVTA, which represents and promotes veterinary technician as a career.

# ACTIVITIES

## Activity: Bringing the Game into the Classroom

If you have the technology to display the game in front of your class or can have individuals or pairs in front of the game at the same time, this activity will guide you through (1) getting students started with the game and (2) leading a discussion about the process of *symptoms*, *diagnostics* and *treatment*.

### Preparation:

- Arrange to either project the game in front of the class or get individuals or pairs of students into the game at the same time.
- Play through the Tutorial (Level 0) and Level 1 yourself

### Procedure:

#### 1. Get to the Tutorial (Level 0) of the game.

Explain the game scenario, as you open the game, click on Play, and select either veterinarian.

*The player is a veterinarian at the AVMA Animal Hospital. At the start of the game, they're in training, being asked to treat animals under the guidance of a senior veterinarian.*

#### 2. Play and talk through the Tutorial, Level 0.

*Some elements at this level can vary, such as the gender of the veterinarian chosen by the player, the appearance of the pet owner, and even the options offered for testing. But the animal will always be a dog with the same symptoms, diagnosis and treatment.*

- Following the tutorial arrow prompts, get the dog onto the table and the Symptoms displayed.
- Have someone read the Symptoms out loud:
  - Skin red & scaly
  - Scratches a lot
  - Loss of hair around eyes & down legs
- Discuss the two possible tests and identify which one it makes sense to do.
  - *Which symptoms might suggest that \_\_\_\_\_ would be a good possible test to do? What's your reasoning?*
  - *Which symptoms might suggest that Skin Scraping would be a good test to do? What's your reasoning?* (All three symptoms have a possible skin connection, and one is clearly about a problem with the dog's skin.)
  - Point out the help being offered by a senior veterinarian in the upper left-hand corner. He recommends a skin scraping. Explain that this expert will provide advice the first time you encounter a new medical element, but only the first time.
- Select a test to conduct.
  - If you select the incorrect option, you'll get an "Incorrect" message, but then be allowed to select the other option.
  - When you select Skin Scraping, you'll see the diagnosis: Mange.

Mange mites were seen when the skin scraping was examined under a microscope.



# ACTIVITIES

- e. Discuss the diagnosis of mange and the two possible treatments to identify which approach is more logical.
  - *What is mange?* (Mange mites were seen when the skin scraping was examined under a microscope.)
  - *Which treatment—Medicated Bath or Anti-parasitic—do you want to do? What's your reasoning?*
  - Again point out the help being offered by a senior veterinarian. He recommends a medicated bath and an anti-parasitic ointment.Both treatments are good for mange. In the game, you can select either.
- f. Select a treatment and finish out the level.

### 3. Using the **Congratulations!** screen, introduce the rest of the game.

- You've already treated a dog for mange. As you play and advance through the game, you'll treat other animals—cats, birds, turtles, and guinea pigs—for a variety of diseases.
- You'll advance from being a New Veterinarian up the ranks to eventually become Chief Veterinarian of the *AVMA Animal Hospital*.

### 4. Play (or at least start) Level 1.

The animals, symptoms, diagnosis, and treatments will be different for each game, but the overall structure of play will be the same.

- a. Explain that this is a time-management game. Pet owners will become frustrated if they have to wait too long, and you can simply run out of time.
  - Point out the clock in the upper right-hand.
- b. Play (or have players play) the level, dealing with all three owners and their pets... or as much as you can before time runs out.

### 5. Discuss the process of symptoms, diagnostics and treatment.

- Ask students to explain their understanding of the process.
- Emphasize the importance of evidence in the process.
- First, the veterinarian uses the evidence available to them—information from the owners and the findings from a nose-to-tail examination of the pet—to identify possible causes of the problem.
- Then tests are performed, and the results from those tests serve as evidence for or against possible causes of the problem.

See *Process of Symptoms, Diagnostics and Treatment* on page 5 for more.

### 6. Encourage students to play the game.

If you want, they can share their progress with you by showing you their Congratulations screen.

# ACTIVITIES

## Activity: Playing a Paper Version of the Game

This activity provides a paper version of the game tutorial, offering you the opportunity to go over the content and structure of the game without the technological and organizational challenges of using the actual game with an entire class. This paper version highlights and allows for discussion around the process of *symptoms*, *diagnostics* and *treatment*.

### Preparation:

- Make copies of the Student Sheets: *Sick Dog — Symptoms and Test*, *Skin Scraping — Diagnosis and Treatment*, and *Healthy Dog — Results*. You will need one set for each small team of students.
- Go through the treatments in this activity.
- Optional but Recommended: Play through the Tutorial (Level 0) and Level 1 of the game yourself.

### Procedure:

#### 1. Using the Student Sheet: *Sick Dog — Symptoms and Test*, present the basic AVMA Veterinary Hospital scenario.

*They are veterinarians in training. Under the guidance of a senior veterinarian, they are being asked to diagnosis and treat a sick dog with the following symptoms.*

- Skin red & scaly
- Scratches a lot
- Loss of hair around eyes & down legs

#### 2. As a class or in small groups, have students discuss the two possible tests and identify which one makes sense to do.

- *Which symptoms might suggest that Eye Scope would be a good possible test to do? What's your reasoning?* (One of the symptoms does mention eyes, but the problem seems to be with the hair around the eyes, not with the eyes themselves.)
- *Which symptoms might suggest that Skin Scraping would be a good test to do? What's your reasoning?* (All three symptoms have a possible skin connection, and one is clearly about a problem with the dog's skin.)

#### 3. Have students select a test to conduct and explain their reasoning.

- If they select Eye Scope, have them explain their reasoning but then play the role of a senior veterinarian and steer them toward—and have them go over the reasoning for—the Skin Scraping test.
- If they select Skin Scraping, have them explain their reasoning. If necessary, play the role of a senior veterinarian and get them to re-think or expand their reasoning.
- Once you are happy with their selection and reasoning, give them the Student Sheet: *Skin Scraping — Diagnosis and Treatment*.

# ACTIVITIES

#### 4. Using the Student Sheet: *Skin Scraping — Diagnosis and Treatment*, have students discuss the diagnosis of mange and the two possible treatments to identify which one it makes sense to do.

- *What is mange?* (Mange is a skin disease caused by mites. In the game, you're specifically dealing with canine demodicosis—a *Demodex canis* mite infestation.)
- *Which treatment—Medicated Bath or Anti-parasitic—do you want to do? What's your reasoning?*

#### 5. Have students select the treatment to perform and explain their reasoning.

- Again as necessary, play the role of a senior veterinarian. In this case, both treatments are good for mange. The students should have reasons why both are appropriate, and they can select either or both. (Note: In the digital game, selecting both is not an option, but selecting either results in both treatments being done.)
- Once you are happy with their reasoning, give them the Student Sheet: *Healthy Dog — Results*.

#### 6. Have students read and discuss the Student Sheet: *Healthy Dog — Results*.

#### 7. Discuss the process of *symptoms, diagnostics and treatment*.

- Ask students to explain their understanding of the process.
- Emphasize the importance of evidence in the process.
- First, the veterinarian uses the evidence available to them—information from the owners and the findings from a nose-to-tail examination of the pet—to identify possible causes of the problem.
- Then tests are performed, and the results from those tests serve as evidence for or against possible causes of the problem.

See *Process of Symptoms, Diagnostics and Treatment* on page 5 for more.

#### 8. Encourage students to play the game.

- If you want, they can share their progress with you by showing you their Congratulations screen in the game.



## AVMA Veterinary Hospital Student Sheet: Sick Dog — Symptoms and Test

Welcome to the AVMA Veterinary Hospital! It's your first day on the job!

### Bailey's Symptoms

Your first patient is Bailey. Bailey's owner is worried because Bailey has been scratching more than usual. You observe Bailey and identify the following symptoms:

- Scratching a lot
- Red and scaly skin
- Loss of hair around eyes and down legs

### Possible Tests

Select which test you think should be done on Bailey.

- Skin Scraping
- Eye Scope

### Explain your reasoning.

Share your test selection and reasoning with the senior veterinarian.

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# ACTIVITIES

## ***AVMA Veterinary Hospital*** **Student Sheet: Healthy Dog — Results**

### **Treatment and Results**

There are multiple treatments for mange. You were choosing between the two most common! Both involve treatment over time, so Bailey visits the *AVMA Veterinary Hospital* regularly for a while. When his skin scrapings stop showing mites, Bailey is back to his old self!

### ***AVMA Veterinary Hospital* Video Game**

Want to continue playing the veterinarian? Try the *AVMA Veterinary Hospital* Game! You'll get to treat dogs, cats, guinea pigs, birds, and turtles in this fast-paced and fun game! You'll start as a New Veterinarian and work your way up the ranks to become Chief Veterinarian of *AVMA Animal Hospital*!

### **The game is available at: [www.avma.org/videogame](http://www.avma.org/videogame)**

You can play online. You can also download and play on an iPad or Android Tablet!

# ACTIVITIES

## Activity: Digging into a Diagnosis— Graphing Blood Work Data

In this activity, students delve into a step of the treatment process largely skipped over in the game— analyzing the results from tests in order to make diagnoses. Specifically, students will graph data from two different types of blood tests, and then analyze their graphs to determine if the pets have a problem.

### Preparation:

- Make copies of the (two page) Student Sheet: *Graphing—Rufus and Butters*. You will need one for each student or pair.

### Procedure:

#### 1. Using the Student Sheet: Graphing—Rufus and Butters, introduce the activity.

- As appropriate, explain additional details about Rufus's case.

**ALT = alanine transaminase**

**ALKP = alkaline phosphatase**

Both are enzymes—large molecules that are important to life—found in the liver.

The blood tests results are a measure of the amount of each enzyme in the pet's liver.

These amounts are measured in U/L, which stands for units per liter.

- As appropriate, take this opportunity to go over the elements of a good graph, including:
  - A clear title,
  - Labeled axes that include units when appropriate, and
  - Consistent spacing. (The data tables in this activity both have irregularly spaced or missing data. For example, Butter's glucose table has data for Monday and Tuesday, but not Wednesday, during the first week. For the graph to be accurate, the Days axis needs to include Wednesday, even though there won't be any data for it.)

And review graphing skills.

#### 2. Have students, individually or in pairs, complete the Rufus part of the activity.

#### 3. Discuss the Rufus graph and what it suggests about Rufus's liver.

### COMPLETE GRAPH

- *Can you describe the shape or visual pattern you see in the graph?* (e.g., They both curve up; or they start low and gradually go higher; or they match each other, with both moving up.)
- *What do you think this means?* (Both tests are showing a similar increase—in the amount of enzyme in his liver—over time.)
- *How do Rufus's numbers compare to the typical values found for a healthy animal?* (Rufus's numbers were in the normal range, though they moved from the low end to the high end of that range each month except the most recent. In December, both numbers are higher than normal.)

# ACTIVITIES

- *Do you think there a problem with Rufus's liver? Why or why not?* (The results suggest a problem with Rufus' liver. Why? Because the latest numbers are higher than normal for a healthy animal, and this is part of an upward trend in his data.)

#### 4. Repeat the process with Butter's glucose levels.

### COMPLETE GRAPH

- Glucose or blood sugar levels are measured in milligrams per decilitre, or mg/dL. A decilitre is one tenth of a liter.
- Butter's insulin treatments seem to be working. Her glucose levels fluctuate, but remain in the normal range for a cat.

#### Extension:

[AVMA YouTube Video: Blood Tests for Pets](#) — A brief video about when and why veterinarians do blood tests on pets, as well as some of the kinds of things they can learn from such tests.



## AVMA Veterinary Hospital Student Sheet: Graphing—Rufus and Butter

Today at the AVMA Veterinary Hospital, your job is to help decide if two pets, Rufus and Butter, have a problem. To do this, you will look at blood test results over time.

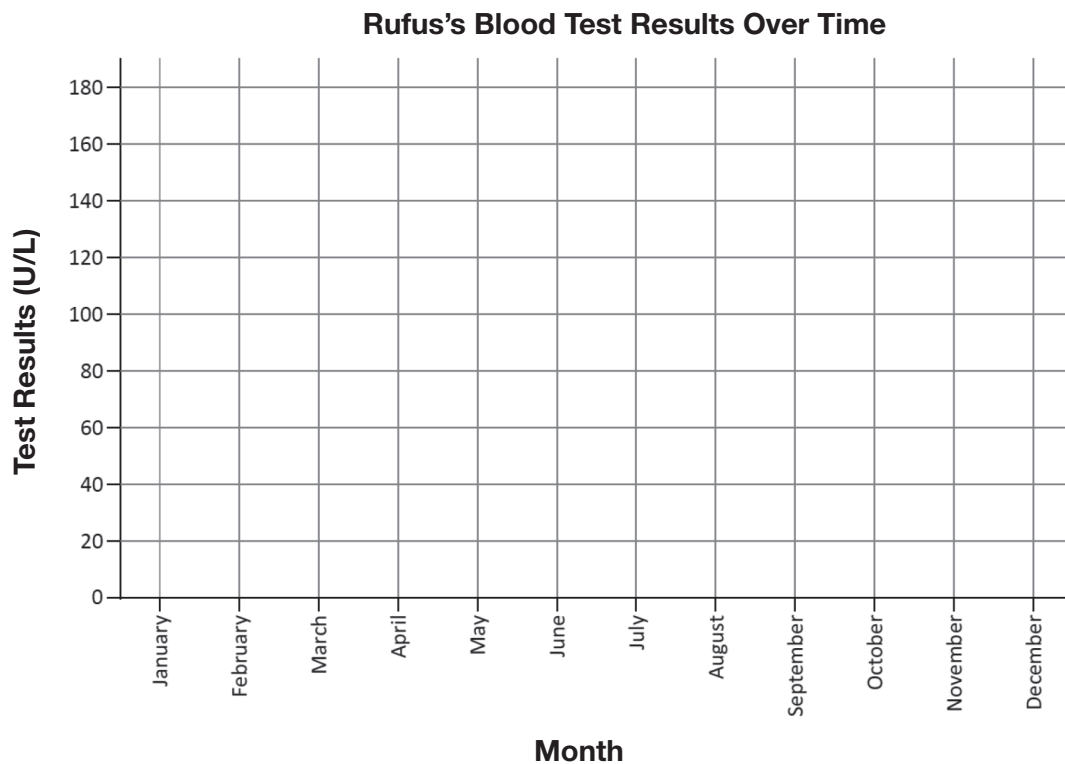
### Rufus

Paula's dog, Rufus, has an illness that might affect his liver. To keep an eye on this, his veterinarian takes regular blood samples. For every sample, they run an ALT test and an ALKP test.

Below are some of the results of Rufus's blood tests over the past year:

	January	April	July	October	December
ALT (U/L)	24	28	40	100	156
ALKP (U/L)	6	18	37	89	134

Graph these data.



Look at your graph. Consider the normal values (for a healthy animal):

ALT: 10-109 U/L

ALKP: 1-114 U/L

*Is Rufus developing a problem with his liver? Why or why not?*

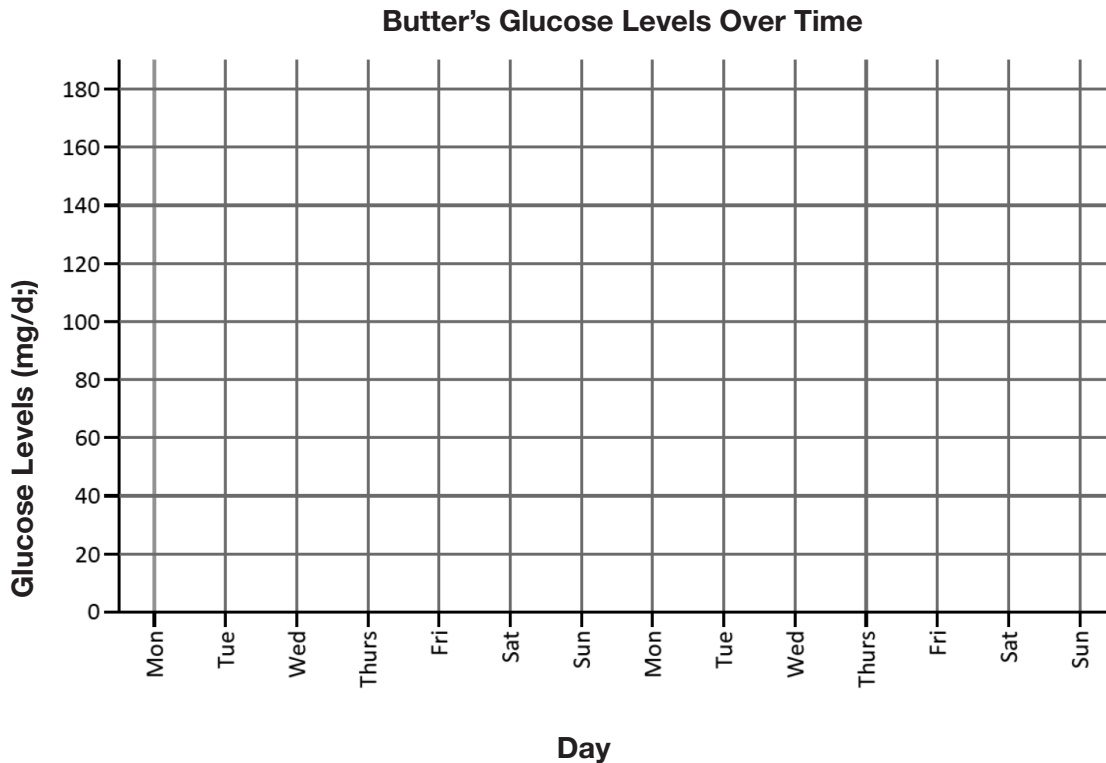
## Butter

Sandy's cat, Butter, has diabetes. Diabetes is a condition where a cat—or a different type of animal or a human—has a problem with their blood glucose (blood sugar). Both high and low glucose levels can be harmful.

Sandy gives Butter insulin every day to help control her blood glucose. Too little insulin can result in high glucose levels. Too much insulin can result in low glucose levels. To make sure that Butters stays as healthy as possible, Sandy tests Butter's glucose levels regularly. Below are some of the results.

	Mon	Tues	Thurs	Fri	Sun	Mon	Wed	Fri	Sun
Glucose Levels (mg/dl)	78	110	100	87	94	110	112	106	114

Graph these data.



Look at your graph. Consider normal glucose levels:  
60-120 mg/dl for a cat

*Is Butter's insulin treatment working like it's supposed to? Why or why not?*

## Activity: Interviewing a Pet Owner

In this activity, students interview a pet owner about their pet, gathering a combination of both specific and anecdotal information a veterinarian needs to successfully treat an animal.

### Preparation:

- Make copies of the Student Sheet: *Pet Interview*. You will need one copy for each student.

### Procedure:

#### 1. In class, introduce the activity and review the Student Sheet: *Pet Interview*.

- a. Explain that when an owner comes in with a pet, the veterinarian ask questions to gather information that can help in diagnosing any problems and keeping the pet healthy.
- b. Explain that they will go through a similar process, gathering information from a pet owner as part of conducting an interview.
- c. Review the specifics of the Student Sheet: *Pet Interview*.

#### 2. After students have conducted their interviews, lead a class discussion on what they learned.

- a. Ask questions that get your students sharing and discussing. For example:
  - *What types of pets did your students conduct their interviews about?*  
Record this information on the board or otherwise in front of the class.
  - *What type(s) of pets were most common? Why do they think this might be?*
  - *Which pet was the oldest? the youngest?*
  - *Did anyone interview someone with more than 1 pet? 2 pets? 5 pets?*  
*What was the highest number of pets? What types of pets were they?*
  - *How many of the pets had a medical condition? How many didn't?*  
Record this information in a chart.
  - *Did anyone learn anything about what a pet eats that surprised them?*  
*Why might a veterinarian care about what a pet eats?*
- b. Have a few students share the funny or interesting pet story from their interviews.

## AVMA Veterinary Hospital Student Sheet: Pet Interview

Identify someone who has a pet you find interesting. Conduct an interview with that person. Veterinarians need or want information like this on their animal patients. A veterinarian would also ask detailed questions about any signs of possible problems.

Name of Pet: \_\_\_\_\_

Name of Owner: \_\_\_\_\_

Type of Pet: \_\_\_\_\_

1. How old is the pet? \_\_\_\_\_

2. How long have you had the pet? \_\_\_\_\_

3. What, and how much, is the pet fed? \_\_\_\_\_

4. Is the pet mostly indoors or outdoors? indoors / outdoors

5. Are there any other animals in the household? yes / no

If YES, how many and what?

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### Medical History

1. Does the pet have any known medical problems? yes / no

If YES, what?

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2. Is the pet on any medication? yes / no

3. Has the pet had any illnesses, accidents, or surgeries? yes / no

### A Funny or Interesting Story about the Pet

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# ADDITIONAL MATERIALS

## Writing and Researching

The *AVMA Animal Hospital* game is a rich source of information and ideas, and can be a useful tool upon which to build writing and researching assignments.

## Scientific Explanations and Arguments from Evidence

The game is all about using scientific and anecdotal evidence to make decisions about a wide range of animals, ailments, and treatments. Consider having students use it to “construct an argument with evidence.” For example, have students record all the data for one pet in the game, from symptoms through to treatment. Then have them write a report on the case, emphasizing the role of evidence in the process.

## The Science of Veterinary Medicine

Almost any element of the game can be used as the starting point for learning. Have students choose a topic from or based on the game, research it and write a report that connects what they are learning from the research to what they experienced or learned in the game. For example:

- **Careers in Veterinary Medicine**—What does it take to become a veterinarian? What different types of veterinarians are there and what do they—or any particular one—do? What does the daily life of this specific type of veterinarian look like and how is and isn't that like what's presented in the game?
- **An Ailment from the Game**—What are the symptoms of the ailment, both those presented in the game and others? What does the ailment do to the animal? Is it a zoonotic disease; that is, does it pass between animals and humans? What are the possible treatments, both those presented in the game and others? Will the ailment affect the family? Is it a public health concern? What, if anything, can owners do to help prevent the ailment?
- **An Animal from the Game**—What's the basic information about this animal (scientific name, species, life expectancy, etc.)? What makes this animal a good pet? How does one take good care of this animal? What diseases and injuries are concerns for this animal, both those presented in the game and others? Does this animal fit your lifestyle?
- **The Process of Diagnosis and Treatment**—What's the general process of diagnosing an animal, and how does and doesn't this match with what's in the game? Is it similar to diagnosing a human? What are the steps involved?

Give the students free reign to choose any topic of interest to them from the game, or steer them toward particular elements to help connect with other activities or learning objectives in your class.

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## Scientific and Creative Stories

The game can be used to encourage writing that's both scientific and creative. For example, have students write a story as if they're one of the pet owners, describing what's happening leading up to, during, and after the veterinary visit. Alternatively, have students write as if they're the veterinarian, sharing the experiences of their day as if in a diary or with a friend. Or even have them write from the point of view of the animal, describing what they are feeling and experiencing. In all cases, the students should be presenting information on the symptoms, diagnosis, and/or treatment, but paying attention to what they would (and wouldn't) know.

## Connecting with Other Classroom Activities

The *AVMA Animal Hospital* game can connect with or be used as a motivation for many other classroom activities. Here are some suggestions to get you started.

- **Nutrition:** A number of the animals' ailments in the game are related to proper nutrition, and there are a lot of middle-school activities on dietary nutrition. If students' own nutrition is either not interesting or a touchy subject, consider opening up the topic to how nutrition is the same and different for humans and various animals.
- **Microscopes:** Many of the tests in the game involve looking at samples under the microscope. The game provides a concrete example of when and why being able to use a microscope could be important in the real world.
- **Observing Animal Behavior:** In general, students like animals, so studying them is a good arena in which to practice scientific observation and recording skills. Have your students choose a pet or other animal that can be observed for a period of time. Have them write a description and draw a picture of the animal. Then have them observe the animal for 10 minutes, noting each behavior and how often it occurs.

## Extension: A Visit by a Veterinarian

Consider inviting a veterinarian to visit your classroom to talk with your students about what the animals they treat, what they do each day, why they went into veterinary medicine, and what it took to get where they are, etc.