Web Unit Plan

Title: Teacher's Pet

Description: In an effort to choose the perfect pet for their teacher, primary students study the habitat requirements of domestic animals and learn what it takes to be a responsible pet owner. Students compare the needs of pets to those of their untamed counterparts in the wild, and students learn to be better friends to animals everywhere.

At a Glance

Grade Level: 2-3

Subject sort: Science, Math

Subject(s): Life Science, Graphing

Topics: Pets, Animals, Responsibility

Higher-Order Thinking Skills: Decision Making, Analysis

Key Learnings: Animal Behavior, Life Cycle, Habitat, Observation, Data Collection and Analysis, Making Comparisons

Time Needed: 4 weeks, 5 hours per week

Background: From the Classroom in Washington, United States

Unit Summary

The teacher announces a desire to get a pet and asks the class to help choose the perfect one. Students research common pets, discover their daily habits and needs, and compare domestic animals to their counterparts in the wild. Along the way, students learn about habitat and animal behavior, and they develop a new understanding of human responsibility for the health and happiness of all animals.

Curriculum-Framing Questions

- **Essential Question**
  Do animals and humans need each other?
- **Unit Questions**
  Can any animal be a pet?
  How are pets and wild animals similar and different?
  How can surveys help you collect and interpret information?
- **Content Questions**
  What do animals need to survive?
  What are the characteristics of a good pet?
  Why can't all animals live and thrive in the same habitat?

Assessment Processes

View how a variety of student-centered assessments are used in the Teacher's Pet Unit Plan. These assessments help students and teachers set goals; monitor student progress; provide feedback; assess thinking, processes, performances, and products; and reflect on learning throughout the learning cycle.

Instructional Procedures

Preparing for the Unit

Visit your local pet store and/or veterinary clinic to collect pet-care sheets for a variety of animals. If possible, arrange for a veterinarian to visit the classroom, or set up a field trip to a pet store or animal shelter so that the students can learn more about responsible pet care. Locate useful Internet resources that will be helpful to students as they conduct research on pets and pet care.

Introducing the Unit

On the first day of the unit, announce that you are thinking about getting a new family pet, and you would like the class to help you choose the perfect one. Discuss pets and record what the students know and wonder about them and their care in a Know-Wonder-Learn (K-W-L) chart. Ask students to think about the steps they might take to answer their questions, and record these strategies as well. Throughout the unit, read books about people and their pets, including ones that illustrate how animals became domesticated for food, labor, and companionship. Finally, describe your family household, interests, space considerations, other pets, and schedule so students can take these factors into account as they consider the best pet for your family.

After the class has filled in the K-W-L chart, tell the students you are curious about what types of pets they have in their homes. Inform the students that they will conduct a survey in order for you to find out. Discuss what a survey means and how students might conduct one. Do a sample survey polling a few students and show the students how to display the results. Check for understanding and then have students break into pairs.

Have students begin to think about the Essential Question, *Do animals and humans need each other?* Pose the question and have students list their ideas in their science journals. Follow up with a class discussion and record students' thoughts on chart paper.

Creating a Survey

To answer the Unit Question, *How can surveys help you collect and interpret information?,* students collect and analyze data from classroom members. Have each pair list the six pets they think most students in the class are likely to have. Instruct the pairs to narrow their list of six to just four to use as part of their survey. Have students open a copy of the spreadsheet template and add their four pet survey selections in columns B through E in row one of the chart, name the file, and save the changes. Prior to closing the file, have student pairs print a hard copy to use when conducting their survey. Before beginning the survey process, have students predict which type of pet they think most students have at home and record their predictions in their journals.

Conducting a Survey

After pairs create their survey forms and make their predictions, instruct them to walk around the room and poll all of the other students. Remind them that they are only to ask their classmates if they have any of the pets they have listed on their survey form. If a student they are surveying has one or more of the pets listed on the survey, instruct them to put one tally mark for each matching pet in the correct animal column next to the student's name. For example, if John says he has three cats, the student conducting the survey should make three tally marks in the cat

column next to John's name. Model the process once again for students to make sure they understand how to conduct the survey and record their data properly.

Analyzing the Data

After students poll every student in the class and collect all of the necessary data, have them tally up the total number of each pet recorded on their survey form and add the information to their charts. Then have students return to their saved spreadsheet file and record their survey data electronically. Tell students that they will transform this information into a graph so that they can "see" the results of the survey. The students may choose to do a bar graph or line graph. Show several examples of graphs (bar, line, pie chart, and so forth). Demonstrate and discuss how each type of graph visually depicts data.

Creating a Graph

Model for students how easy it is to create a graph from data when using the Insert Chart button in spreadsheet software. Project a computer image on the screen or television monitor, and demonstrate how a spreadsheet program can represent the same data in a bar chart as well as in different types of charts. Describe the function of each (for example, a pie chart shows parts of a whole, a bar chart shows numerical differences, and a line chart shows change over time), and give students practice interpreting the data. Using a spreadsheet template on the computer, set students to work in pairs making graphs to represent the rest of the survey data. Later in the project, the charts can be imported into newsletters and slideshow presentations. Allow students to select the type of graph they feel would best represent their data and assist student pairs as needed as they create graphs of their own.

Comparing and Contrasting Graphs

After all of the pairs have created their graphs, bring the class together to share and compare their graphs and collected data. Guide the discussion and ask questions as needed to ensure students are engaged, expressing their thoughts and observations, and drawing conclusions as they analyze the data that was collected. Discuss the kinds of pets classmates have and why.

Earlier predictions can be compared to the data the class obtained. A paper or Web survey completed by students in a buddy class would be a nice extension, providing more opportunities for comparison and interpretation.

Creating a Second Survey

Once students have had experience creating and conducting a survey, there may be no stopping them! To reinforce and practice their newly learned skills, ask student pairs to begin thinking about another pet survey question that would be interesting to research and find out about. Tell students that each pair will conduct a second survey, but this time each group's survey question will be different. Their task will be to come up with a unique question about pets and then to follow up by researching, surveying, analyzing, graphing, and reporting back to the class on what they learned as they attempted to answer the question. Help students develop questions for a survey about pets. Some of the questions might be similar to the following:

- *What pet do you think is the hardest to take care of?*
- *How many pets are there per student household?* (eight students have no pets, four students have one, three students have two, and so forth)
- *How many of each type of pet are owned by classmates?* (3 dogs, 8 cats, 42 fish, and so forth)

- *What's the most-wished for pet among classmates?* (8 horses, 3 dogs, and so forth)

Observe and assist groups as they complete this survey and reporting activity.

Asking Thought-Provoking Questions

Have students begin to think about the Content Question, *What are the characteristics of a good pet?* and the Unit Question, *Can any animal be a pet?* Begin to discuss what makes a pet a pet. Record the students' responses on a piece of chart paper.

Present the following scenario:

> You are a brand new pet shop owner and need to stock your store with a variety of animals before your store's grand opening next week. Your goal is to select animals that will make good pets for your customers, be easy for you to maintain while they are in the store, and sell quickly so you can earn a profit. You want your shop to be successful, and the decision you face is how to stock the store with just the right pets and the right number of each. Which pet or pets will your shop feature?

After you present the scenario, instruct students to begin researching to find out which pets they should sell in their shop. To help guide their research, post the following research questions:

- *What kind of care does the pet need?*
- *How expensive is the pet and its care?*
- *What items will need to be purchased for the pet?*

Creating Pet Store Advertisements

After students complete their research, tell them that they will create posters advertising the pets they have for sale in their new shop. Remind them that the pets they selected to sell should meet the criteria presented in the scenario and be supported by their research. If available, show students examples of advertising posters and point out how they are short and persuasive. Together with the students, establish guidelines and a list of criteria that should be included on their posters. Some sample items that could be included are a picture, a title for the poster, a short description, cost, extra supplies the animal needs, and instructions for taking care of the pet.

After the guidelines are set, demonstrate how to create a professional-looking poster using desktop publishing software. Or, show students how they can modify an existing template. Assist and guide students as needed as they create their own pet advertisements using the guidelines they have created as a reference.

After students complete their advertisements, organize students into small groups of three or four and have them share their posters. When the small groups finish sharing, bring the class back together for a debriefing session. Facilitate a discussion that leads students to draw conclusions about which types of animals make the best pets and why. Their responses should focus on animal needs, characteristics, habitat, and so forth. Afterwards, display the posters in the library, hallways, or office for other students to see.

Learning About Animal Survival

To introduce the Content Question, *What do animals need to survive?* Show the Guess That Pet slideshow presentation. Have students record their ideas in pet observation journals. (Observation journal questions can be used frequently to probe for understanding throughout the course of the unit, with students writing, drawing, or dictating their responses.) Elicit the following features during the discussion:

- space for normal behavior and exercise
- shelter
- food
- water
- air
- light
- sites for raising young (when studying wild animals later)

Introduce the term *habitat* as the term that encompasses these features. Other questions may include the following:

- *Do animals and humans need each other?*
- *What are our responsibilities to our pets?*
- *How are pets and wild animals similar and different?*
- *What are the characteristics of a good pet?*
- *What are the characteristics and habits of pets and wild animals?*

Exploring Animal Habitats

After you help students understand what it takes for an animal to survive, lead students in a discussion about the differences between simply surviving and thriving. Follow up the discussion with the Content Question, *Why can't all animals live and thrive in the same habitat?* To explore and help students answer this question, write a variety of habitats/environments on separate pieces of paper and distribute them to the students. For example, you might write forest, ocean, house, backyard, apartment, beach, desert, farm, and rainforest. Collect pictures of domesticated and wild animals. Give each student a habitat/environment card and an animal card. Have students decide if the given animal could live and thrive in the given environment. Have them record their thoughts on whether they think the animal could survive, and then whether the animal could thrive. Have students share with the whole group which animal and environment they have and why they think the animal can or can't survive and thrive in the environment. Next, have students switch animal cards but keep their environment cards. Students can continue to record their answers with the new animal. Depending on time, you can have students keep the animal and switch environments. Have students share what they discovered in whole-group discussion. The Unit Question, *Can any animal be a pet?* could be addressed after this activity and student responses charted on chart paper or recorded in their journals.

Observing Animal Behavior

As a homework activity, have students engage in the systematic observation of a pet. Students who do not have pets can arrange to do observations of the pet of a friend, neighbor, or relative. Discuss which activities they will most likely observe and include these in a modified animal observation form. Using this form, show students how to record their observations, sampling pet behavior every 30 minutes for three hours. Practice a bit of this in class beforehand, using the class pet as the subject. When the home observation is complete, students should answer associated questions about their experiences for later discussion.

Back at school, hold a discussion, and let students compare their observations. Discuss corollary behaviors between pets and their wild counterparts, drawing from the direct observations (for example, "My cat goes to a bowl to eat, eating is not a big focus of her day, and she relies on me. A lynx gets its own food and spends a lot of its day hunting. It relies on itself, and humans would get in its way.")

Creating a Student Editorial Newsletter

Arrange for small groups to cycle through the computer lab. Students will develop the component articles for a pet newsletter about the domestic animal they have been studying. The newsletter addresses and answers the Essential Question, *Do animals and humans need each other?* as well as many of the Unit and Content Questions.

Hand out the newsletter student rubric to students and answer any questions students may have before they get started. Students use this rubric to self-assess their newsletters. When rough drafts of the articles are complete, have students share their work with one another to get ideas for revisions, using the rubric as a guide. After final drafts of the articles are complete, help students assemble them into a newsletter. Use the newsletter teacher rubric to assess student learning.

Comparing Domestic and Wild Animals

To help students understand and answer the Unit Question, *How are pets and wild animals similar and different?,* break students into groups and assign a domestic animal and its wild cousin to each (for example, cat/lynx, dog/wolf, guppy/trout, budgie/warbler). Student groups conduct research on both animals to compare the similarities and differences. Show students how to list the comparative features in a T-chart, which will later serve as the basis for their multimedia presentations. Students should research the following information: universal elements of habitat, habitats, and needs of domestic animal and wild counterpart. After the T-charts have been completed, have students create Venn diagrams using the information on their T-charts to display the similarities and differences between the pet and the wild animal counterpart. Review T-charts and Venn diagrams and modify instruction as necessary.

Creating Student Multimedia Presentations

After the students complete their research, tell the groups that they will create a multimedia presentation that summarizes their learning and teaches the rest of the class about their domestic pet and its counterpart. The presentations should address the questions discussed earlier and include the following components:

- Title slide
- Explanation of universal elements of habitat (space, shelter, food, water, air, light, and sites for raising young)
- Description of daily habits and needs of the domestic animal
- Description of the daily habits and needs of the wild counterpart
- Explanation of how people can be good friends to both

Hand out the presentation checklist to students and answer any questions they have before they get started. Have students use the checklist as a guide while they complete the presentation. Ask students to begin by developing a rough draft on paper. Schedule student conferences to ensure all components are complete, to edit for grammatical errors, and to answer questions students might have. Once students have a clean rough draft, instruct them to create their presentation on the computer. Have each group present their project to the rest of the class. Facilitate a debriefing

session after each group presentation. Allow time for students to ask questions, share thoughts, and draw conclusions about what they learned. Use the presentation scoring guide to assess student presentations.

After all of the groups have presented, lead them in a discussion that addresses the Essential Question, *Do animals and humans need each other?* Elicit responses and add them to the chart paper that was started at the beginning of the unit.

Stating Their Case

Inform students that their final activity will be to make a case for the pet they think you should get. Demonstrate how facts and persuasive language combine for a convincing proposal. Their choice should be based on consideration of your family household as well as the needs of the pet. Students should also address the Essential Question in their proposal as to why they think you need the pet and why the pet needs you. Allow students to choose the medium (poetry, paneled cartoon strip, slideshow, song, and so forth) they will use to present their choice.

Extending the Learning: Creating Lost Pet Posters

If time allows, have students complete this optional but very fun activity. Tell students that they will create a lost pet poster for their own pets, pretend pets, or stuffed animals. Help students brainstorm and finalize a list of what should be included on the poster. This list may include items such as a description of the pet, contact information, a picture of the pet, and any reward offered. After the list of required elements is established, assist and guide students as they create their own lost pet posters using a desktop publishing program. After the posters have been completed, hide pictures of the pets or stuffed animals somewhere around the school grounds. Post the lost pet signs around the school, and enlist the help of other classes to help you find your pets. Seeing the posters, students from other classes look for the pets and return them to the class for a reward.

Prerequisite Skills

Basic computer skills, such as using the mouse, keyboarding, saving, and printing

Differentiated Instruction

Resource Student

- Break down each assignment into its component tasks
- Assign the student to groups with helpful partners, give additional adult assistance, extra time to complete work, and task modifications as determined by their Individual Education Plan (IEP)
- Use templates and other scaffolds to help the student in the development of the final project

Gifted Student

- Have the student serve as an expert in reading, writing, or technology
- Have the student interview a pet shop owner to learn what it takes to run and turn a profit in the business and report back to the class
- Have the student e-mail a wild animal rescue center and find out what can be done to help in the efforts and report back to the class
- Have the student conduct research on an aspect of pets/animals or habitat that goes beyond the focus in class

English Language Learner

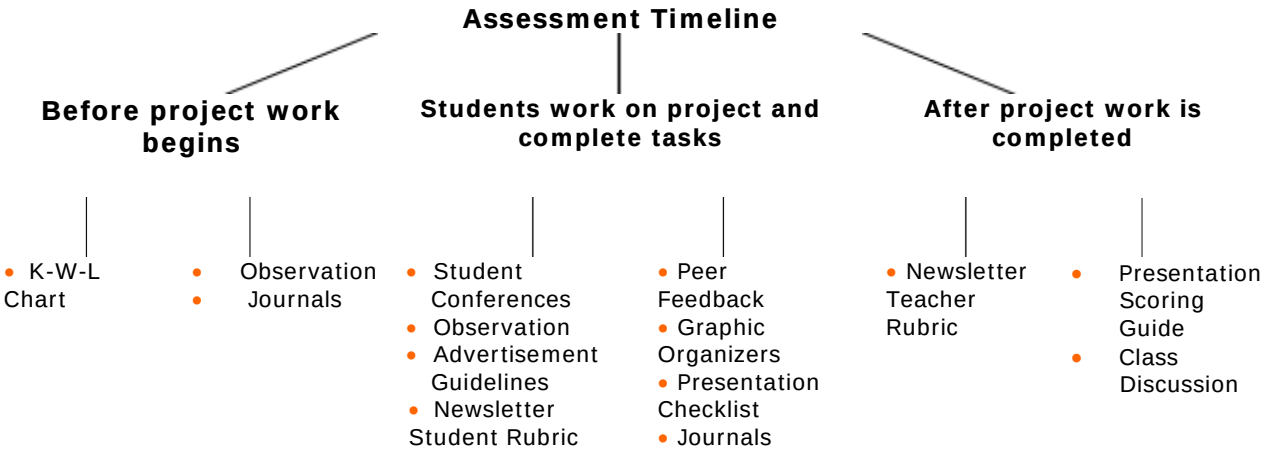
- Have the ELL teacher help the student translate basic terms into an English/first language glossary
- Post translated terms around the room
- Have the ELL teacher explain difficult concepts to help the student complete journal entries and conduct research
- Have the student complete journal entries in the student's native language and save for later translation
- Adapt assignments or allow more time for completion
- Give the student templates and other scaffolds to help in the development of the final project

Credits

Jennifer Bills participated in the Intel® Teach Program, which resulted in this idea for a classroom project. A team of teachers expanded the plan into the example you see here.

THINGS YOU NEED (highlight box)

Assessment Plan



Students demonstrate their learning frequently by responding to observation journal questions. Frequent probes allow instruction to be adjusted in a responsive way. A K-W-L chart assesses students' prior knowledge and is used to assess what students learn throughout the unit. Frequent conferences during projects are held between the teacher and students to make sure students are on track and receive the help and feedback they need before the final product is due. Students help set the guidelines for components of an effective advertisement and then use these to assess their work. The newsletter is assessed by using the newsletter student rubric and newsletter teacher rubric. A presentation scoring guide and presentation checklist are useful for setting expectations, keeping students on track, and assessing the final presentations.

Content Standards and Objectives

Targeted Oregon Content Standards and Benchmarks
Science: Life Grade 3

- Understand structure, functions, and interactions of living organisms and the environment
- Describe the characteristics, structure, and functions of organisms
- Recognize characteristics that are similar and different between organisms
- Describe a habitat and the organisms that live there
- Identify how some animals gather and store food, defend themselves, and find shelter

National Educational Technology Standards (NETS)

Performance Indicators for Technology Literate Students (Grades Pre-K-2)

- Use input devices (such as mouse, keyboard, and remote control) and output devices (such as monitor and printer) to successfully operate computers, VCRs, audiotapes, and other technologies
- Use a variety of media and technology resources for directed and independent learning activities
- Use developmentally appropriate multimedia resources (such as interactive books, educational software, and elementary multimedia encyclopedias) to support learning
- Create developmentally appropriate multimedia products with support from teachers, family members, or student partners
- Use technology resources for problem solving, communication, and illustration of thoughts, ideas, and stories

Math: Probability and Statistics Grade 3

- Collect, organize, interpret, display, and describe data using number lines, bar graphs, and line graphs
- Collect and organize data to answer a question or test a hypothesis
- Draw conclusions based on the collected data and communicate results
- Use concrete materials to analyze data for the most frequent, least frequent, more, and less range
- Interpret data and determine the reasonableness of statements made about the data

Student Objectives
Science

Students will be able to:

- Describe the characteristics and habits of domestic animals and compare them to their counterparts in the wild
- Describe a variety of animal habitats and how they support the animal

- Understand that a pet relies on humans to stay healthy and happy
- Understand that wild animals need undisturbed natural habitats to stay healthy and happy

Math

Students will be able to:

- Create charts and graphs to record survey and observation data
- Interpret meaning and make decisions based on visual displays of data
- Complete word problems related to graphs (finding difference, range, and so forth)

Process Skills

Students will be able to:

- Work cooperatively in small groups
- Document observations in a journal or learning log
- Ask questions, gather research, organize information, prepare data, and present findings orally and in writing

Resources

Materials and Resources

Printed Materials

Nonfiction books

Pringle, L. (2001). *Scholastic encyclopedia of animals*. New York: Scholastic.

Taylor, B. (2000). *Animal encyclopedia*. New York: DK Publishing Inc.

Wilson, D. E. (2001). *Animal: The definitive visual guide to the world's wildlife*. New York: DK Publishing Inc.

Pet Care

Bartlett, R. D. (1998). *Snakes: Everything about selection, care, nutrition, diseases, breeding, and behavior (Barron's complete pet owner's manuals).* Hauppauge, NY: Barron's Educational Series.

Berman, R. (2000). *My pet dog (All about pets)*. Minneapolis, MN: Lerner Publications.

Evans, M. (2001). *Kitten: Pet care guides for kids (ASPCA pet care guide)*. New York: Dorling Kindersley Publishing.

Animal Magazines

Wild Animal Baby, National Wildlife Federation

Ranger Rick, National Wildlife Federation

Your Big Backyard, National Wildlife Federation

Fiction Books

Brown, M. (1993). *Arthur's pet business: An Arthur adventure*. New York: Little, Brown and Company.

Leaney, C. (2003). *Taking care of Mango: A story about responsibility*. Vero Beach, FL: Rourke Publishing.

Supplies

Basic art supplies

Reward items for the "lost pets"

Internet Resources

For Students

- 411Pets
  www.411pets.com/PETS/UNUSUAL_PETS*
  Information about unusual pets
- Allpets.com
  www.allpets.com*
  Links to individual pages on the care of dogs, cats, birds, fish, reptiles, and more
- American Veterinary Medical Association
  Care for Pets*
  Information about pets and the people who care for them
- The Electronic Zoo
  http://netvet.wustl.edu/ssi.htm*
  Animal resources
- ExoticPets.com
  www.exoticpets.com*
  Information about caring for unusual pets
- Fact Monster-Pets by the Learning Network
  www.factmonster.com/pets.html*
  Fun facts about all kinds of pets
- Insect and Classroom Pet Guide
  http://web2.airmail.net/kboyle/Insects.htm*
  Guide on interesting facts and how to care for pets in the classroom
- Pet of the Day
  www.petoftheday.com*
  Features a pet of the day with interesting facts
- Whitehouse Pets
  www.presidentialpetmuseum.com/whitehousepets-1.htm*
  Descriptions and pictures of presidential pets

For Teachers

- Pets
  http://edtech.kennesaw.edu/web/pets.html*
  Great list of links

Technology—Hardware

- Computers to complete multimedia presentations, newsletters, and animal posters
- Printer to print projects
- Projector to model and demonstrate how to create a graph using data
- Internet connection to complete animal research and view Web sites

Technology—Software

- Database or spreadsheet to create survey forms, record data, and create graphs
- Desktop publishing to create pet shop advertising poster, newsletter, and optional lost pet poster
- Multimedia software to create student slideshow presentations
- Encyclopedia on CD-ROM for pet and animal research