



Pet Overpopulation

Activity Overview and Objective

Students will be able to understand the impact and importance of spaying and neutering pets on the problem of pet overpopulation.

Connections to Standards

Michigan Standards in English Language Arts

Reading: Foundational Skills:

RF 3.3, 4.3, 5.3: Know and apply grade-level phonics and word analysis skills in decoding words

RF3.4, 4.4, 5.4: Read with sufficient accuracy and fluency to support comprehension.

Writing:

W3.1, 4.1, 5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons.

W3.2, 4.2, 5.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

W3.3, 4.3, 5.3: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

W3.4, 4.4, 5.4: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Speaking & Listening:

SL3.1, 4.1, 5.1: Engage effectively in a range of collaborative discussions on grade level topics and texts.

SL3.3, 4.3, 5.3: Ask and answer questions about information from a speaker, offering appropriate elaboration and detail (3). Identify reasons and evidence to support particular points (4). Summarize the points and explain how each is supported by reasons and evidence (5).

Language:

L3.1, 4.1, 5.1: Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.

L3.2, 4.2, 5.2: Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.

L3.3, 4.3, 5.3: Use knowledge of language and its conventions when writing, speaking, reading, or listening.

L3.4, 4.4, 5.4: Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade-level content.

Michigan Standards in Mathematics

Operations & Algebraic Thinking:

3.1OA, 4.1OA, 5.1OA: Interpret products of whole numbers and a multiplication equation as a comparison.

Number & Operations in Base Ten:

3.2NTB, 4.2NTB: Fluently read, write, add and subtract multi-digit whole numbers using base-ten numerals number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

3.4NTB, 4.4NTB, 5.4NTB: Fluently add and subtract multi-digit whole numbers using the standard algorithm.

4.5NTB: Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Michigan Science Standards

3-LS4-3: Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Lesson Overview

Activities

Choose the activities that best match the interest and needs of your students.

- ☞ Discuss Pet Overpopulation
- ☞ “Ping-Pong Cats” Activity
- ☞ Read a Story About Pet Overpopulation
- ☞ Discussion About Spaying & Neutering Pets
- ☞ Complete “Cat Math” Worksheet

Materials

Ping-pong Balls or other small objects (need at least 30-50 items)

Poster paper

Crayons and markers

It’s Raining Cats and Cats, or *It’s Raining Pups and Dogs*, books by Jeanne Prevost

Worksheets: “Reasons to Spay or Neuter Your Pets”, and “Cat Math”

Community Connection

- ◆ Visit a local shelter
- ◆ Invite a speaker from a local humane society to your classroom



Pet Overpopulation

Procedure

1. **Help students define the word “overpopulation”** by breaking it up into its root word and adding the prefix and suffix. Ask them what the word refers to when talking about our pets. **Discuss** why this is a problem in our country and list their ideas on chart paper. **Discuss** the terms “spay” and “neuter”, and explain that this is the surgery that animals go through to make it so they can’t have babies anymore. Many students might say this is “mean” or “unfair”; kittens and puppies are so cute! Reinforce the concept of overpopulation, and explain that there are already too many unwanted animals, and that spaying and neutering helps reduce the number of more unwanted pets.
2. Tell students that we are going to **demonstrate how quickly animal overpopulation can occur.**
 - a) **Ask one student to volunteer to “adopt” a cat from the local humane society,** and give the student a ping-pong ball to represent the cat. (Before this activity, you may want to draw cat faces on the ping-pong balls.) Explain that this cat was already spayed or neutered. Ask the student, “How many cats do you have today?” (1); “How many cats will you have tomorrow?” (1); “How many cats will you have next year?” (1). Explain that this student is very responsible, since they are not contributing to pet overpopulation any further.
 - b) **Now ask a different student to volunteer to be a little less responsible, by adopting an unneutered or unspayed kitten,** and allowing it to have litters of kittens. Give this student a ping-pong cat. **Explain that on average, a cat will have 2-3 litters per year, and can have up to 8 kittens per litter** (sometimes even more!) Ask the student, “How many cats do you have today?” (1); “How many cats will you have tomorrow?” (1); “How many cats will you have next year?” Interrupt the student by piling an additional 1-8 ping-pong balls to their cat, explaining that the cat had kittens. Now, you may ask other students that want to volunteer to adopt some of these kittens.
 - c) **For each new student that takes a “kitten”, ask if they would like to be responsible and spay or neuter their cat, or if they would like to be irresponsible and let their cat have kittens.** (Have students with spayed or neutered kittens move to one side of the room.) After all kittens have a new owner, explain that while we were looking for homes, the original unneutered cat had another litter of kittens, and that all the other students with unneutered cats also had a litter, and give each student and additional 1-8 ping-pong balls.

Pet Overpopulation



PET OVERPOPULATION, LESSON 3

Procedure

- d) Generally, at this point, students will start getting a little excited, and it may be time to stop. Alternately you may continue this activity until all students have a kitten, or as you see fit.
3. Students will return ping-pong balls and go back to their seats. **Explain to students that a pair of cats and their kittens can produce up to 420,000 kittens in 7 years!**
4. **Read** the book, *It's Raining Cats and Cats* or *It's Raining Pups and Dogs*.
5. **Explain that there are other advantages to spaying and neutering pets, and pass out the worksheet, "Reasons to Spay or Neuter Your Pet."** Have students **take turns reading** each item, and briefly **discuss each as a class**. Ask students to **help define** new words and answer any questions students may have. (Note, the last point talks about euthanasia from overpopulation. Approach the topic delicately, to help them understand the true impacts of pet overpopulation.)
6. Pass out "Cat Math" worksheet and **allow students to calculate answers**. (It can be completed together as a class for students learning to multiply.) **Review answers together**.