



NEBRASKA
HUMANE
SOCIETY

Where help becomes hope.

Adding Up Pet Populations

Suggested Grade Levels: 1-3

Subject: Mathematics

Character: Responsibility

Materials and technology to be used:

- Counting manipulatives – **x32 or more per student**
- Small cups to hold the manipulatives – **x1 per student**
- “Adding Up Pet Populations” worksheet – **x1 per student**
- Writing utensils – **x1 per student**
- Exit Tickets (can be whatever material you choose – Post It notes, scrap paper, formal tickets, etc.) – **x1 per student**
- “Pet Overpopulation Coloring Sheet” - **x1 per student**

Objective(s):

Students will learn about “populations” and “pet overpopulation.” They will also learn why it is important to control pet overpopulation.

Anticipatory Set/Hook:

Display the lesson’s manipulatives in plain sight of the students (perhaps use an animal dish or decorate a box as an animal shelter or doghouse). Ask the students to show you with their fingers how many pets they currently have at home. Now ask them to show you with their fingers what their (realistic) dream number of pets would be. Let students know that owning even **one** pet is a huge responsibility! This lesson is going to teach students one very important aspect of being a responsible pet owner.

Lesson Beginning:

1. Define “population” and discuss examples of populations of people, pets, and wild animals.
Population = all the inhabitants of a particular town, area, or country
2. Ask: “Has anyone ever heard of the word “overpopulation?”” Call on select students to explain their definitions. Define “overpopulation” and discuss the issue of “pet overpopulation”.

Pet overpopulation means that there are too many pets being born and not enough homes for them all. Because people take care of pets, they are also in charge of their populations. Over the course of many years, our society has not properly controlled pet populations and we now have many pets that are ending up at animal shelters, like the Nebraska Humane Society, and others are without homes and living on the dangerous streets.

3. Ask: "Why do pets need to live in homes and be taken care of by people?" For this question, have students form an inside circle and an outside circle, facing each other, and rotate twice to share with two different partners in the circles.

Discuss the fact that pets depend on people for all their needs and cannot survive on their own.

4. Ask: "What can happen to pets when they do not have homes and end up living on the streets?" For this question, have students share with each other first by utilizing 'Stand Up, Hand Up, Pair Up' (see video example below).

Discuss the many dangers they might encounter, such as getting hit by a car, harsh weather, ingesting a poisonous substance, fighting with other animals or being abused by people.

"Stand Up, Hand Up, Pair Up" Kagan Structure:

<https://www.youtube.com/watch?v=xOUPvzaY7H0>

5. Pose a question to the class – "How can we solve this terrible problem of pet overpopulation?". Explain what "spay" and "neuter" surgery is and why it is so important.

These are two different types of surgeries that make animals unable to have babies. Pets that have this simple surgery will not have litters of unwanted babies. They will also be healthier and live longer lives, because this surgery helps to prevent various types of cancer and infections. It can also help pets become friendlier and less aggressive. The NHS has five, full-time, skilled veterinarians who spay and neuter all dogs, cats, and rabbits before they are adopted out. This in turn limits the number of animals without homes in the world.

Middle of Lesson:

1. The first activity will illustrate how litters of cats and dogs can add up very quickly. Give each student a cup of manipulatives. Have them take out two "cats" or "dogs" and pretend that one is a male and one is a female. Work through the below situations with the students:
 - a. They did not get their pets spayed and neutered, so shortly after they turned 6-months old, they produced a litter of 6 babies. Each child should take 6 more "pets" out of their cup and add them up. "How does it feel to have eight pets in your home now?" If a lot of students are expressing humor, excitement and/or contentment, ask: "Is it difficult to care for that many pets?", "Do you have enough time and money to care for them all?", "How are you going to clean up after them all?"
 - b. Have the students pair up the pets that they currently have (4 pairs each). They still have not spayed or neutered their pets, so, each pair will produce 6 more babies. Have them take out 6 pets per pair and add them up. "How many do you have now?" *32 pets!*
Discuss what kinds of problems they may have caring for this many pets...

- c. You can continue the activity as long as you would like. This exercise helps students realize how the populations of companion animals can quickly get out of control, and why it is so important that people make responsible and compassionate decisions, like spaying and neutering their pets.

End of Lesson:

1. Pass out the "Adding Up Pet Populations" worksheet. Students can either complete this practice individually or the teacher may choose to guide this practice as a whole-group.
2. Allow students the option to continue using the manipulatives to finish the worksheet.

Closure:

1. Discuss the results of the worksheet.

What surprised students the most about the math problems? What did they learn about pet overpopulation? How does spay and neuter surgery help solve the pet overpopulation problem?

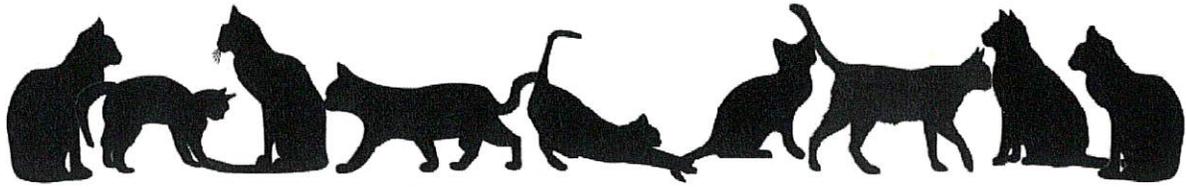
2. Before students leave the lesson, have them write their ideas to the following question on an exit ticket: "What are some other things people can do to help reduce pet overpopulation?"
Discuss their ideas later...

- adopting pets from an animal shelter like NHS
- being a responsible pet owner and making sure your pets are safe, happy and healthy
- making a commitment to your pets for as long as they live
- having your pets live inside so they don't have the opportunity to get lost
- making sure that your cats and dogs are always microchipped, wearing collars, and identification tags
- promote spaying and neutering pets through posters and advocacy

Extension:

Send the "Pet Overpopulation Coloring Sheet" home with students!

Adding Up Pet Populations



1. You started with two pets and they had a litter of six babies, how many total pets did you have? Write out the addition problem:

2. Take the total number above and divide it into pairs. If each pair has six babies, what is your total number of pets? Write out an addition problem and a multiplication problem that shows how you came up with your answer.

3. Take your answer from question #2 and figure out how many pairs you now have. Write out the division problem.

4. Take your answer from question #2 and double it. How many pets do you have now? Write out the addition problem.

PET OVERPOPULATION

There are too many dogs and cats in this country.
Every day, thousands are born for whom no homes exist.

Only 1 in 10 will find a home.

PLEASE SPAY OR NEUTER YOUR PETS!

