

Numeracy | Animal Arithmetic Activities

'Pet Populations'

Students are to make sensible estimates before attempting this exercise. Students then calculate this activity and compare their estimates with their calculations. It is assumed that students are familiar with the following terms: *Addition*; *Multiplication*, and *Number Patterns*.

Answer: In one year you would have a total of **53** cats (this does not include the amount of kittens that Flora's sons would be helping produce). Spaying a female cat will stop her producing unwanted kittens.

'The Value of Animals'

Students are to choose and construct quality data displays (frequency tables, bar charts and histograms) to communicate significant features in measurement data. It is assumed that students are familiar with the following terms: *Collection of Data*; *Tally and Frequency Table*; *Stem and Leaf Graph*; and *Bar Graph*.

'How Much is that Doggy in the Window? Pet Cost Analysis'

Students are to make sensible estimates and check the reasonableness of the costs of owning an animal. This exercise demonstrates a student's knowledge of the mathematics of number patterns.

Numbers, Statistics, Graphs and Money

The numeracy skills units in VCAL are based on the concept that the application of mathematic skills can't be separated from social examples and that skills and knowledge are best developed when applied to real life situations.


- personal organisation—money time and travel
- interpreting society—reflecting on numerical statistical and graphical information of relevance to self, work or community.
- practical purposes—designing, making or measuring



Numeracy | Pet Population - How do we get so many?

Victorian Animal Shelters receive 48,000 unwanted cats and kittens each year¹. The answer to this maths problem will help us understand why there are so many homeless pets.

After reading each sentence, write the number of cats in the box.

| | | |
|--|---|--|
| <p>You have ONE unspeyed female cat. Her name is Flora</p>  | <p>1. In January Flora has FOUR kittens; two female and two male</p> | $\square + \square = \square$ A. |
| <p>2. In June Flora has her second litter of FOUR kittens</p> | <p>3. AND her TWO daughters have FOUR kittens each (4 + 4)</p> | $\square + \square = \square$ B. |
| <p>4. In November Flora has her third litter of FOUR kittens</p> | <p>5. Her FOUR daughters each have a litter of FOUR kittens (4x4)</p> | <p>6. AND her FOUR granddaughters each have a litter of FOUR kittens (4x4)</p> |
| $\square + \square + \square = \square$ C. | <p>Add subtotals (squares A. B. and C.) = \square</p> | |
| <p>This is the total number of cats born to ONE unspeyed female cat in ONE year!</p> | | |

¹ Data provided by the Cat Crisis Coalition, 2005

Numeracy | The Value of Animals

We often form opinions of animals based on our experience of them.

Write down, if possible, one **good** experience you may have had with an animal.

Write down, if possible, one **bad** experience you may have had with an animal.

Rate the following animals in order of importance, according to your own personal opinion. Do not spend time reflecting on your decisions. Do not compare your rating with anybody else.

| | | | |
|-------|--------------------------|-------|--------------------------|
| Rat | <input type="checkbox"/> | Cat | <input type="checkbox"/> |
| Dog | <input type="checkbox"/> | Whale | <input type="checkbox"/> |
| Human | <input type="checkbox"/> | Cow | <input type="checkbox"/> |



The Value of Animals (cont'd)

Now—compare your results with the class. Record the class results in the table below.

| | | | | | | | | | | | | |
|-------|--|--|--|--|--|--|--|--|--|--|--|--|
| Rat | | | | | | | | | | | | |
| Dog | | | | | | | | | | | | |
| Human | | | | | | | | | | | | |
| Cat | | | | | | | | | | | | |
| Whale | | | | | | | | | | | | |
| Cow | | | | | | | | | | | | |

... continue here ...

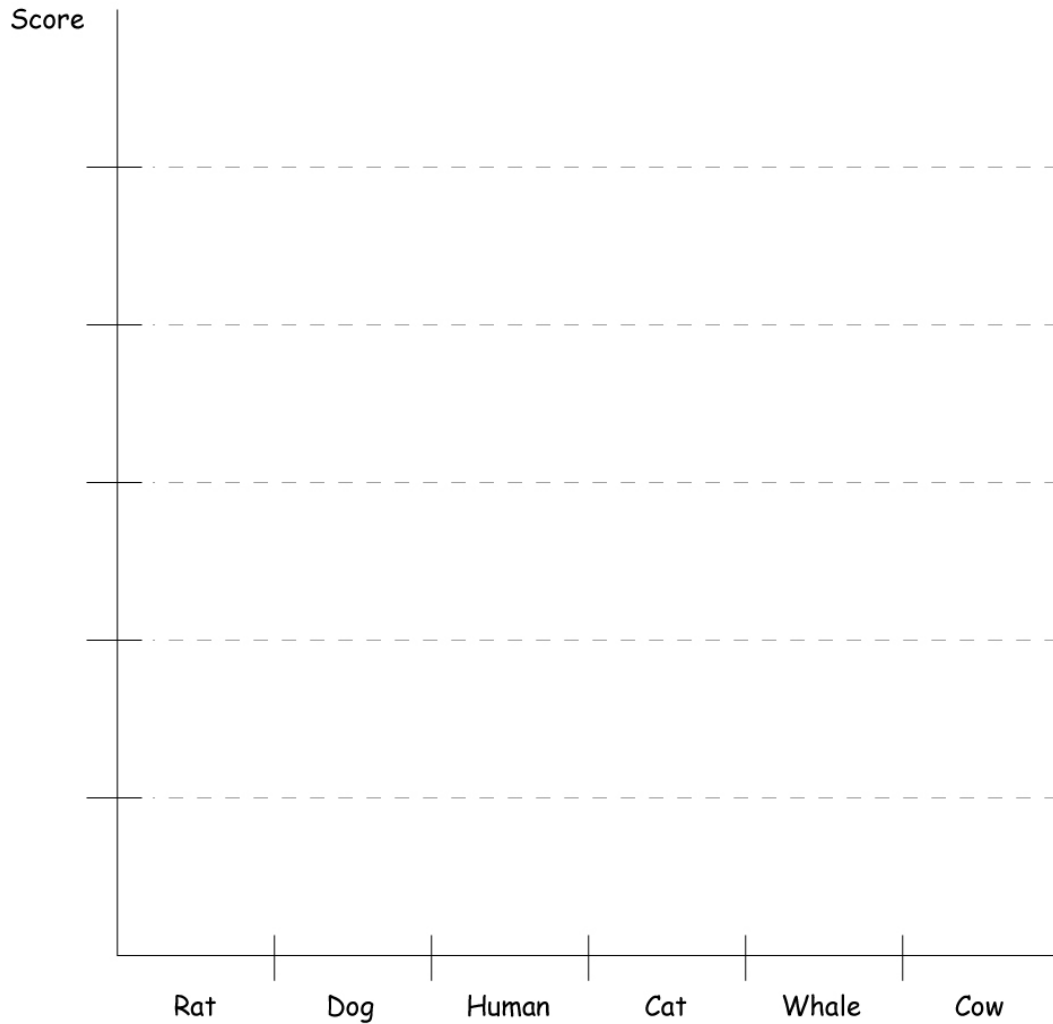
| | | | | | | | | | | | | |
|-------|--|--|--|--|--|--|--|--|--|--|--|--|
| Rat | | | | | | | | | | | | |
| Dog | | | | | | | | | | | | |
| Human | | | | | | | | | | | | |
| Cat | | | | | | | | | | | | |
| Whale | | | | | | | | | | | | |
| Cow | | | | | | | | | | | | |

... and here ... if there are more students in your class.

| | | | | | | | | | | | | |
|-------|--|--|--|--|--|--|--|--|--|--|--|--|
| Rat | | | | | | | | | | | | |
| Dog | | | | | | | | | | | | |
| Human | | | | | | | | | | | | |
| Cat | | | | | | | | | | | | |
| Whale | | | | | | | | | | | | |
| Cow | | | | | | | | | | | | |

The Value of Animals (cont'd)

Construct a graph using the axes below.



Should we protect animals even if we don't like them?

Why?

The Value of Animals (cont'd)

How much is that doggy in the window?

Use the Cost Analysis table on the following page to estimate the cost of your family pet/s. If you do not have a pet in your home, use a friend's or neighbour's pet for this exercise.

Tick all the items used and calculate the total cost for ONE year. Consider the last 12 months only.

Describe how your family budgets to meet these costs.

On a scale from 1 to 10, list the most important (1) to the least important (10) things you must provide to ensure you have a happy and healthy pet.

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

The Value of Animals (cont'd)

Animal Cost Analysis Table

| x factor | Cat (\$) | Dog (\$) |
|-------------|----------|----------|
|-------------|----------|----------|

A. Initial cost of animal (choose one only)

| | | | |
|--|--|--|--|
| Pedigree (breed/show) Cat \$800 / Dog \$1,000 | | | |
| Pedigree (pet shop) Cat \$500 / Dog \$750 | | | |
| RSPCA or shelter adopted Cat \$85 / Dog \$210 | | | |
| A. Cost of animal | | | |

B. Equipment

| | | | |
|------------------------------|--------------------|--|--|
| Collar | \$10.00 | | |
| Lead | \$20.00 | | |
| Identification disk | \$12.00 | | |
| Comb/brush | \$12.00 | | |
| Food and water bowls (x2) | \$16.00 (for 2) | | |
| Litter tray | \$8.00 | | |
| Carry box | \$55.00 | | |
| B. Cost of equipment | | | |

C. Veterinary fees

| | | | |
|--------------------------------------|----------|--|--|
| Initial vaccination | \$60.00 | | |
| Vet consult & booster vaccination | \$60.00 | | |
| Desexing (spey) female | \$120.00 | | |
| Desexing (neuter) male | \$80.00 | | |
| C. Cost of veterinary fees | | | |

The Value of Animals (cont'd)

Animal Cost Analysis Table (cont'd)

| x factor | Cat (\$) | Dog (\$) |
|----------|----------|----------|
|----------|----------|----------|

D. Food

| | | | | |
|--------------------------------------|---------------------|-------|--|--|
| Cat food (1 tin per day) 400gm | \$1.10 per tin | x 365 | | |
| Dog food (1-2 tins per day) 700gm | \$1.85 per tin | x 365 | | |
| Dry food (premium) | \$0.40 per serve | x 365 | | |
| D. Cost of food | | | | |

E. Other items

| | | | | |
|-------------------------------------|---------|------|--|--|
| Litter - 15kg bag (per month) | \$15.00 | x 12 | | |
| Worming (per month) | \$5.00 | x 12 | | |
| Flea treatment (per month) | \$10.00 | x 12 | | |
| Registration - cat (annual) | \$20.00 | x 1 | | |
| Registration - dog (annual) | \$30.00 | x 1 | | |
| Other ? | | | | |
| E. Cost of other items | | | | |
| Total (add A, B, C, D and E) | | | | |

The Value of Animals (cont'd)

1. Complete the table on the previous pages. Add sections A to E to find the INITIAL COST of acquiring and owning an animal during the first year. Write the amount in this box.

\$

2. Circle the costs that only happen ONCE (ie. the initial cost of the animal, desexing). Add these items together and write the total in this box.

\$

3. Now subtract item no.2 from item no.1. This amount is the ONGOING COST (expenses you pay every year) to keep and care for an animal

\$

4. The life expectancy for cats = approx. 15 yrs. The life expectancy for dogs = approx. 13 yrs. Multiply the ONGOING COSTS by the life expectancy of the animal.

\$

5. Add INITIAL COSTS (item no.1) and ONGOING COSTS (item no.4) together. This is how much your animal would cost to keep for the duration of its life!

\$

Remember: This calculation does not include additional veterinary costs caused by unexpected illnesses/injuries. It does not include boarding or pet minding fees if you go on holidays.

$$\begin{array}{ccc}
 \boxed{\$ } & \times & \boxed{} & + & \boxed{\$ } \\
 \text{(ongoing costs)} & & \text{(no. of yrs)} & & \text{(initial costs)}
 \end{array}$$

$$\begin{array}{c}
 = \boxed{\$ } \\
 \text{(cost of keeping an animal for life)}
 \end{array}$$