# Pets in our home

Many Australian households own pets. Dogs, cats, snakes and fish are common pets around Australia. As a class, conduct a survey of all students to collate and analyse data on pet ownership. Using Microsoft Excel, use data to create charts to visually represent results.

## Resource information

|  |  |
| --- | --- |
| Resource element | Details |
| Learning objectives | Students will:   * model and represent unit fractions * identify multiplicative relationships using bar models. |
| Curriculum alignment | **Mathematics – K-10**   * Constructs graphs using many one-to-one scales **MA3-DATA-01** * interprets data displays, including timelines and line graphs **MA3-DATA-02**   **Technology mandatory – 7-8**   * explains how data is represented in digital systems and transmitted in networks **TE4-7DI** |

## Pets owned by our class

### Activity 1

Survey the class for the number of pets of and record the results using the table layout below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pet type | Tally | Total number | Percentage (%) ownership in class | |
| Dog |  |  |  |
| Cat |  |  |  |
| Fish |  |  |  |
| Bird |  |  |  |
| Small mammal |  |  |  |
| Reptiles |  |  |  |
| Other pets |  |  |  |

### Activity 2

1. Input this data into a spreadsheet.
2. Graph this data as a column or bar chart.

See teacher guide ‘creating a chart using survey data’ (page 4).

## Pets in Australia

### Activity 3

Access the dataset ‘[Pet ownership in Australia](https://animalmedicinesaustralia.org.au/wp-content/uploads/2022/11/AMAU008-Pet-Ownership22-Report_v1.6_WEB.pdf)’ (table on page 9). Recreate this table in Excel.

See teacher notes on page 3.

### Activity 4

Examine the number of pets in Australia. Use the data you have just entered into Excel and graph the results.

## Reflection Questions

1. What is the most popular pet in the class?
2. What is the most popular pet in Australia?
3. How does pet ownership in our class compare to the survey across Australia?
4. Pet ownership in Australia survey shows over 4000 household have a dog. Over 3000 household have a cat. Total households are nearly 7000. Explain why these figures do not add up.

### Discussion points

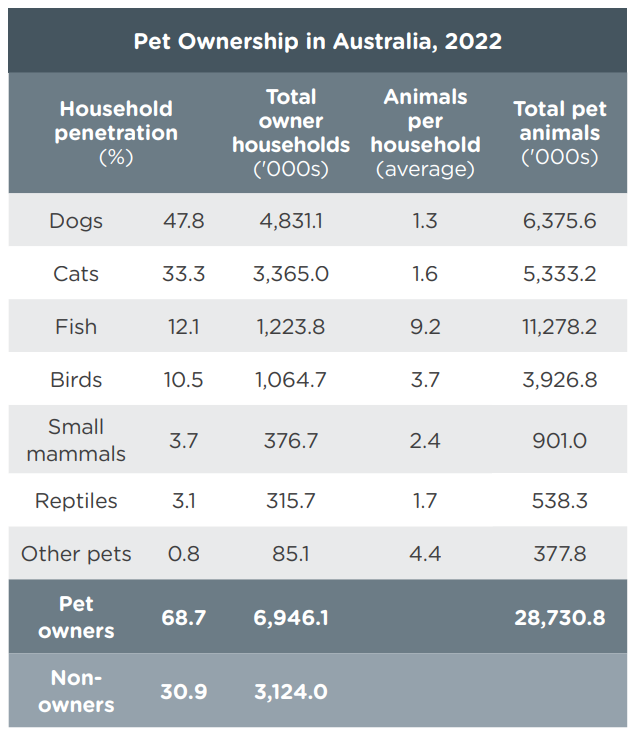
What is a survey sample? The sample size of Australian families used is 2453. Discuss the issues that might occur with the sample size if the population of Australia is over 25 million (2021).

**Note:** data sample is cross referenced to ABS Census data to reduce bias.

We surveyed the class first and then compared the results to the Australian survey. Would our class results be influenced by the Australian survey if we had reversed the order?

## Teacher’s notes

Figure 1 – source data from ‘[Animal Medicines Australia’](https://animalmedicinesaustralia.org.au/wp-content/uploads/2022/11/AMAU008-Pet-Ownership22-Report_v1.6_WEB.pdf) on pet ownership in Australia (Page 9 of document).



There are 2 ways students get this data into an excel spreadsheet:

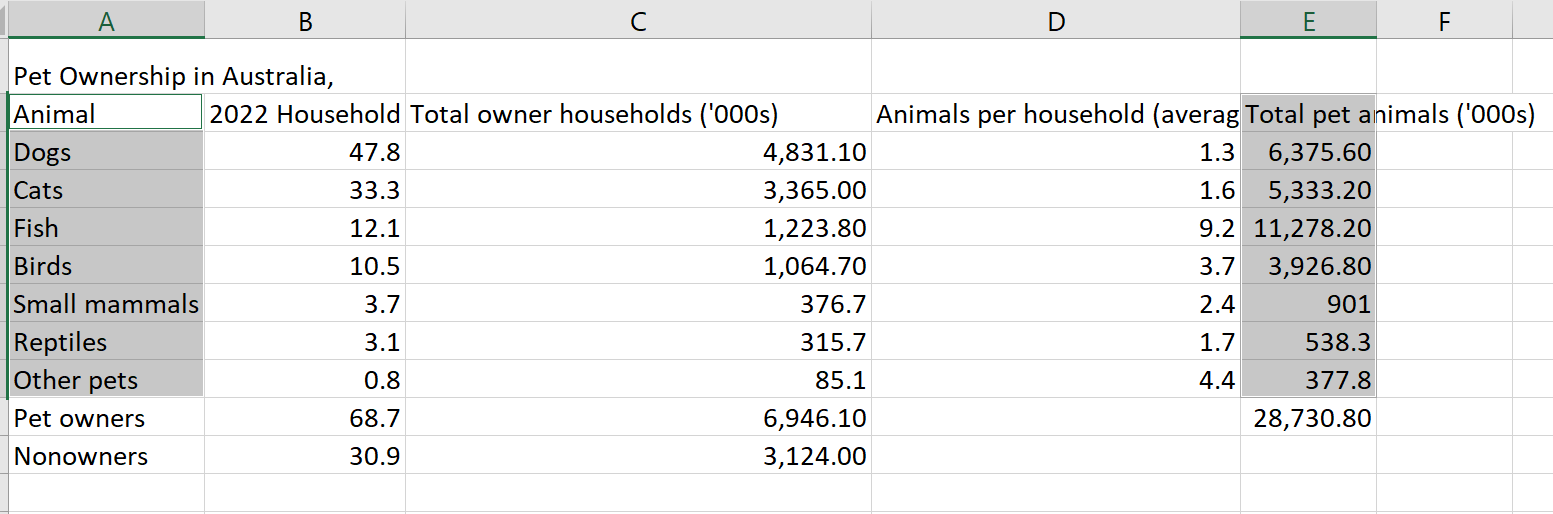
1. Students can enter the data manually (data entry errors may occur).
2. If you wish to extract the data and give the students a prepared excel file watch [How to Copy a Table from PDF to Excel - Extract Data to Edit](https://www.youtube.com/watch?v=jvuCteWpnQI) (1:13).

### Creating a chart using survey data – teacher guide

Follow the steps below to create a chart using the data for ‘Total pets in Australia by type’.

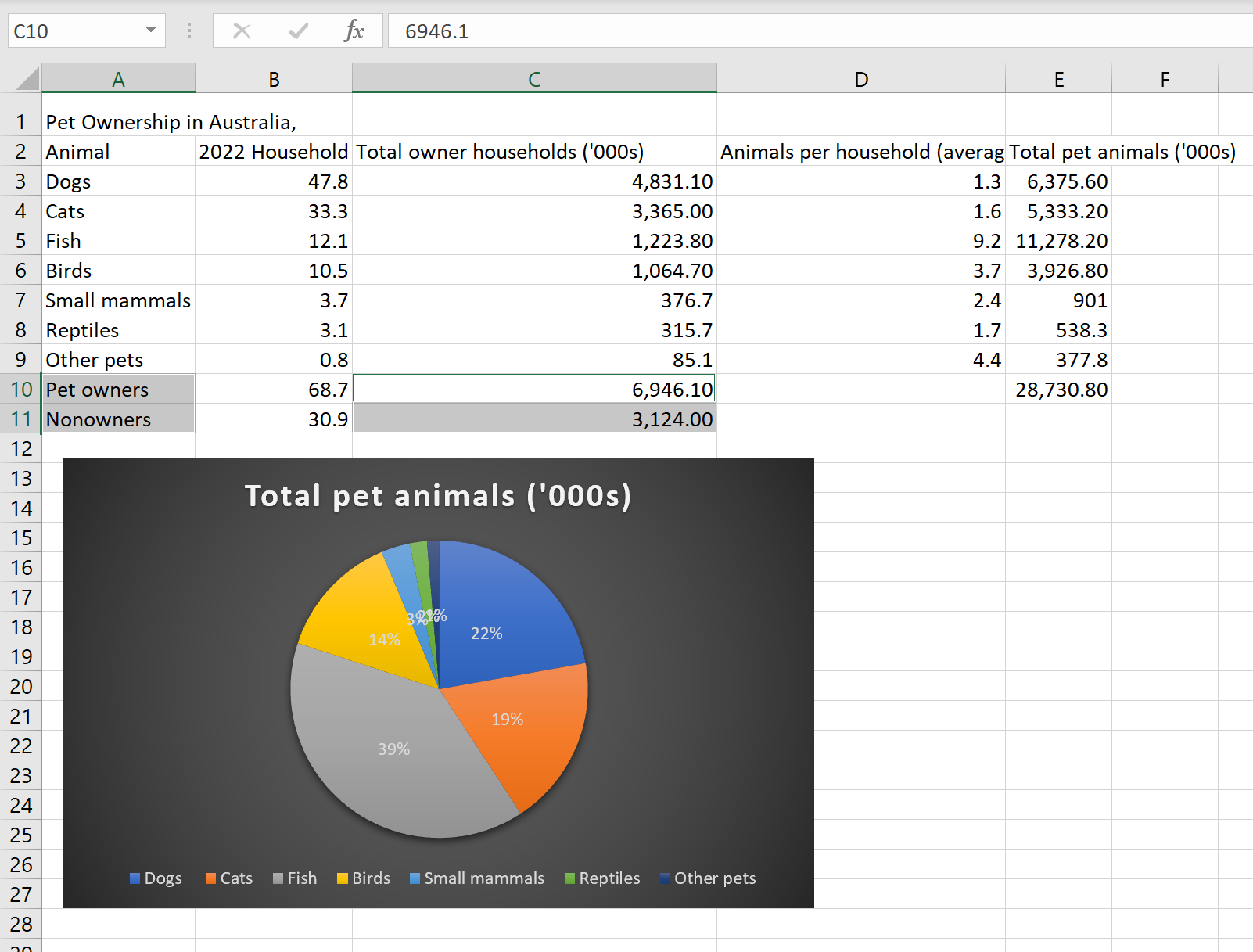
1. Use the mouse to highlight the cells with animal names, then select <ctrl> on the keyboard and use the mouse again to highlight the cells containing total animal numbers.

Figure 2 – selecting cells in Excel



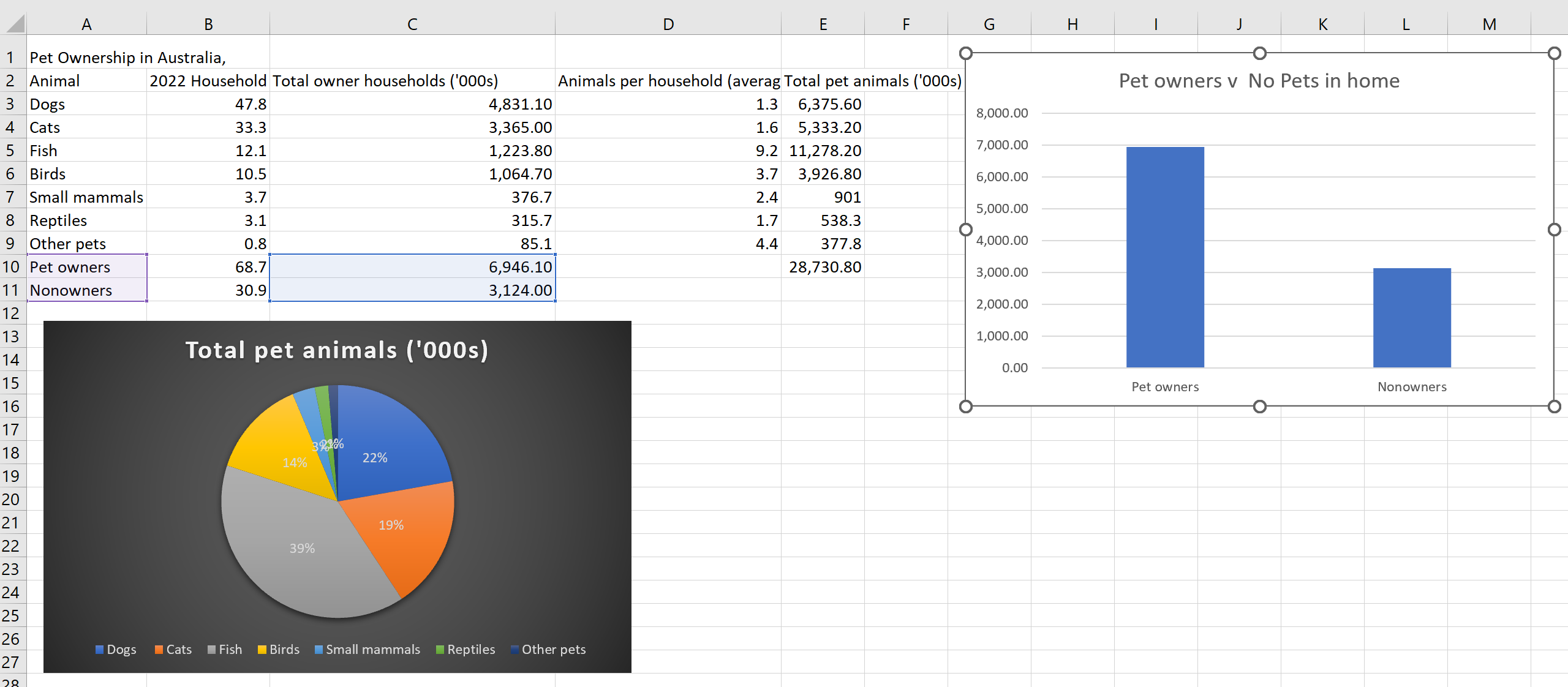
1. Select a suitable chart type. There are many variations for each chart type. The example shown is a formatted pie chart.

Figure 3 – visualising data in Excel



1. Chart the data of pet owners to non-pet owners. A bar graph is a suitable chart type.

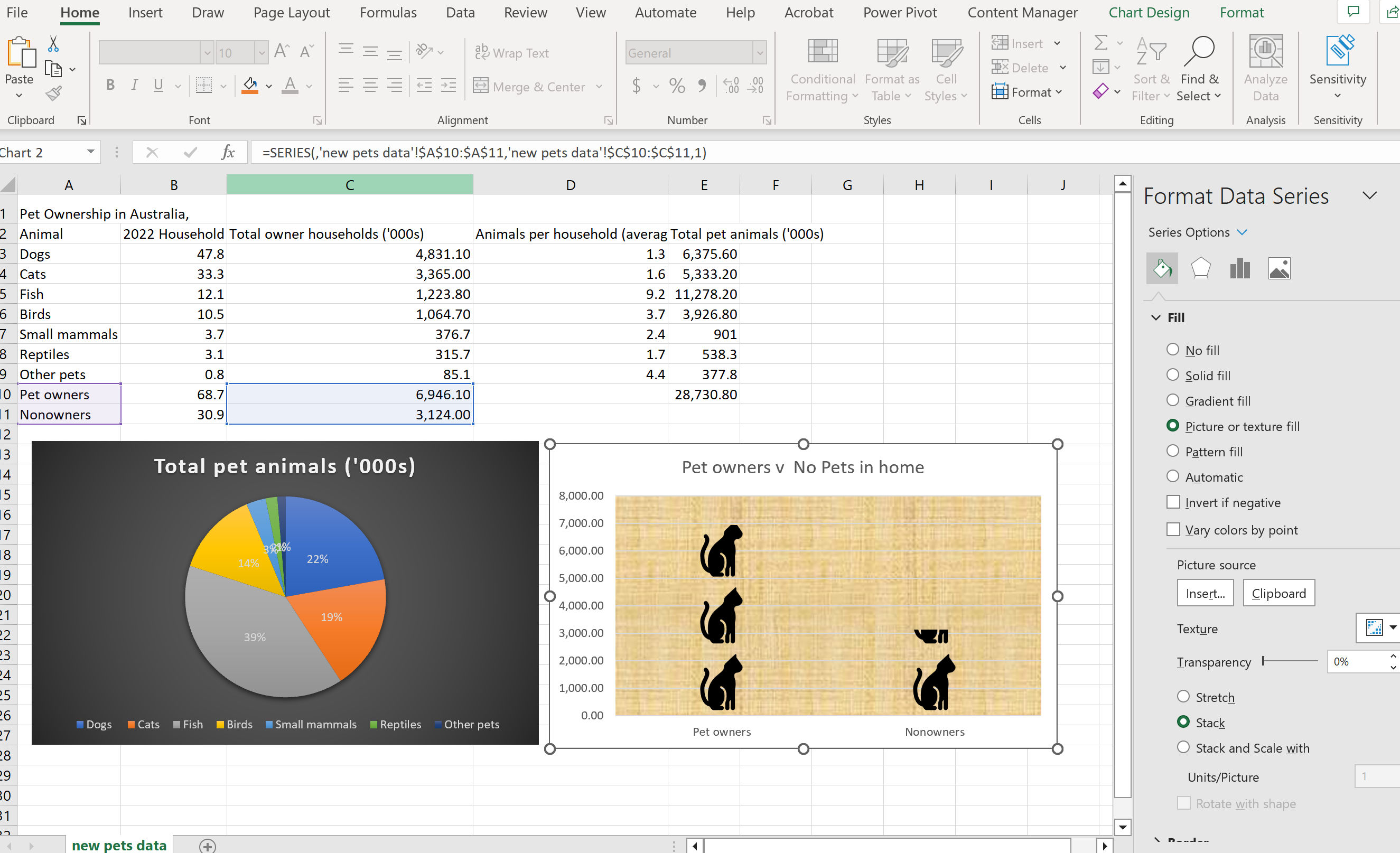
Figure 4 – pet owners to non-pet owners



You can change the bar chart into a pictogram by formatting the Data series.

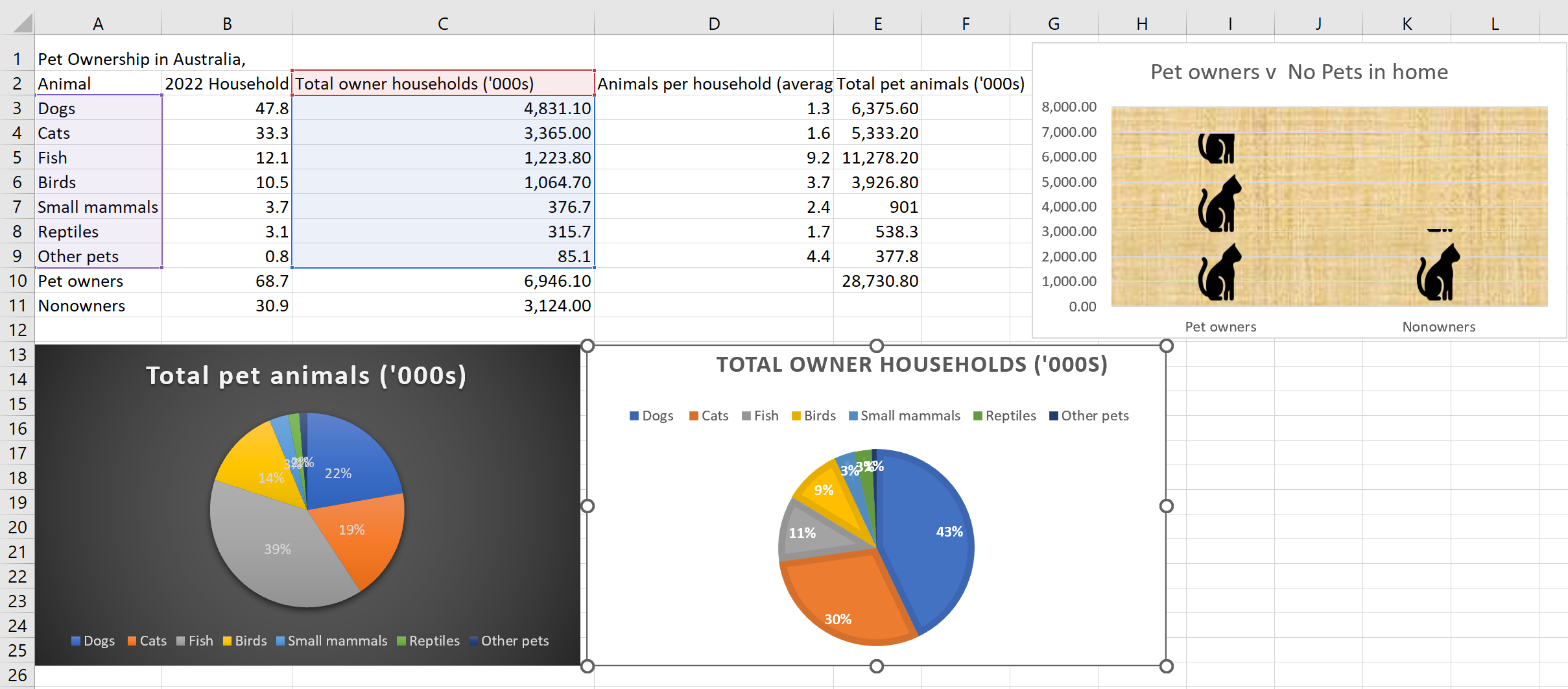
1. Select the bars to highlight the data series.
2. Right click and navigate to **Format Data Series**, select **Fill**, then select **Picture or Texture fill** and **Insert** a stock image. For more information on how to do this, see [How to Use Pictures in Your Excel Bar Charts](https://www.youtube.com/watch?v=fqxkVpGCGrM)

Figure 5 – adding pictures to a bar chart in Excel



1. Using the same method to select discrete columns (**<ctrl>+mouse**), highlight the animal type and owner households to compare number of animals chart to number of household ownership.

Figure 6 – highlighting cell in Excel



## References

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