

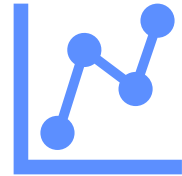


# USING TABLES AND FIGURES



## PURPOSE

Reports that use data as evidence often need to showcase it, and this includes results from experiments or observations. The two ways data (or results) can be represented are with figures and tables.



**Tables** are summarized data, often assigned categories allowing the reader to quickly compare between categories and variables.

**Figures** are visual representations of data. There can be one or several charts in each figure.

When preparing figures and tables always ask yourself:

- Why do I want to make this point with a figure or a table?
- What is the best way to represent my data and results?

Figures and tables are a very powerful tool to drive your message across to the reader and the better the figure or table, the easier it will be for your message to get to your audience.

## TABLES

**Table 1.** Types of vehicles, their carrying capacity, and maximum speed. Numbers in parentheses represent one standard deviation.

This is a legend table

Category	Carrying capacity (kg)	Maximum speed (km/hr)
Motorcycle	150 kg ( $\pm$ 20 kg)	172.00
Sports coupe	245 kg ( $\pm$ 30 kg)	164.34
Sedan	450 kg ( $\pm$ 30 kg)	140.07

The first row describes each column as variables and has units (in parentheses)

Rows represent categories

A  $\pm$  symbol represents variation around the mean

Decimal points are consistent

The categories and the variables can be reversed (e.g., categories as columns, and rows as variables) – just make sure it is easy to understand.

## THINGS TO REMEMBER

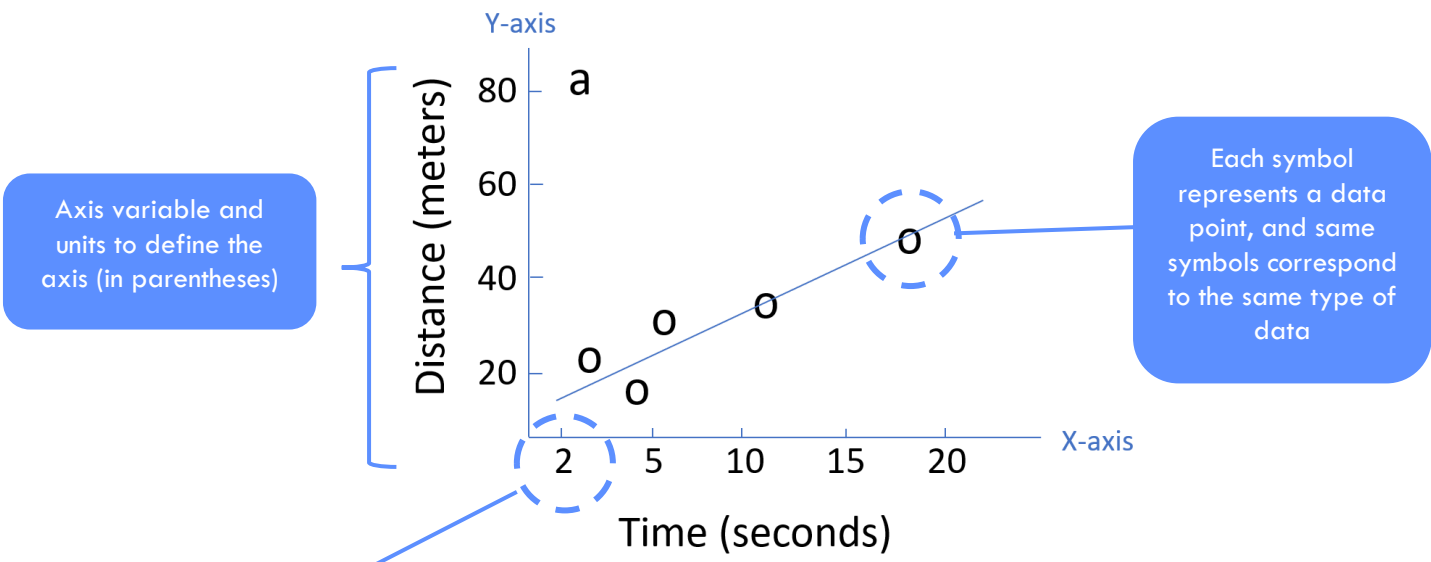
- Data should be precise, but most often does not have more than four decimal points (and most commonly two).
- Always be consistent with the number of decimal points in a table.



## FIGURES

### Continuous variables

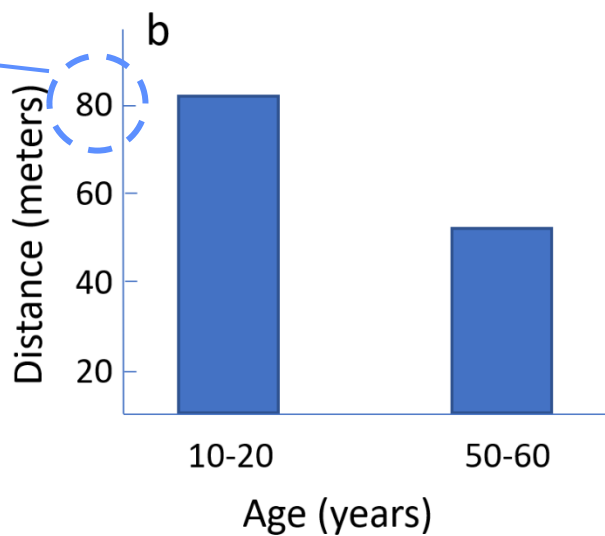
Both the x- and y-axis show continuous variables, each data point can therefore be represented in the graph.



Axes should follow a scale

This is a **figure legend**

Figure legends go at the bottom of a figure (graphs are referred to as figures). The figure legend should contain enough information to understand the figures. With multiple graphs within a figure, you refer them with letters: (a) shows continuous independent data (x-axis) while (b) shows categorical



**Categorical variables.** The x-axis data are grouped into two categories; therefore, we can use bars to represent each

**Figure 1.** The relationship between distance travelled as a function of time running and age. (a) with increased time running the greater distance is travelled for five individuals. The line represents the relationship between distance and time. (b) distance travelled as a function of age (each bar is the average of 10 individuals).

### THINGS TO REMEMBER:

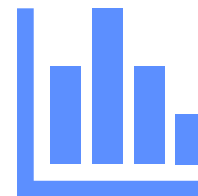
- Each axis should have units (e.g., meters)
- The independent variable (x-axis) always drives the dependent variable (y-axis)

# USING TABLES AND FIGURES



## MANAGING TABLES AND FIGURES IN A REPORT

Think of a table or a figure as a key steppingstone in the story of your report. Not all data needs to be represented in figures or tables; be selective as a report does not need a large number of figures or tables (there is no set number, which is why you need to be critical and selective).



- Figures and tables should appear when first needed and are referred to in a way that emphasises an argument.
- Try and avoid saying “Figure 1 shows...” in the text, as that is the purpose of the figure legend. Instead, describe the main point you are making and then refer to the figure or table.
- Do not describe the axes, columns, or data in the report text. Describe the main point that you are trying to make with the figure or table.
- Tables and figures are referred to in the text within parentheses “( )”.
- If you are referring to a specific graph or panel in a figure, use the letters for each panel or graph.

This is a **good** way to refer to a figure or table, it summarizes the key point from the figure:

‘We found that older people moved lower distances relative to younger people, even when spending more time moving (Figure 1 b).’

This is a **poor** way to refer to a figure or table because it is vague and repeats the information in the figure legend:

‘Figure 1 b shows the relationship between distance travelled in meters and two age groups (10-20 years old and 50-60 years old).’

[SEE THE GUIDE ON DISCUSSING RESULTS](#)

## HOT TIPS



- Look at figures and tables in publications to familiarise with how these are being used. Be critical, do you think they are easy to understand, and do the authors refer to them well in the text?
- Every article published follows guidelines that are specific to each journal. Importantly, every journal has Instructions to Authors which describe how to create figures and tables. Find the instructions to authors for a given journal, as they will help give you an idea of how these can be used.