

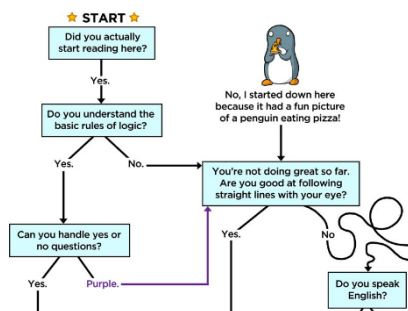
**Science toolkit: Describing data for research. Using different figures**

Very often we include graphics in our research, but then we do not explain and refer to them. If correctly done, they can be very informative, and help us to visualise the studies' results.

- There are two basic types of graphics: Tables and figures.
- How can we distinguish them? Everything that is not a table is a figure 😊
- Both of these have a number and title, but where is this written in each case? For a Table – put the title, or legend, above the table; For a Figure – write the title below.

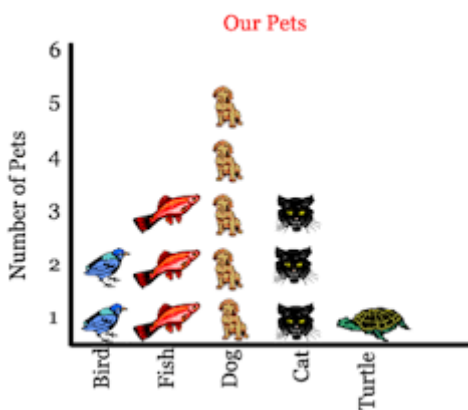
**Graphics:**

	A	B	C	D	E
1	Last Name	Sales	Country	Quarter	
2	Smith	\$16,753.00	UK	Qtr 3	
3	Johnson	\$14,808.00	USA	Qtr 4	
4	Williams	\$10,644.00	UK	Qtr 2	
5	Jones	\$1,390.00	USA	Qtr 3	
6	Brown	\$4,865.00	USA	Qtr 4	
7	Williams	\$12,438.00	UK	Qtr 1	
8	Johnson	\$9,339.00	UK	Qtr 2	
9	Smith	\$18,919.00	USA	Qtr 3	
10	Jones	\$9,213.00	USA	Qtr 4	
11	Jones	\$7,433.00	UK	Qtr 1	
12	Brown	\$3,255.00	USA	Qtr 2	
13	Williams	\$14,867.00	USA	Qtr 3	
14	Williams	\$19,302.00	UK	Qtr 4	
15	Smith	\$9,698.00	USA	Qtr 1	
16					

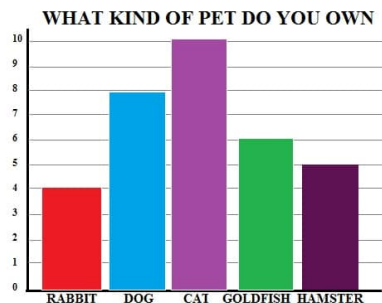


a. Table

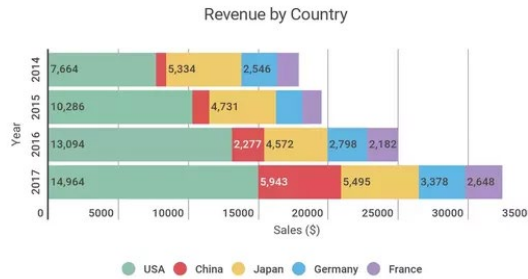
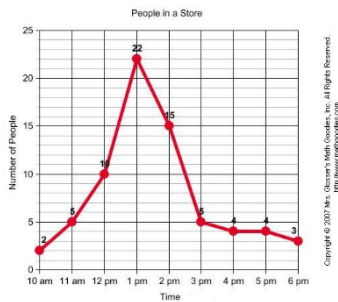
b. Drawings or diagrams (including flow charts)



c. Pictographs

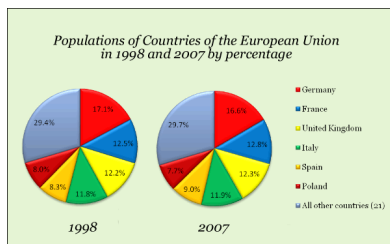


d. Bar charts/graph



**e. Line graphs**

**f. Divided bar graph**



**g. Pie charts**

Which graphic we use depends on its description and use.

- Bar charts and line graphs** – compare one element with another; compare elements over time; demonstrate correlations; and illustrate frequency. Axes must be labelled clearly and descriptively, with the units of measure also marked. When there are several lines, these should be differentiated with symbols (explained in a key). Bar charts may be designed on axes similar to line graphs, but neither axis will signify a change in either state or time.
- Drawings or diagrams** – these are used for focusing on dimensions and details. Important for writers of technical reports and papers. It is a symbolic representation of ideas. For instance, a flow diagram of a company's structure, or for showing how the electricity flows in a 'wiring schematics'.
- Divided bar graph** – compare percentages of a whole rather than relative size. Labels and percentages are often placed within the bar.
- Pie charts** (circle graphs) – similar to the divided bar graph. They compare percentages of a whole. However, it is more effective visually. Normally the sections are organised according to size, putting the largest at the 12 o'clock position and in clockwise direction. The different segments are usually labelled outside the circle.



5. **Pictographs** – they are essentially bar graphs composed of pictures rather than bars.
6. **Tables** – presents large amounts of data in a simple, brief, and clear linear format. The same data in the text would be more confusing, and difficult to understand. Also, they allow the writer to focus attention on specific pieces of data while retaining a clear presentation of the whole.

Adapted from Sides (1992) *How to write and present technical information*