

Basics

Tables, charts and graphs are visual representations which communicate facts. They make it easy to find individual facts and understand different relationships between them. Even a very simple graph would take a long time to describe in a written paragraph; but if it is well designed, a reader can look at it and find an important piece of information instantly.

The academic context

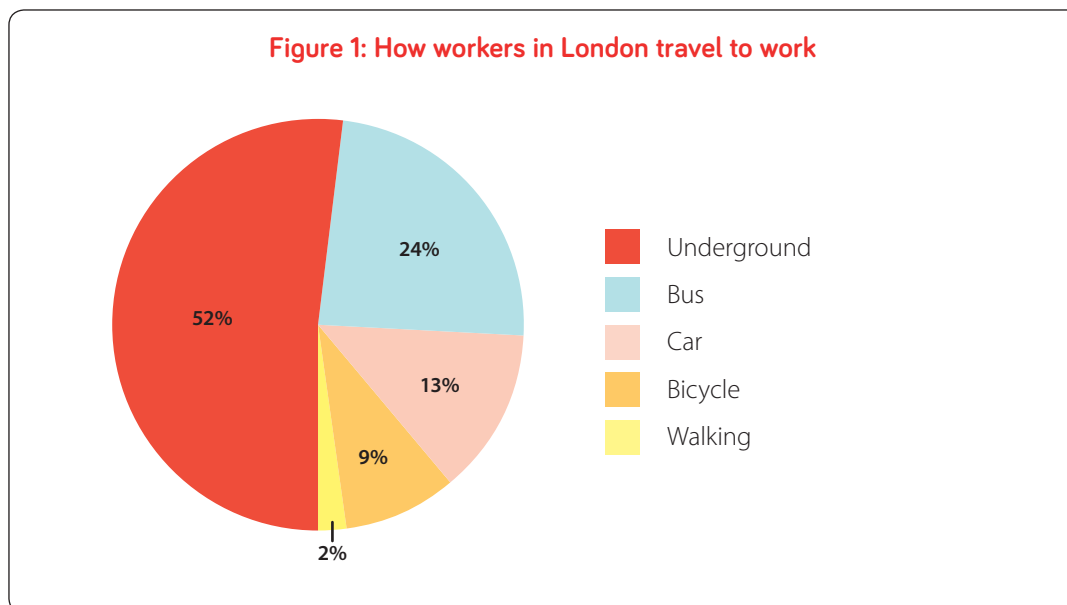
Tables, charts and graphs are frequently used to support academic texts, especially scientific texts. They show relationships and compare information, and often accompany texts that report research findings. Some scientific research is far too complex to write down in words; it has to be visually represented.

Key features

There are a number of things you should consider when planning a presentation.

1 Pie charts

- Each segment of this pie chart represents the percentage of workers in London who use a method of transport to get to work.
- You can quickly see that most workers (the highest proportion) travel by underground and that very few workers walk.



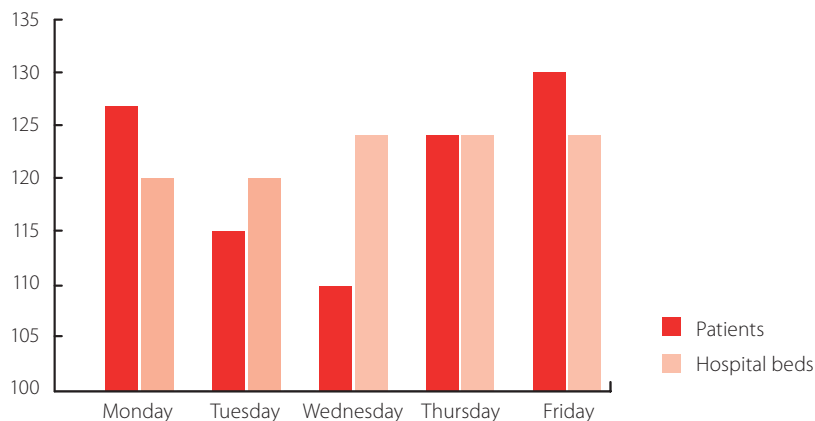
- Descriptions of pie charts often use **comparative** and **superlative** forms:

Fewer people walk (2%) **than** ride a bicycle (9%). The **greatest** number – **more than** half, in fact – take the underground.

2 Bar charts

- This bar chart compares the number of hospital beds and the number of patients on different days of the week.
- You can quickly see that in the middle of the week there are enough beds, but at the beginning and end of the week there are too many patients.

Figure 2: Numbers of patients / hospital beds (Monday–Friday)



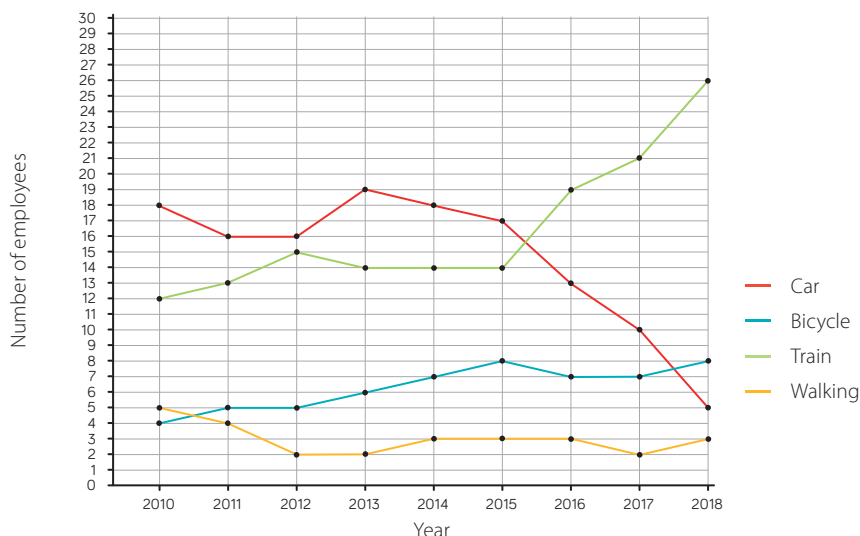
- To interpret this kind of information, you need to **compare and contrast**:

On Tuesday, Wednesday and Thursday, there are enough hospital beds, **whereas** on Monday and Friday, there are not.

3 Line graphs

- This line graph shows how employees of a company travelled to work over a period of several years.
- You can instantly see various trends (long-term changes or patterns). You can also see individual facts, such as the number of people who cycled to work in any year.

Figure 3: How employees travel to work (2010–2018)



- Written explanations of this kind of graph often use key **adjectives** (e.g. *significant, slight*) and **adverbs** (e.g. *significantly, slightly*) to talk about trends:

Between 2015 and 2018, the number of people who travelled to work by train increased **significantly**.
Between 2010 and 2011, there was a **slight** decrease in the number of people who walked to work.

4 Tables

- This table shows the countries with the top ten rankings at the 2016 Olympic Games.
- The ranking is decided according to the number of gold medals. However, you could quickly find the relevant information to rank the countries in a different way – for example, according to the total number of medals.
- Other ways of displaying all this information, such as a bar chart, would take up a lot of space, and would be more difficult to quickly interpret.

Figure 4: 2016 Olympic Games: country rankings

# Rank	Country	Gold	Silver	Bronze	Total medals
1	USA	46	37	38	121
2	UK	27	23	17	67
3	China	26	18	26	70
4	Russia	19	18	19	56
5	Germany	17	10	15	42
6	Japan	12	8	21	41
7	France	10	18	14	42
8	South Korea	9	3	9	21
9	Italy	8	12	8	28
10	Australia	8	11	10	29

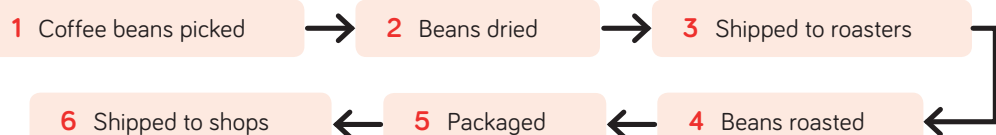
- Interpretations of tables describe key facts using **comparatives**, **superlatives** and **contrasting language**:

The UK won **more** gold medals (27) **than** China (26), **although** China won **more** medals overall. The USA won **the most** gold medals by far (46).

5 Flow charts

- This flow chart shows stages in the process of coffee production.
- Full sentences are not used to explain the process; instead, short phrases are used.

Figure 5: Coffee production



- Written descriptions of flow charts tend to explain the process more fully, using complete sentences with **sequencing phrases**:

First of all, the coffee beans are picked. **Then** they are dried.

Challenges / difficulties

Some charts and graphs show a lot of information, so the most significant challenge is assessing what is important. You need to learn to identify what is relevant to the question you are trying to answer.

How can I develop this skill?

When you are reading for your studies, take time to look at the charts, graphs and tables in isolation. Check that you understand what they show. Discuss them with a partner if you can.

Learning outcome

If you can interpret visual representations, you will understand texts better and read more efficiently. You will also improve your ability to describe them in spoken and written English.

Theory to practice

1 Answer the questions about the tables, charts and graphs in the Key features section.

- According to Figure 1, do more people use the underground or other modes of transport?
- According to Figure 2, are there enough hospital beds on Thursday?
- What are the main trends shown in Figure 3? Can you think of any possible reasons for them?
- Rank the countries in Figure 4 according to the total number of medals won. Which rankings change?
- Write a paragraph describing the process shown in Figure 5. You could use the following phrases:

After that

Afterwards

Finally

First/Firstly

Next

Then

2 Write a few more questions to ask your partner.

Ways to get more practice

In any text with charts, graphs or tables, see what you can infer from the visual data before you read the text. Then read to check.