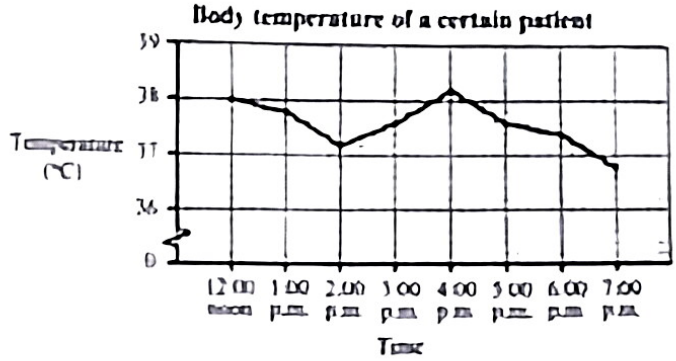
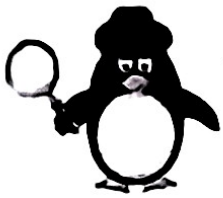
8 Data Handling

A. Different Statistical Charts

Statistical chart	Example
Pictogram	The most favourite sport among the students Football Basketball Swimming Others Each picture stands for 10 people
Bar chart	Favourite ride in Ocean Park for S1A students Number of students The Dragon, Crazy Galleon, Ferris Wheel, The Eagle, Flying Swing Amusement ride
Compound bar chart	Favourite colour for S1 students Number of students Blue, Green, Black, Red Colour Boy Girl

Broken line graph	



In general, bar chart is used to show the actual frequency of each item, while broken line graph is used to show how data change over a period of time or predict the trend of data.

B. Applications of Statistical Charts

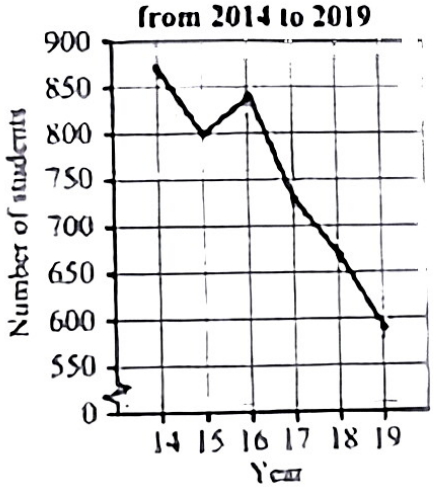
Example 1

The broken line graph on the right show the number of **students of a tutorial** school from 2014 to 2019.

(a) **In which years was the number of students more than 800?**

(b) **Between which 2 consecutive years did the number of students drop most sharply? What is the decrease in number?**

Number of students of a tutorial school from 2014 to 2019



Solution

(a) **The number of students was more** than 800 in 2014 and 2016.

(b) **The number of students drooped most sharply** between 2016 and 2017. The decrease in number **is 110.**

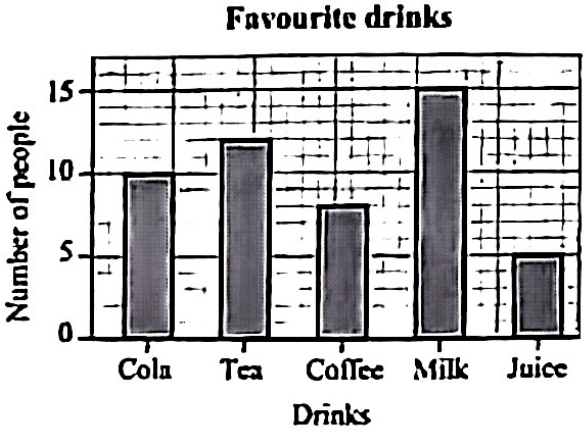
Example 2

Mary interviews some of her friends to find out their favourite drinks and draws the frequency table below.

Drink	Cola	Tea	Coffee	Milk	Juice
Number of people	10	12	8	15	5

Draw a bar chart to present the data.

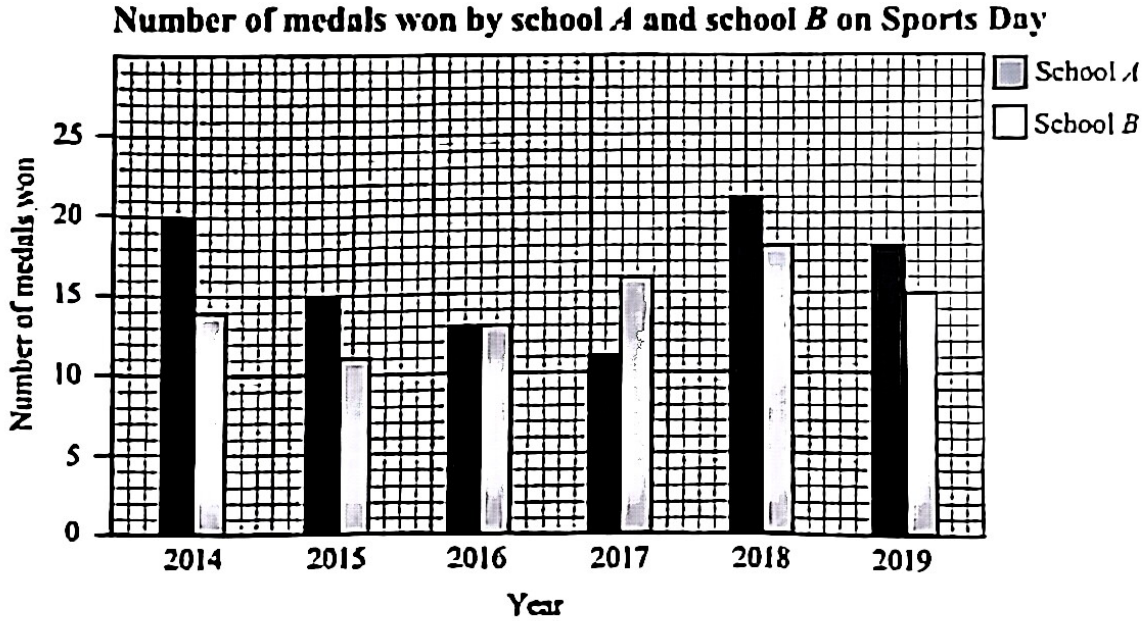
Solution



◀ Give a title to the bar chart.

Example 3

The compound bar chart below shows the numbers of medals won by school A and school B on the Sports Days in the past 6 years.



(a) In which year did school B win the least number of medals?

(b) In which year were the numbers of medals won by school A and school B the same?

(c) What was the total number of medals won by school A and school B in 2018?

Solution

(a) From the chart, school B won the least number of medals in 2015.

(b) From the chart, the numbers of medals won by school A and school B were the same in 2016.

(c) From the chart, the number of medals won by school A in 2018 is 21 and the number of medals won by school B in 2018 is 18.

$\therefore$ Total number of medals $= 21 + 18$

$= \underline{\underline{39}}$

Key Terms / Phrases

Pronunciation

statistical chart	統計圖表	broken line graph	折線圖
pictogram	象形圖	frequency table	頻數表
bar chart	條形圖	title	標題
compound bar chart	複合條形圖		

Useful Sentences

A company conducted a survey to find out the average income of its customers.	某公司進行了一項調查，找出顧客的平均收入。
The following data show the heights of 40 students.	以下數據為 40 名學生的身高。
Draw a compound bar chart to present the above data.	繪畫一複合條形圖來表達上述數據。
Is a broken line graph suitable for presenting the above data	以折線圖表達上述數據是否合適。

Exercise 8

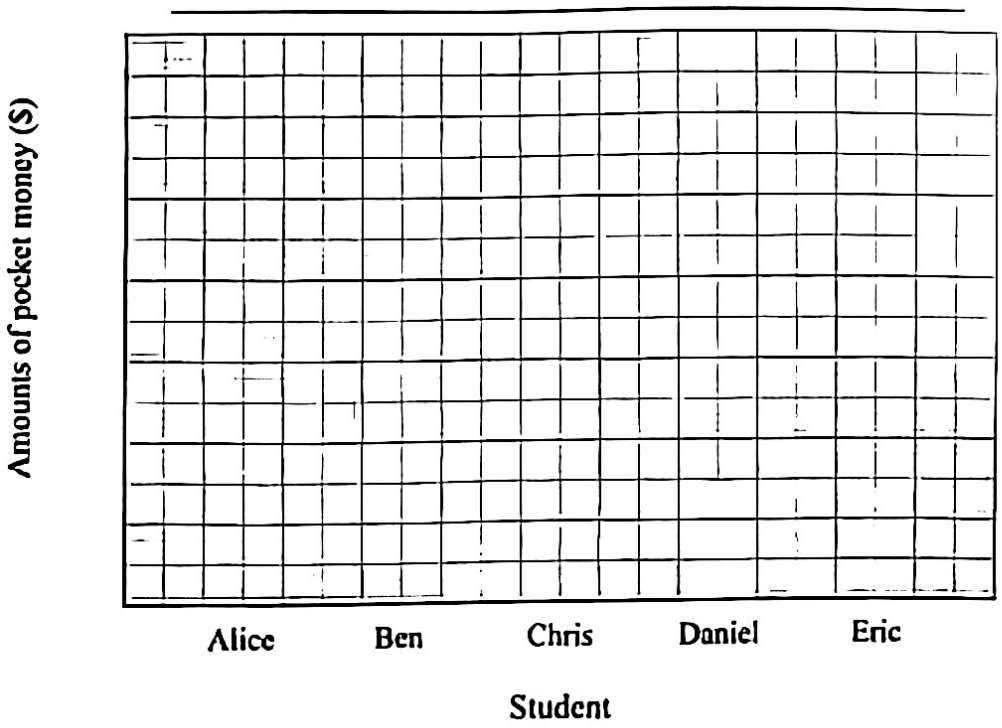
1. Which type of statistical chart is more suitable for presenting each of the following sets of data? Put a '✓' in the appropriate box.

	Bar chart	Broken line graph
(a) The daily income of a cinema last week	☐	☐
(b) The change in temperature in a district on a certain day	☐	☐
(c) The *ingredients* of a certain type of health food	☐	☐
(d) The number of students in after-school classes this year	☐	☐
(e) Mandy's height in the past ten years	☐	☐

2. The table below shows the amounts of pocket money of 5 students in a week.

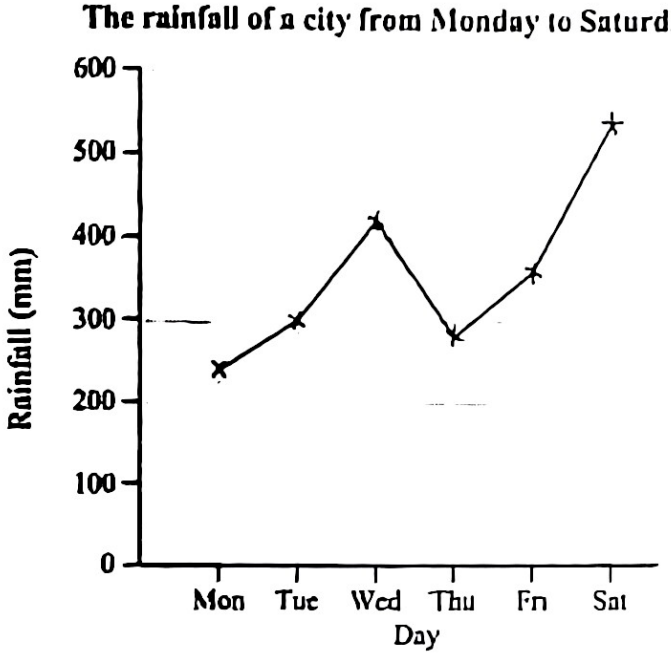
Student	Alice	Ben	Chris	Daniel	Eric
Amounts of pocket money ($)	600	550	680	440	390

Draw a bar chart to present the above data.



ingredient 成分

3. **The following broken line graph** shows the rainfall of a city from Monday to Saturday.

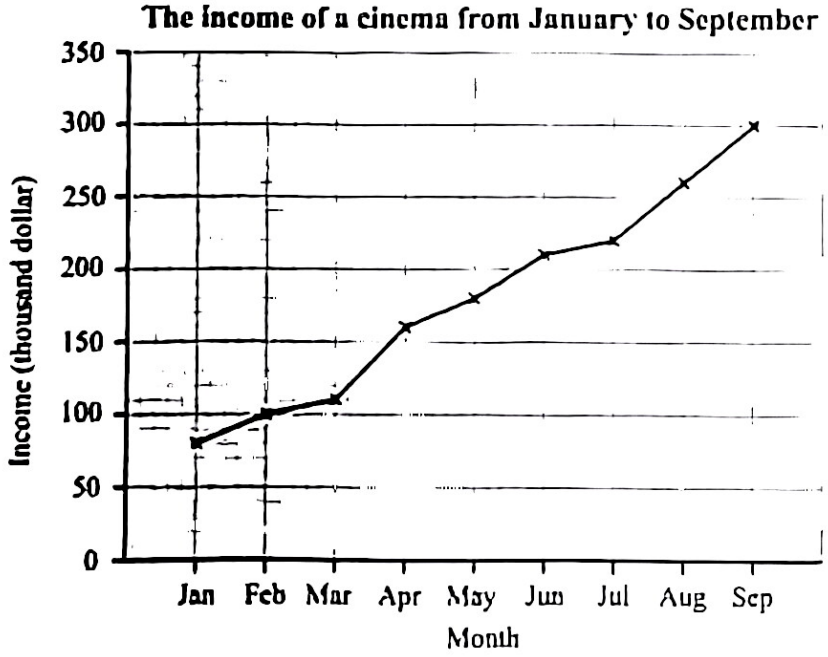


(a) **The minimum rainfall occurred in** _____. There was only _____ of rain.

(b) **The maximum rainfall occurred in** _____. There was _____ of rain.

(c) **The total rainfall recorded from** Monday to Saturday is _____.

4. **The following broken line graph shows** the income of a cinema from January to September.

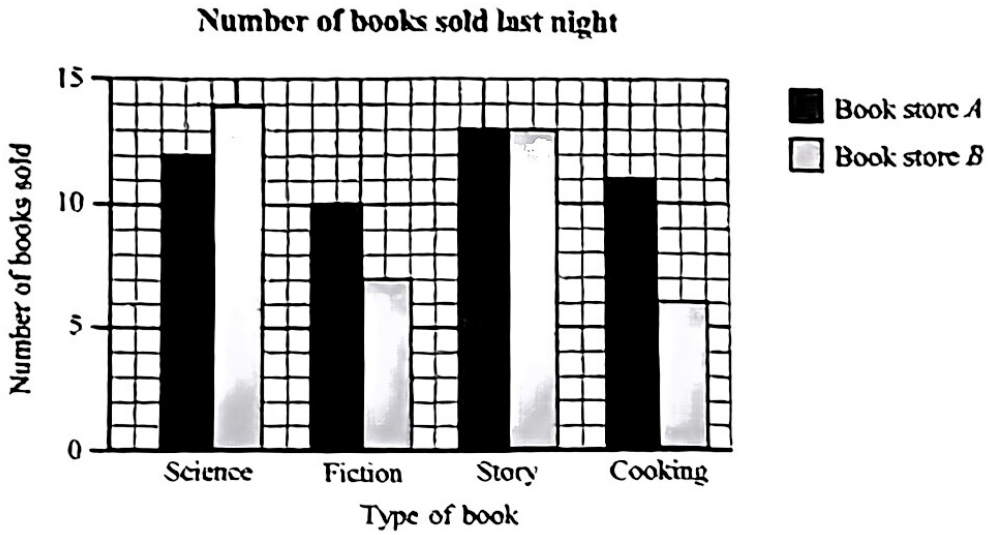


(a) **How much was the income of the cinema in July?** _____

(b) **In which month did the cinema have the highest income?** _____

(c) **Between which two months did the cinema have the highest increase in income?** _____

5. The compound bar chart below shows the number of books sold at book stores A and B last night.



(a) What was the type of book in which book stores A and B are most different in terms of sales volume last night?

(b) What was the total number of fictions sold last night?

(c) Which book store sold more books last night? How many books did it sell?