

What is a pie chart?

A pie chart displays information (data) using a circle.

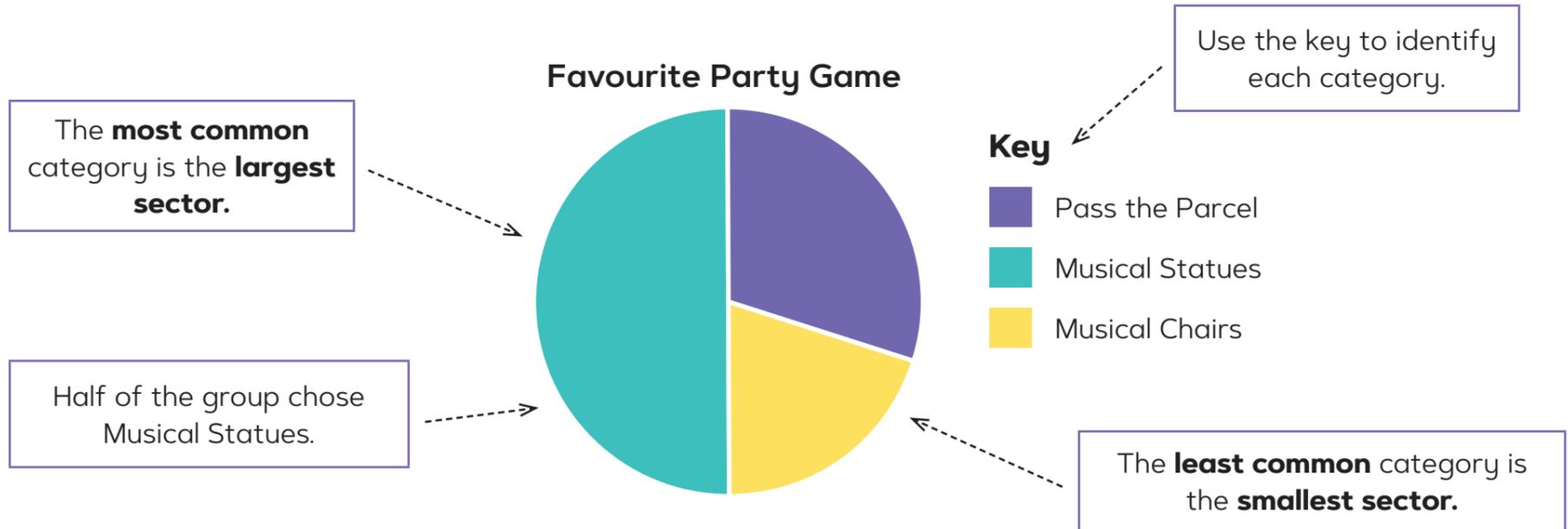
The circle is made up of **sectors**, and each of these sectors represents a category.

Why use a pie chart?

We use a pie chart to **compare data as a proportion of the whole**.

They are commonly used in business and the media to draw visual attention to the most and/or least common category.

How to interpret a pie chart



To interpret a pie chart with equal divisions marked

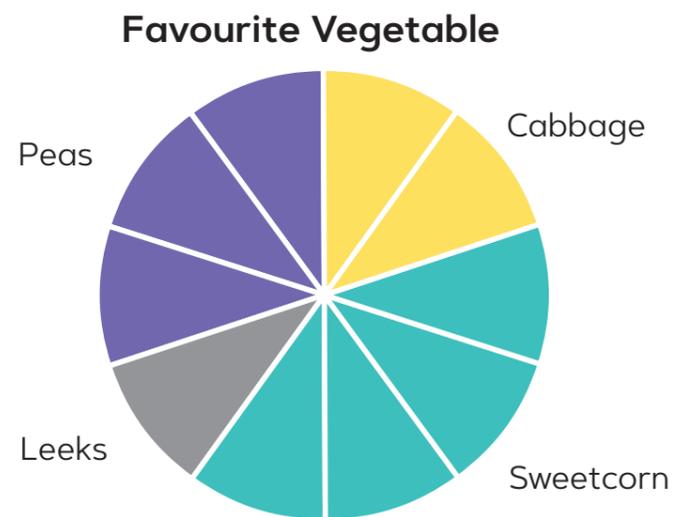
1. Count the divisions in the full circle
2. Count the divisions in the category you need
3. Write this as a fraction of the whole amount
4. Calculate this fraction of the total number

For example, how many of the 200 people prefer cabbage?

Cabbage has 2 parts out of the full 10 parts.

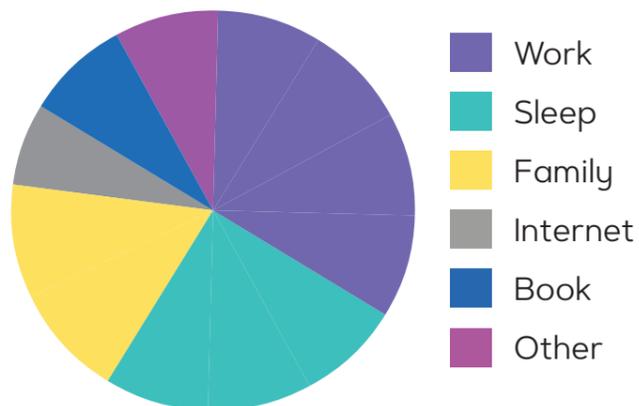
Therefore, the fraction who prefer cabbage is: $\frac{2}{10} = \frac{1}{5}$

The number who prefer cabbage is: $\frac{1}{5}$ of 200 = $200 \div 5 = 40$



To interpret a pie chart without equal divisions marked

How Ben spends his day



1. Measure the angle of each category using a protractor.
2. Divide this by 360 (the number of degrees in a circle).
3. Multiply by the total frequency.

For example, how many hours did Ben spend sleeping? The angle of the sector representing sleep measures 90°. The total number of hours is 24. Therefore, the number of hours Ben spent sleeping is calculated by:

$$90 \div 360 \times 24 = 6 \text{ hours}$$

Level 3

Identify the most/least common from a simple pie chart.

Level 4

List the categories in order from the most to the least likely. Recognise $\frac{1}{2}$ and $\frac{1}{4}$ of the pie chart.

Level 5

Calculate the fraction of/frequency for a sector from a pie chart showing equal divisions.

Level 6

Calculate the frequency of a category from a pie chart without marked divisions.

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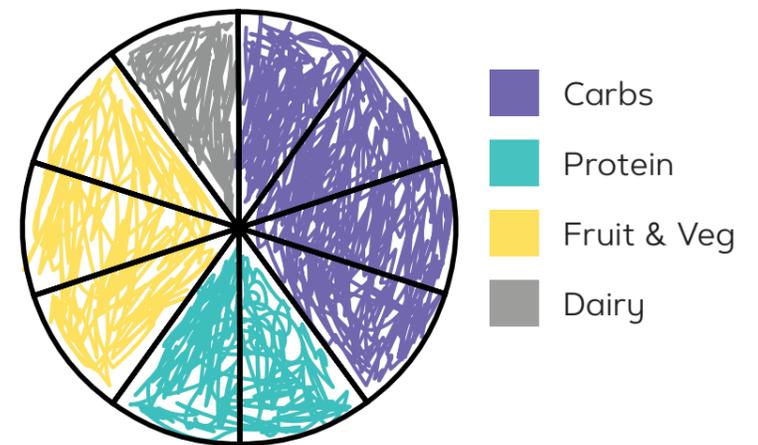
How to draw pie charts on a template with divisions

Composition of a Meal

Food Type	Parts
Carbs	4
Protein	2
Fruit & Veg	3
Dairy	1
Total	10

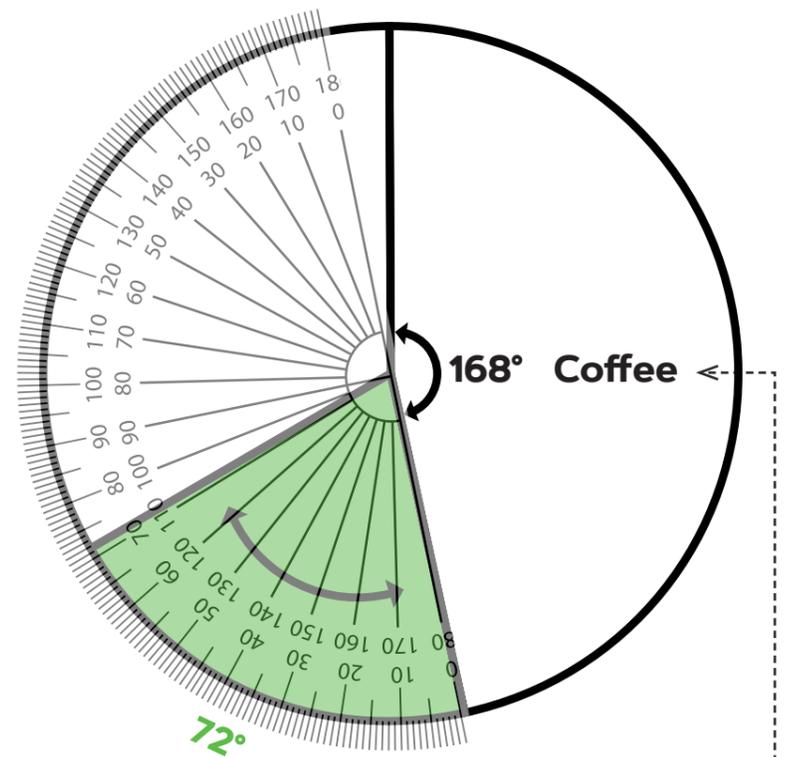
1. Find the total number of parts.
2. Choose a template with that number of divisions.
3. Use different colours to shade the number of parts for each type.
4. Include a **title** and a **key**.

Composition of a Meal



How to draw pie charts without a template

Morning Sales in Café		
Item	Frequency	Calculation of Angle
Coffee	154	$\frac{154}{330} \times 360 = 168^\circ$
Tea	66	$\frac{66}{330} \times 360 = 72^\circ$
Hot Chocolate	110	$\frac{110}{330} \times 360 = 120^\circ$
Total	330	360°



1. Calculate the total frequency.
2. Write each frequency as a fraction of the total frequency.
3. Multiply each fraction by 360 to calculate the angle.
4. Draw a straight line from the centre of the circle to the circumference (radius).

5. Measure the first angle and draw the sector.
6. Measure the second angle from the end of the first and so on.
7. Include a key or write the categories inside each sector.

Level 5

Complete a pie chart by shading the correct number of sectors on a template with divisions marked. Include a title and a key.

Level 6

Calculate the angle for each sector and accurately draw the angles to create a pie chart using an angle measure. Include a title and labels.