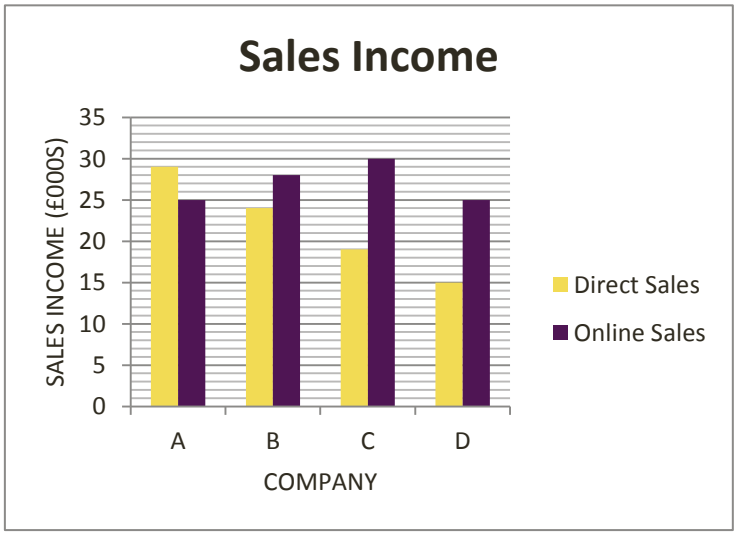
Composite Bar Charts

Bar charts can provide multiple pieces of information.

Example

This composite bar chart shows income (in £000s) for direct sales and online sales for four companies (A, B, C and D).



(i) *Which company has the highest total sales?*

We need to add up the total direct sales and online sales for each company

Company A: 29 + 25 = 54
Company B: 24 + 28 = 52
Company C: 19 + 50 = 49
Company D: 15 + 25 = 40

Therefore the answer is Company A.

(ii) *Which company has the highest percentage of online sales?*

We are being asked which company has the highest percentage of online sales in total sales. Therefore, we need to calculate what percentage online sales are of total sales for each of the four companies.

From the bar chart, it is clear that we can ignore Company A (because online sales is lower than direct sales)

Speed Tip!

1. *Since we are comparing 'like with like', there is no need to change each figure into its proper units (£000s).*

2. *Sometimes you can leave out part of the calculations – for example, in part (i) it is obvious from the chart that Company D has lower total sales – so we could just ignore it.*

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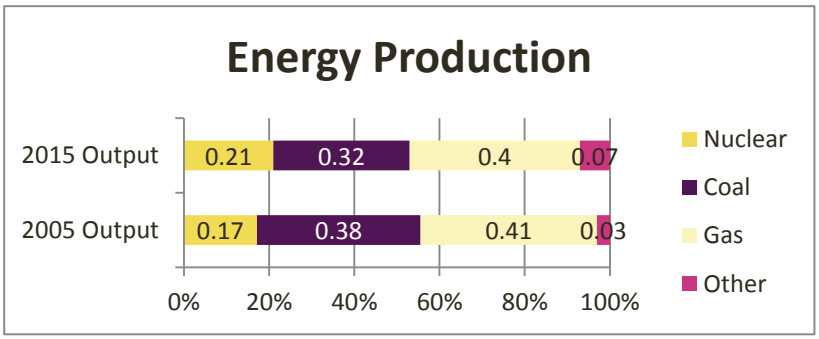
Company B	28 / 52 x 100 =	54%
Company C	30 / 49 x 100 =	61%
Company D	25 / 40 x 100 =	63%

Therefore the answer is Company D.

Bar charts can be horizontal as well as vertical. Also, they can be used to show percentages or proportions.

Example

This bar chart shows Energy Production sources. It displays the proportion for each source (for example, in 2005, 0.38 of energy output, or 38%, was produced from coal).



(i) *In 2005, total output from all fuels was 250 TWh. How much energy was produced from gas?*

The proportion produced from gas is 0.41, and so we calculate
0.41 x 250 = 102.5 TWh

(ii) *In 2015, energy production had increased by 8% since 2005. What was the 2015 output from nuclear?*

The 2015 output is 100% + 8% = 108% of the 2005 output. Therefore the 2015 output is
108% x 250 = 270 TWh
The nuclear proportion for 2015 is 0.21, so we have 0.21 x 270 = 56.7 TWh

Note

You do not need to understand everything in order to work answers out – for example, TWh stands for 'Terra Watt hours' but you can easily answer the questions without knowing this.

(iii) *What was gas output in 2010?*

The correct answer is 'We cannot say' since no data for 2010 is given, nor can be implied from this chart.

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