

Answer Key

Visualising summarised data using bar graphs

Using the pivot tables you generated in the previous tutorial, generate:

Q1. A 100% stacked bar graph showing mobility score as a function of bedding type.

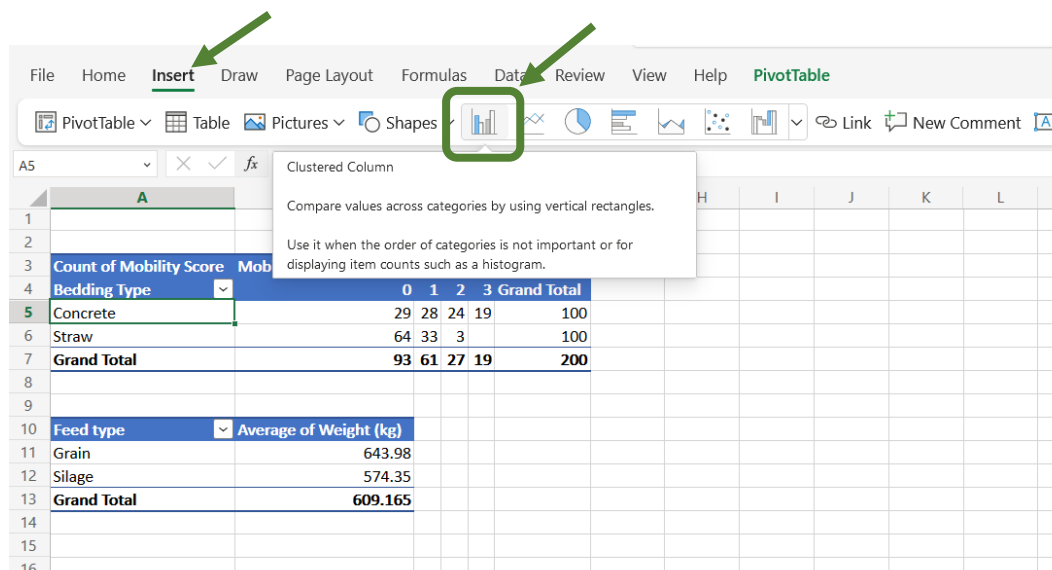
Q2. A bar graph showing average weight as a function of feed type.

Answers

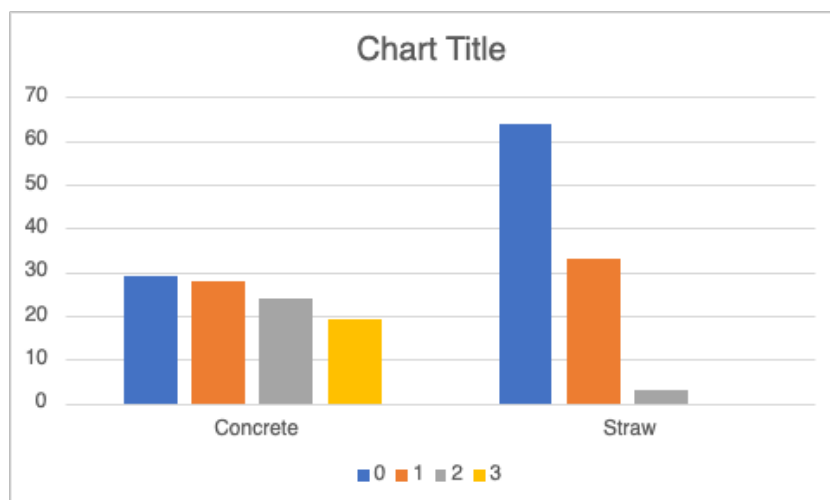
Q1:

Use the first pivot table you created, which looks at **Bedding Type** and **Mobility Score**, to generate a bar graph.

Click any cell in the pivot table, then click the **Insert** tab in the Excel ribbon. Then select the “Clustered Column” chart from the ribbon as shown below:



The graph will look like this:

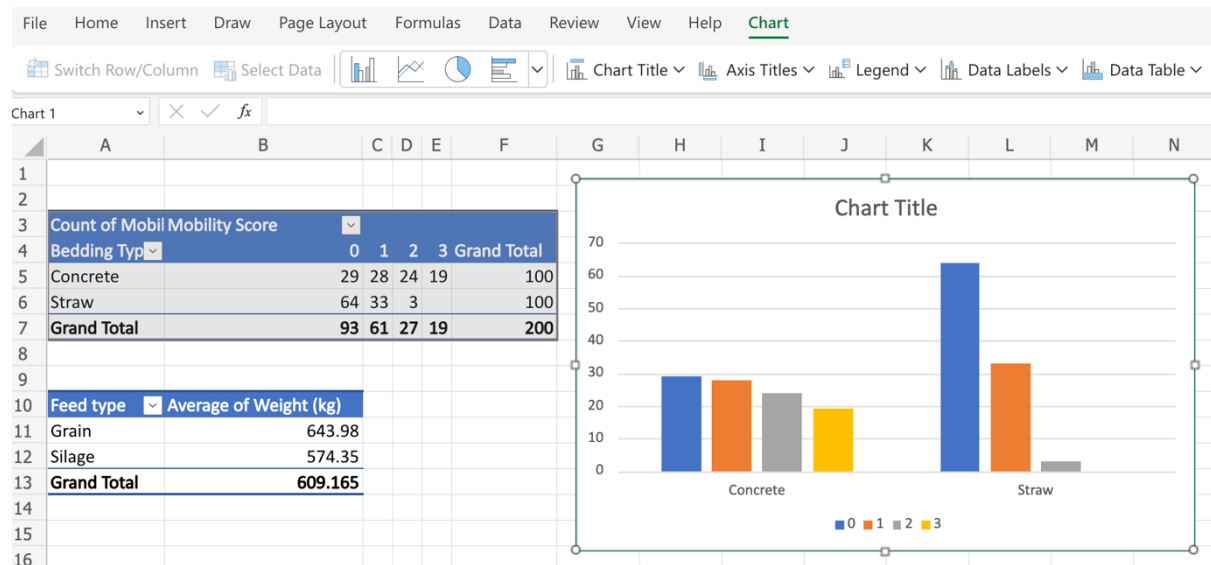


This is useful, but not the most easy-to-read graph for these data. A 100% stacked bar graph is a better choice.

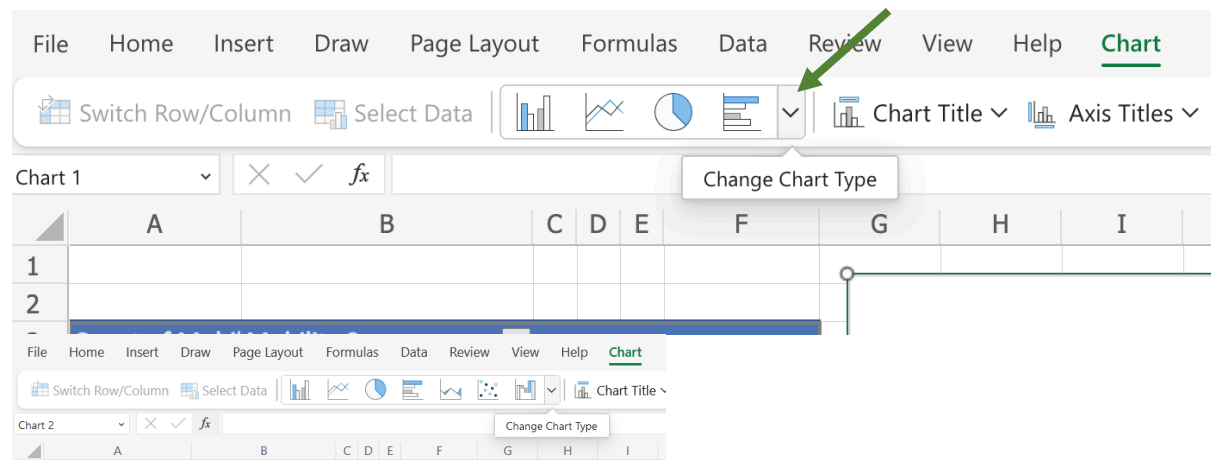
Answer Key

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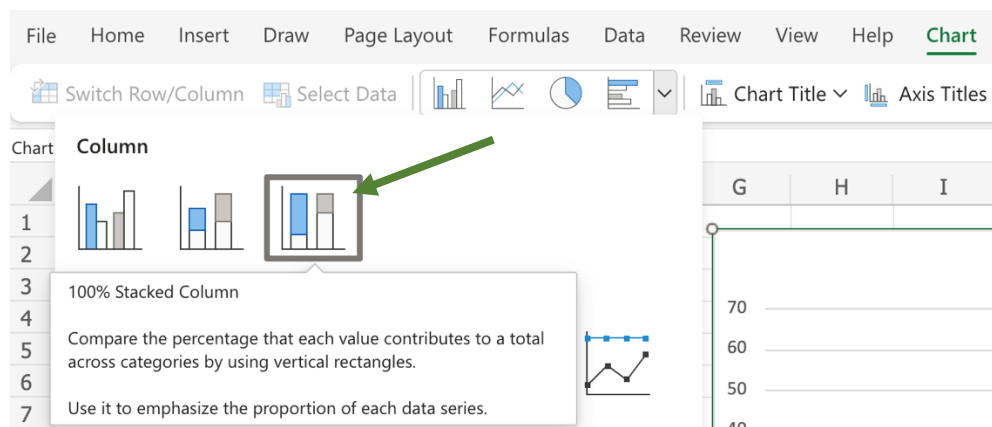
To convert the graph type, first click anywhere on the bar graph. Then check the **Chart** heading is underlined in the Excel ribbon:



Click on the small arrow next to the graph icons to **Change Chart Type**:



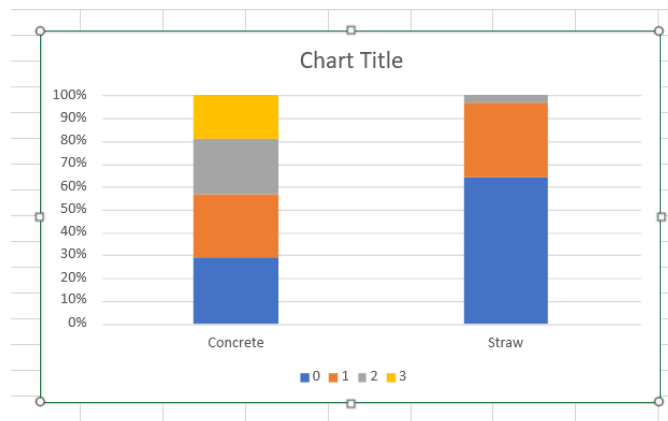
Select the **100% stacked column** option from the pop-up menu:



Answer Key

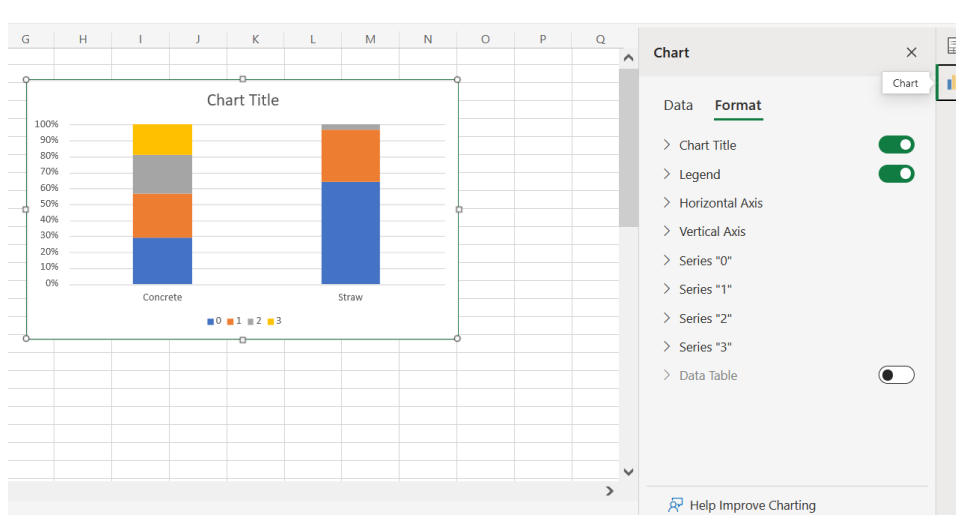
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This will produce the chart shown below:

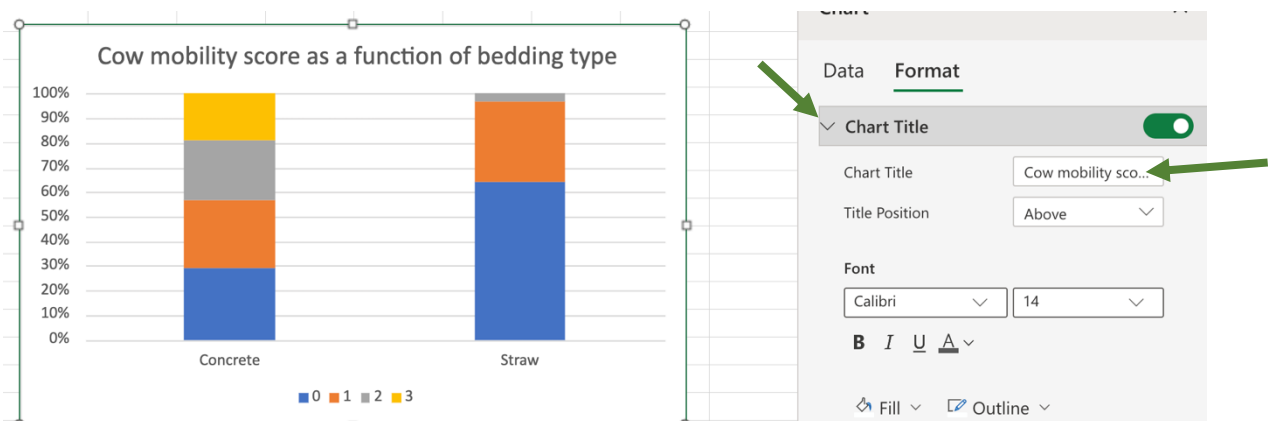


You can now tidy up the graph to make it easier to read.

Double click anywhere on the graph to open the **Chart Options** menu sidebar:



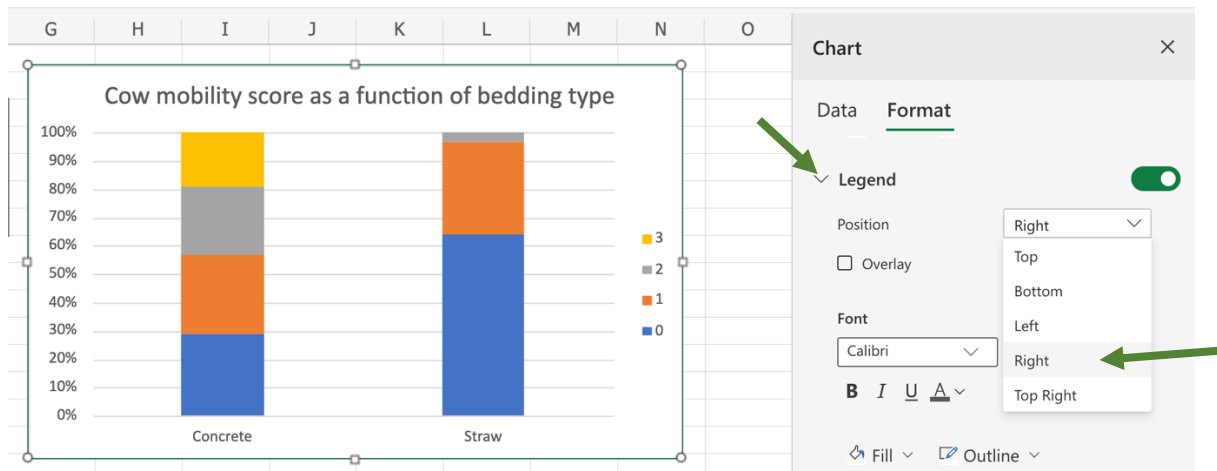
Click on the arrow next to **Chart Title** to reveal the options. Rename the graph **Cow mobility score as a function of bedding type** by typing a title into the **Chart Title** box:



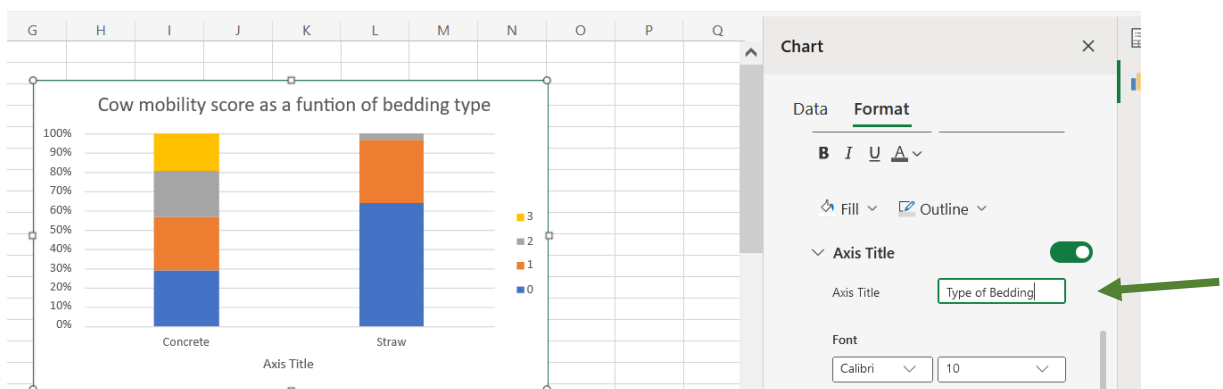
Answer Key

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Move the legend to the right side of the graph by clicking the arrow next to the Legend item and selecting **Right**:



Label the horizontal and vertical axes by selecting them from the list, toggling the **Axis Title** option on and typing the relevant label in the **Axis Title** box:



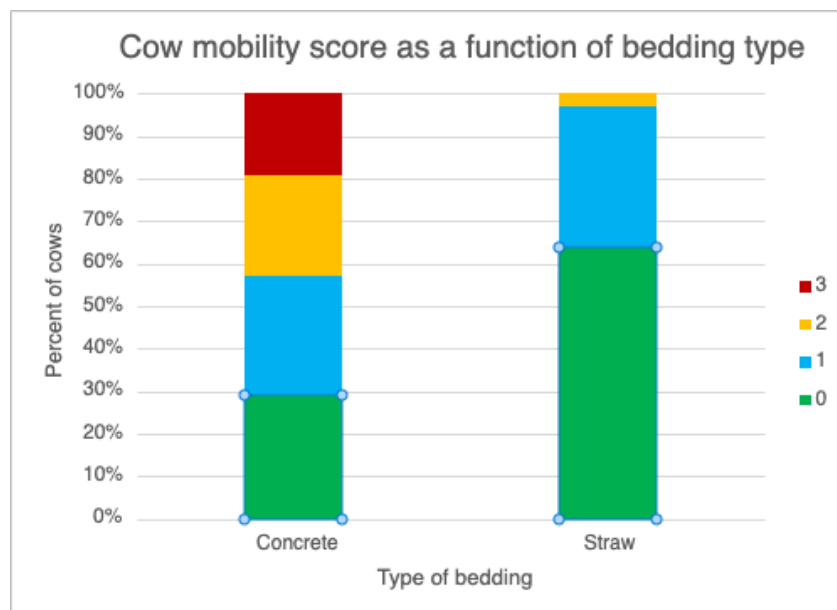
You can then customise the colours on the bar graph by clicking onto one of the colour blocks, and selecting your preferred **Fill Colour** from the options:



Answer Key

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Your final graph will look like this:



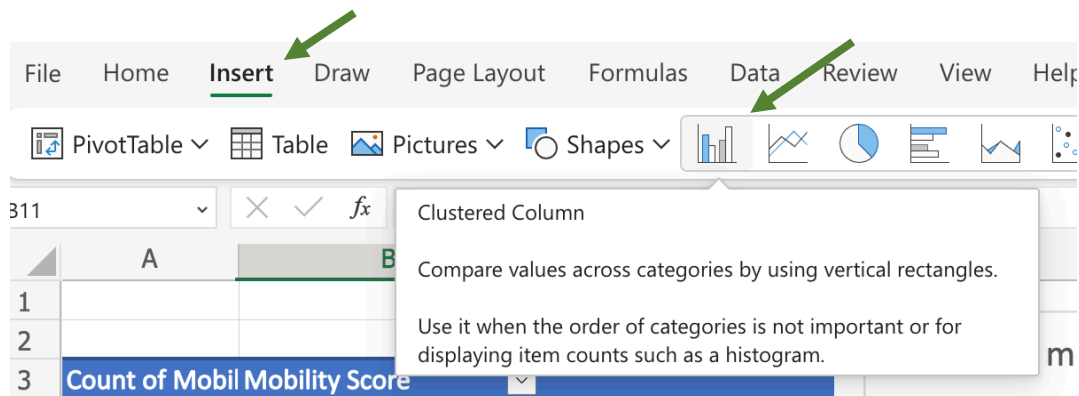
This visualisation clearly shows the difference in mobility scores between the two groups. If the number of cows in each group was different (for example, 120 cows on concrete and 73 cows on straw), it would be much easier to compare the data using this visualisation than with the raw numbers alone.

Answer Key

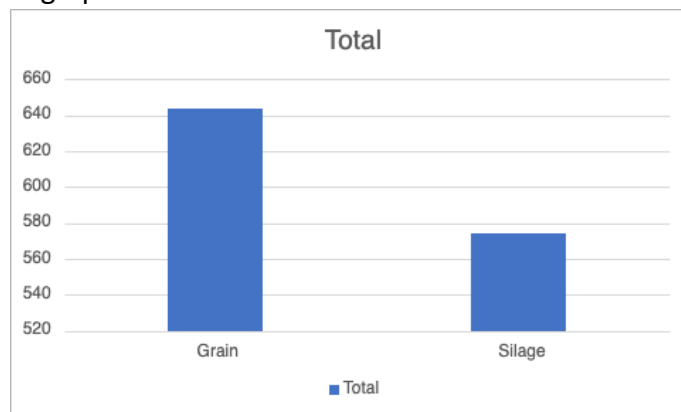
Visualising summarised data using bar graphs

Q2

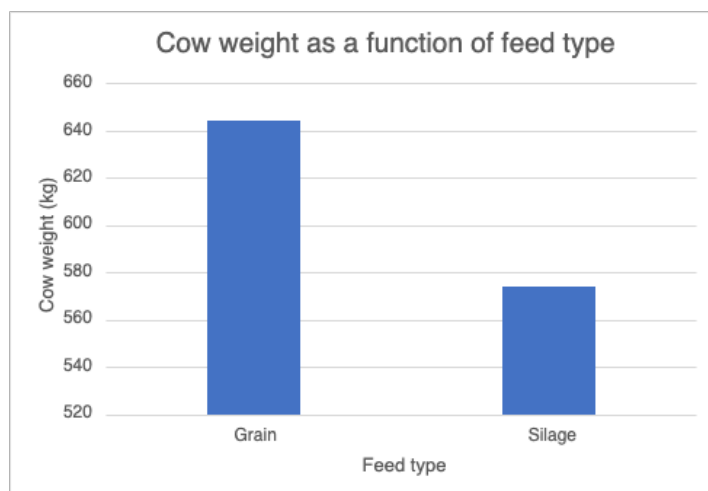
To generate a bar graph showing average weight as a function of feed type, click any cell in the second pivot table, then **Insert**. This time you just need a simple bar graph so select the Clustered Column option:



Excel will produce this graph:



You can then customise the chart table and axes labels, as described above, and toggle off the legend in the chart sidebar to produce this version:



This graph makes it easy to see the increased average weight of cows fed silage and grain, when compared to those receiving a silage-only diet.