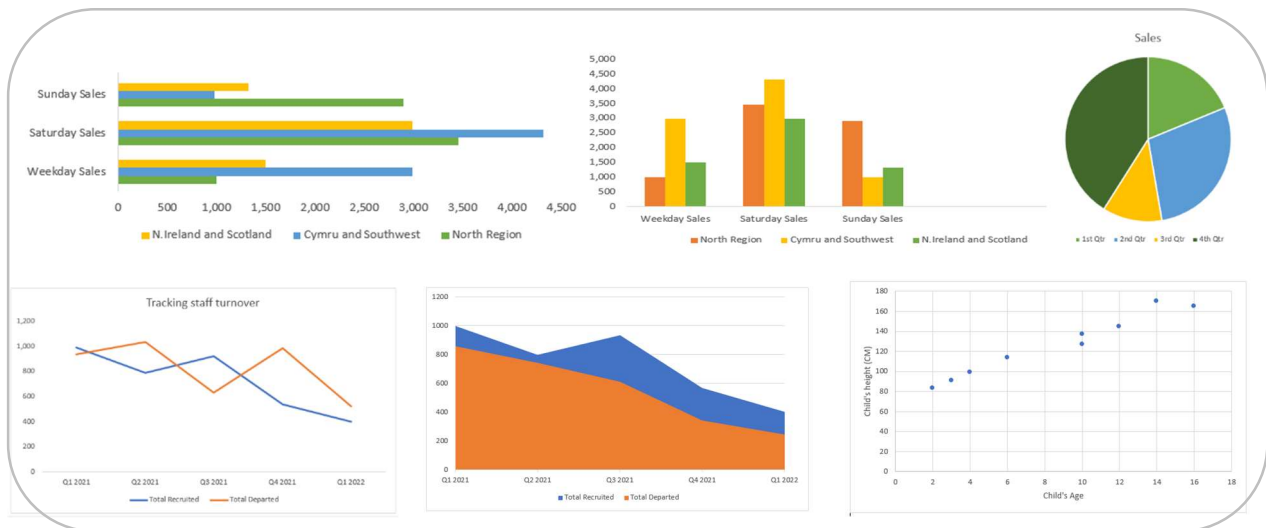# Which type of chart should you use?

If you are not sure which chart can best present your different types of data, here is a look at some of the basic charts and when you could use them most effectively.

Bar charts and column charts are the same family of graphs, but they are explained separately in this guidance because they are not always interchangeable.
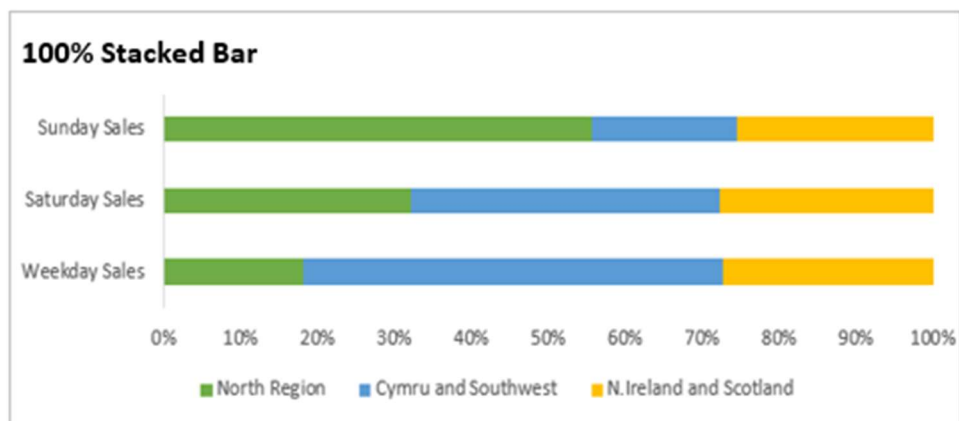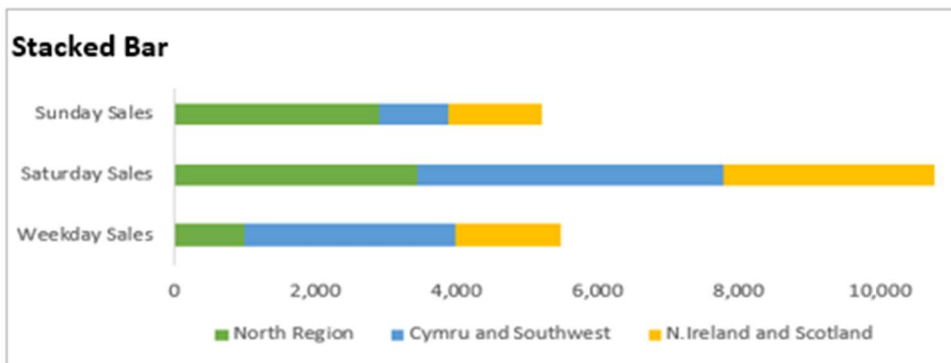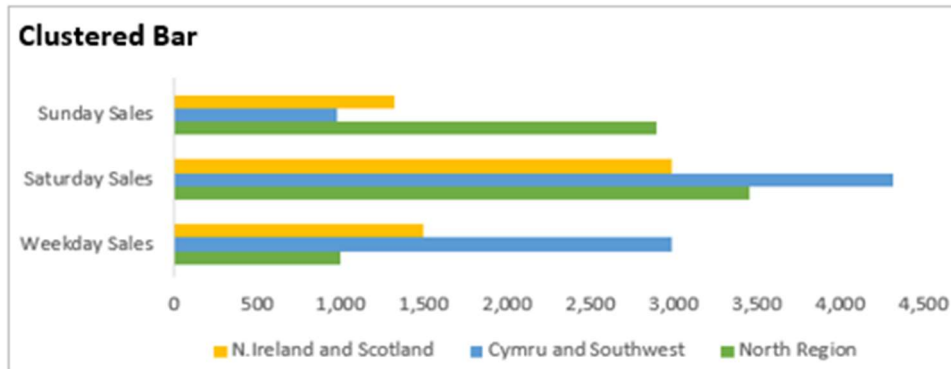
## Contents

# Bar chart

- Used to compare parts with the whole or different categories – how many/much
- Useful for data with long category labels
- Easy to understand – readers can see differences at a glance
- Conveys that the values 'fill up' from zero each month/quarter, etc
- Can handle more categories than a Column chart because the vertical axis can be expanded
- Does not display negative values very well

# Column chart

- Used to compare parts with the whole or different categories – how many/much
- Can be used for percentage variations over time to spot trends
- Easy to understand – readers can see differences at a glance
- Better than Bar chart at displaying negative values
- If your labels are long, use a Bar chart instead
- Difficult to read if there are too many categories – 10 approx. at most

**Clustered Column**

**Stacked Column**

**100% Stacked Column**
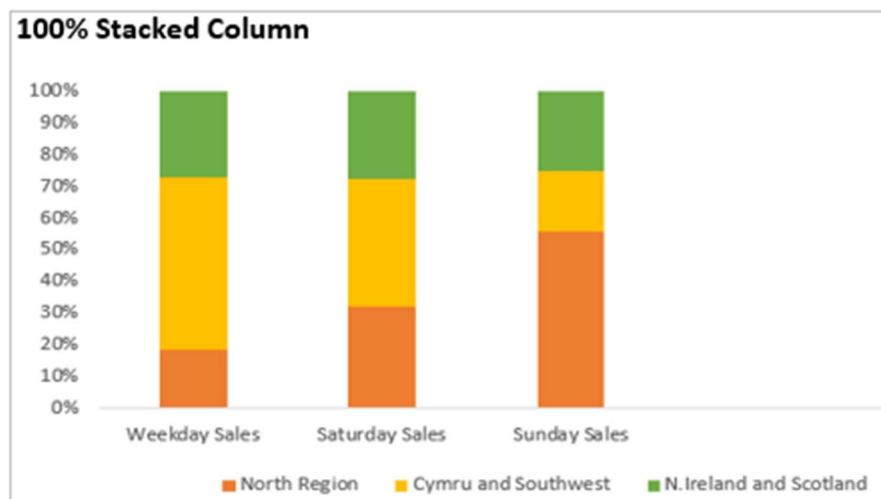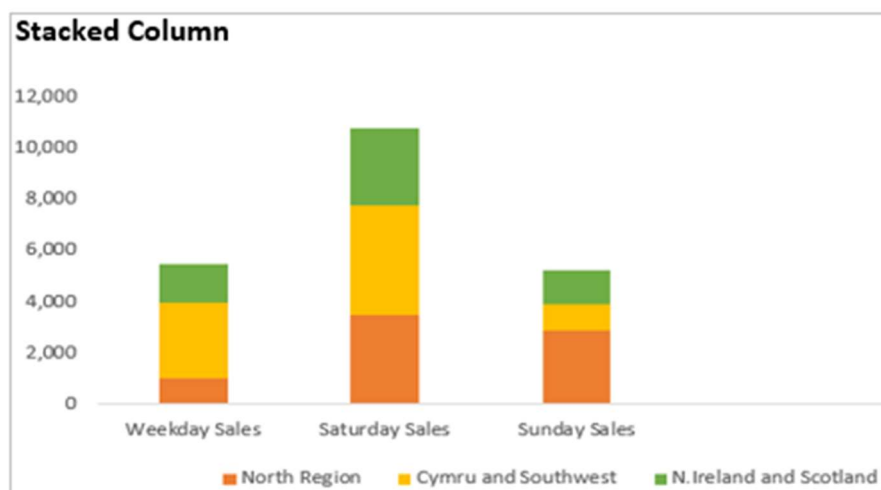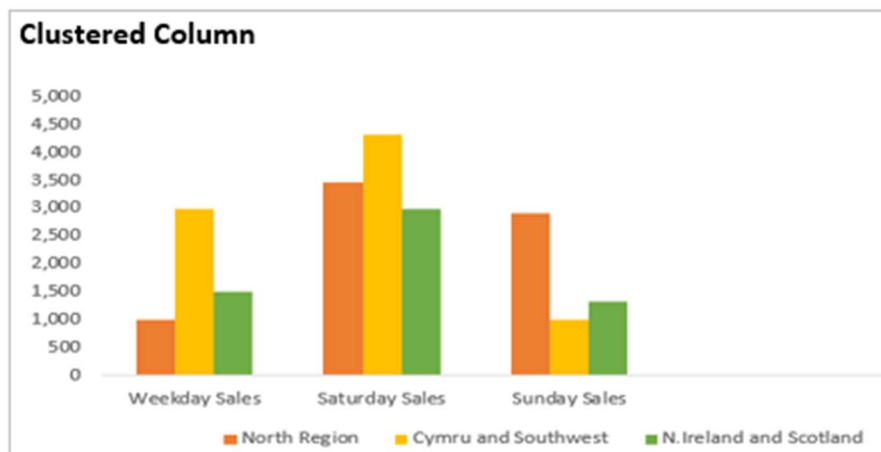
# Pie chart

- Pies are used for part-to-whole comparisons with only a few categories (no more than five or six)
- Each 'slice' refers to a portion of the whole (i.e. 100%)
- Any type of data that can be broken down into comparative categories can be displayed this way
- Can only represent one data set
- It does not show changes over time
- It can be hard to show or see differences easily if some slices are similar in value
- **Doughnut** charts can contain more than one data series. Each data series that you plot in a doughnut chart adds a ring to the chart
- Doughnuts make it harder to see differences in size between the arcs

**Pie**

Sales



■ 1st Qtr   ■ 2nd Qtr   ■ 3rd Qtr   ■ 4th Qtr

**Doughnut**



Sales Breakdown 2021

■ 1st Qtr   ■ 2nd Qtr   ■ 3rd Qtr   ■ 4th Qtr
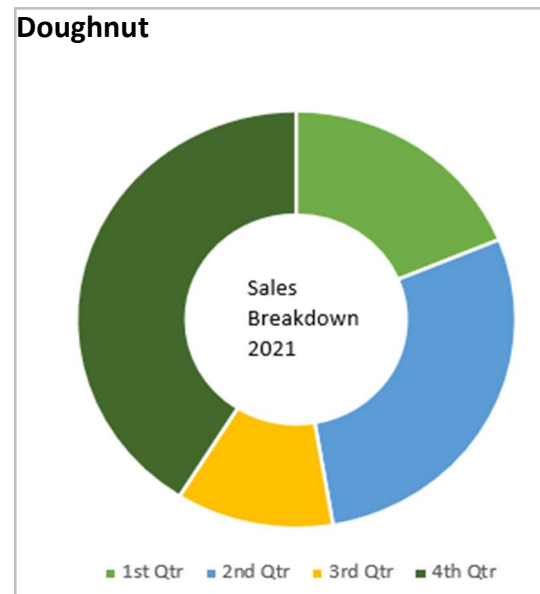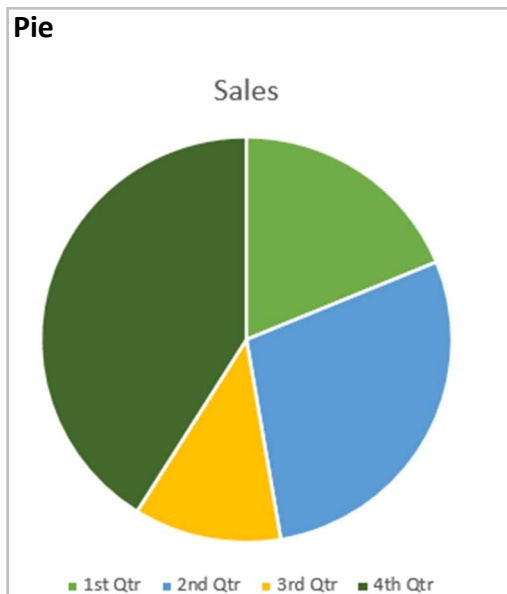
# Line chart

- Created by plotting a series of points/markers and connecting them with a line(s)
- Used to show information that changes over short or long periods of time
- Works well for a high number of values or values with different time intervals that are evenly spaced (e.g. months, quarters)
- Conveys numbers that increase or decrease continuously (e.g. population, etc)
- Can handle lots of data
- You can add a comparison data line for context (e.g. average, data from other companies, etc)
- Can be used to compare changes over a period of time for more than one group
- Useful if you want to show that one category overtook another
- Does not have to start at zero value
- Not to be used to show values in different categories
- If the sum of your categories is important, use an Area chart instead
- If you only have a few values of one category at the same time intervals, use a Column chart instead (easier to compare)
- Using more than a few lines looks cluttered
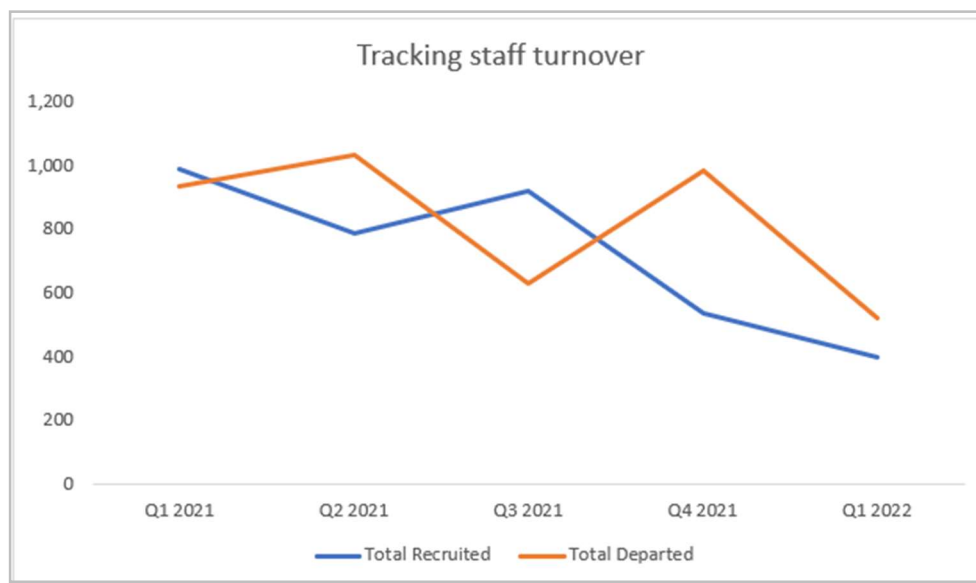
# Area chart

- An area chart is a line chart where the area between the line and the axis are shaded with colour
- Typically used to represent accumulated totals over time
- Works best if the total is as important as the categories (otherwise, use a Line chart)
- Can be used for more than one group
- Useful when tracking the changes in two or more related groups that make up a whole category
- Works best for considerably large differences between values
- Works best to show multiple values over time (if only one, use Line)
- Works best if you have many dates (if less than 10, use a column chart)
- Has to start at zero value (unlike a Line chart which can start at any value)
- Not to be used to show how values differ in different categories
- Not easy to read so often a line chart or stacked column/bar is better if possible
- Can show trends over time among related categories
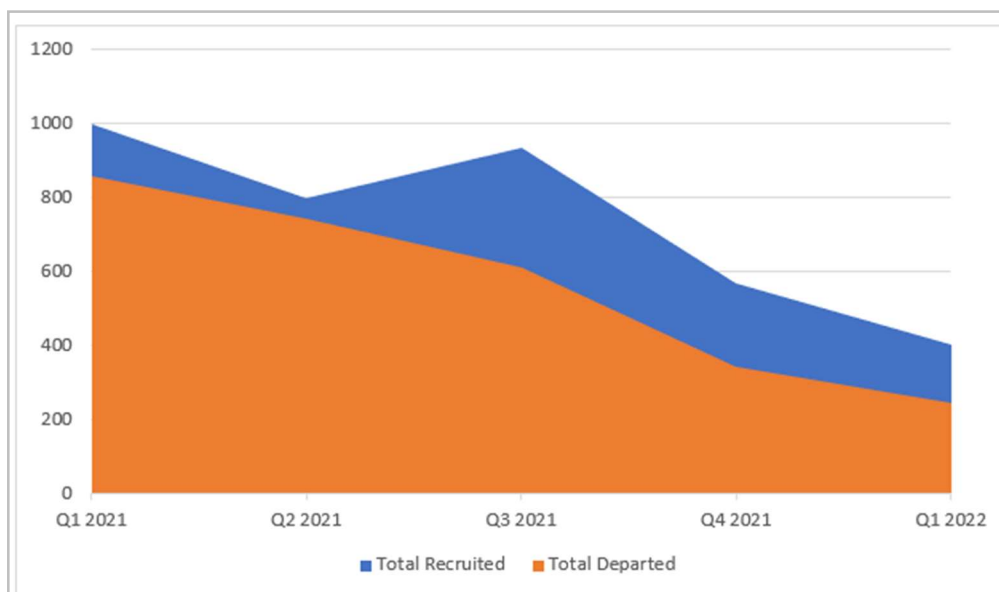
# Scatter plot (aka X-Y graphs)

- Used to understand relationships or patterns in data between two variables, dimensions or categories.
- The X axis (horizontal) is used to measure one variable, the Y axis (vertical) the other.
- It combines the values into single data points and displays them in clusters or intervals
- Best used for data sets which have some form of association between two different elements within the data