







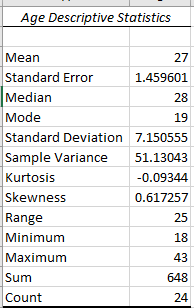
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| **DATE** | 19/01/2022 |

| **ACTIVITY 1: MEAN AND MEDIAN** |
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| Calculate the mean and median of the following lists of data (order the list in order for the median):   | Student Score Percentages | | --- | | 80 | | 79 | | 60 | | 83 | | 70 | | 74 | | 59 | | 64 | | 70 | | 91 |   Mean:73  Median: 72   | Height (cm) | | --- | | 175 | | 190 | | 187 | | 185 | | 179 | | 180 | | 184 | | 178 | | 175 | | 180 |   Mean:181.3  Median:180   | Weight (kg) | | --- | | 70 | | 78 | | 68 | | 91 | | 85 | | 79 | | 63 | | 59 | | 75 | | 81 |   Mean:74.9  Median:76.5 |

| **ACTIVITY 2: USING EXCEL** |
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| Use the data sets from Activity 1 and import them into a spreadsheet on Excel.  Calculate the quartiles for each data set.  **Student Score**  **Height**  **Weight**      Percentile for different %s e.g 33% or 90% (1-100) can do 0.01 etc  Quartiles for increments of 25%/ ¼ (25,50,75,100) |

| **ACTIVITY 3: CREATING A CHART** |
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| How would you present this data? Use the spreadsheet file provided.   | **Year** | **Lions** | **Tigers** | **Cheetahs** | | --- | --- | --- | --- | | **2003** | 3023 | 2708 | 2314 | | **2004** | 2875 | 2589 | 2356 | | **2005** | 2608 | 2512 | 2290 | | **2006** | 2451 | 2490 | 2298 | | **2007** | 2201 | 2500 | 2271 | | **2008** | 2083 | 2584 | 2301 |   Ages      Pie chart as we only have one set of data. Shows a proportional representation of different ages visually.  A bar chart could also be used for an easier visualisation.  Wildlife Populations    Bar chart to show populations of wildlife. Easiest way to visually spot a trend. We can see that after 2003 the populations of wildlife steadily declined with a short rise in the population of tigers in 2008.      Combo chart to show if there is any correlation between a given temperature in a month and profits. Visually easier to spot a correlation compared to a line chart. |

| **ACTIVITY 4: EXCEL** |
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| On the example spreadsheet on Age, calculate the:   * Mean * Median * Mode * Standard deviation * Minimum * Maximum |



| **ACTIVITY 5: TYPES OF CHARTS** |
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| In your groups, research what different types of charts that can be used and think about how they might compare to charts we have previously discussed.  What do you think they are normally used for and what are the pros and cons for each?  Column Charts - Better used for smaller data sets not so good for large data sets.  Pros  when the data has a few specific categories with single values  A column chart is an excellent choice while portraying data sets for a certain span of time  **Cons**  **Require additional written or verbal explanations**  **Small value counts are difficult to plot** |

Radar

Advantages

Multiple data and variables can be plotted and compared.

Great for visualising comparison between multiple data.

Simple and easier to understand than the column diagrams.

An easy way to compare one single piece of data with a group of information/data.

Entities are distinguishable via colour-coding.

Disadvantages

With a couple of observations plotted, charts can become crowded and confusing.

Sometimes it is difficult to find a data scale that is fit for all ranges of values.

Not effective for comparing vastly distinct entities.

Sometimes they can oversimplify values and provide misleading conclusions.

used for comparing multiple data points.

e.g staff appraisals

needs to colour code for certain data point

Scatter Charts

Used for large datasets

Pros

the most effective way to demonstrate a non-linear sequence.

It is possible to calculate the data flow's range, i.e., the maximum and minimum values.

Observation and reading are done easily.

Plotting the diagram requires a few quick steps.

Cons

Can only depict relationship between two variables

Interpretation can be subjective

https://www.edrawsoft.com/chart-types-uses.html

| **ACTIVITY 6: COMBO CHARTS** |
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| Using the Combo sheet, create a combo graph that represents the total profits made and the temperature at that given month.  Use a combination of a line graph and bar chart to differentiate the two variables.  Label the chart with the appropriate legends. |

| **ACTIVITY 7: VENN DIAGRAM** |
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| In a survey, 45 people were asked what type of books they read.   * 12 read both crime and horror * 9 read neither crime or horror * Twice as many crime books were read than horror     **How many read crime in total?**  **How many read *just* horror?**    2nd attempt    1. Adds up to 36  2. Crime has to be at least 24  6. 36-24 crime books = 12 people we need to find.  7 2:1 ratio  8. 12/3 =4  9. 2x4 = 8 crime books  10 1x4 = 4 horror books ------  11 24+8 = 32 |