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| **Topic/Skill**  | **Definition/Tips** | **Example****Topic: Representing Data**  |
| 1. Frequency Table | A record of **how often each value** in a set of data **occurs**. | Image result for math definition frequency table |
| 2. Bar Chart | Represents data as vertical blocks.$x-axis$ shows the **type** of data$y-axis$ shows the **frequency** for each type of dataEach bar should be the **same width**There should be **gaps** between each barRemember to **label** each axis. | Image result for gcse bar charts |
| 3. Types of Bar Chart | **Compound/Composite** Bar Charts show data stacked on top of each other.**Comparative/Dual** Bar Charts show data side by side. | Image result for compound bar chartsImage result for comparative bar charts |
| 4. Pie Chart | Used for showing **how data breaks down** **into** its constituent **parts**.When drawing a pie chart, **divide 360° by the total frequency**. This will tell you how many degrees to use for the frequency of each category.Remember to **label** the category that each sector in the pie chart represents. | Image result for pie chart gcseIf there are 40 people in a survey, then each person will be worth 360÷40=9° of the pie chart. |
| 5. Pictogram | Uses **pictures** or symbols to **show the value** of the data.A pictogram must have a **key**. |  |
| 6. Line Graph | A graph that uses **points connected by straight lines** to show how data changes in values.This can be used for **time series data**, which is a series of data points spaced over uniform time intervals in **time order**. | Line Graph |
| 7. Two Way Tables | A table that **organises data** around **two categories.**Fill out the information step by step using the information given.Make sure all the totals add up for all columns and rows. |  |
| 8. Box Plots | The minimum, lower quartile, median, upper quartile and maximum are shown on a box plot.A box plot can be drawn independently or from a cumulative frequency diagram. | Students sit a maths test. The highest score is 19, the lowest score is 8, the median is 14, the lower quartile is 10 and the upper quartile is 17. Draw a box plot to represent this information. |
| 9. Comparing Box Plots | Write two sentences.1. Compare the **averages** using the **medians** for two sets of data.2. Compare the **spread** of the data using the **range or IQR** for two sets of data.The smaller the range/IQR, the more consistent the data.You must compare box plots **in the context of the problem**. | ‘On average, students in class A were more successful on the test than class B because their median score was higher.’‘Students in class B were more consistent than class A in their test scores as their IQR was smaller.’ |

**Knowledge Organiser**