**Mystery Data Analysis Investigation**

**Learning Intention:***I can analyse a data set and present it using Microsoft Excel*

**READ THIS ☺** The table below contains data collected from an experiment, but no one knows what the aim of it was. There were testing how temperature affects the time (s) of *something*… but what? Read the question and answer in the space/box provided.

**Mystery Data Table**

|  |  |
| --- | --- |
|  | **??? Time (seconds)** |
| **Temperature (°C)** | **Trial 1** | **Trial 2** | **Trial 3** | **Average** |
| 10 | 5.2 | 4.8 | 5.6 |  |
| 20 | 4.7 | 4.5 | 5.2 |  |
| 30 | 3.5 | 4.6 | 4.2 |  |
| 40 | 4.0 | 3.2 | 3.6 |  |
| 50 | 2.9 | 3.4 | 6.4 |  |

**Questions:**

1. What measurement in the table above is likely due to a ***mistake*** *(an outlier)*? Explain why you think this.

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1. Ignoring the outlier, **calculate** the average and fill in the table.

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1. What is the **independent** variable in this experiment? *\*You may need text p.32 to help.*

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1. What is the **dependent** variable in this experiment?

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1. What **trend/pattern** do you notice in the reaction time as temperature increases?

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1. Suggest what YOU THINK was being tested and why? Give **3 good** reasons for your suggestion.

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| Suggestion:Reasoning:1 –2 – 3 –  |

1. What **inference** can you make about how temperature affects time (for what you think they are testing)?

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1. A) Create the following table in **Excel**. \*Fill in the **average** results from the table above. USE Google to help you with how to make the table and graph in Excel – there is a lot of help online!

**Ensure** you have formatted the cells with numbers in them as ‘number’ with 1 decimal place.

*\*highlight all the number cells, right click, format…*

|  |  |
| --- | --- |
| **Temperature (°C)** | **Average Reaction Time (s)** |
| 10 |  |
| 20 |  |
| 30 |  |
| 40 |  |
| 50 |  |

B) Make a **scatter graph** of this data in excel. You must include…

 - a title

 - x and y axis labels

 - trendline (polynomial curve)

C) Take a **screenshot** of your completed graph and insert it here: