PAPER SPREADSHEET.

PAPER SPREADSHEET.

The hands-on stage - being able to work with data in practical ways.

Key Abilities:

Acquire raw data ad transform it into a tidy structure structured form, ready for analysis.
Use basic tools like Excel for analysing data and basic coding.
Formulate questions that clarify what you want to learn and drive meaningful analysis.
Interpret charts that use various techniques and understand the benefits of design simplicity.
Understand the basic statistics (averages, trends, distributions).

Typical Learner Mindset:

"I can work with data, explore it, and draw meaningful conclusions"

PAPER SPREADSHEET.

Before beginning to analyse and tell stories with data, you have to understand what data is and how to make sense of it.

This activity provides an introduction to data.

AGENDA.

- Create Paper Spreadsheet
- Overview
- Discussion
- Reflection On The Paper Spreadsheet
- Types Of Data Captured
- Data Cleaning & Storytelling
- Conclusion

CREATE PAPER SPREADSHEET – 10 MINUTES.

- As people arrive get them to fill in the following sheet that will be available in the room.

First Name	
Hometown	
Colour of Shirt \ Top	
Number of Siblings	
Date and Month of Birth	
Experience of Data	

- **Participation is optional and you <u>don't</u> have to answer any of the questions**.

OVERVIEW – 2 MINUTES.

- This activity introduces **foundational** data concepts by collaboratively building and analysing a large paper spreadsheet.

- We will explore **what data is**, how it is collected, the limitations of datasets, and the importance of **data cleaning** and **interpretation**.

DISCUSSION – 5 MINUTES.

- Invite 2 volunteers to introduce themselves using the information they wrote.

- Data consists of systematically **collected observations** about the world.
  - However, collecting data always involves **reduction** or **simplification**.

  - **No dataset captures everything**.

REFLECTION ON THE PAPER SPREADSHEET DATA – 5 MINUTES.

- **Discussing Data Nuance and Completeness**

  - Do the **colours** that people wrote down **fully capture** the **texture** or **nuance** of their clothing?

  - If someone wore a **striped** or **patterned shirt**, what did they choose to write?

  - Do these questions capture **enough** about each person to **analyse meaningfully**?

  - What information might be **missing** that would help us **better understand** this dataset?

TYPES OF DATA CAPTURED – 5 MINUTES.

Qualitative
Quantitative
Geographic
Categorical
Temporal
Open Text as Data

- Many people think of **data as numbers**.
  - What other **kinds** of **data** have we **captured** here?

- Can you identify the **data types** in our spreadsheet?

First Name	Qualitative
Hometown	Geographic
Colour of Shirt	Categorical
Number of Siblings	Quantitative
Date and Month of Birth	Temporal
Experience of Data	Open Text as Data

- Numbers are easy to sum or average.
  - How could we organise **non-numerical** data?

TYPES OF DATA CAPTURED.

- **Qualitative Data**

  - **Qualitative** data is **information described in words rather than numbers**.

  - It captures the ***qualities***, ***characteristics***, or *nature* of something — the things you can observe, describe, or interpret, but not measure with a ruler or count directly.

TYPES OF DATA CAPTURED.

- **Categorical Data**

  - **Categorical data** is **information sorted into groups or labels rather than numbers**.

  - Each value belongs to a ***category***, not a measurable **quantity**.

  - It tells you ***what*** *type* something is, not *how much*.

TYPES OF DATA CAPTURED.

- **Quantitative Data**

  - **Quantitative** data is **information that can be measured and expressed with numbers**.

  - It deals with **quantities** — things you can count, compare, or calculate.

TYPES OF DATA CAPTURED.

- **Temporal Data**

  - **Temporal data** is **information that includes time as a core part of its meaning**.

  - It tracks how something **changes**, **moves**, or occurs *over time*, making the timing, order, and duration of events essential to understanding the data.

DATA CLEANING AND STORYTELLING – 5 MINUTES.

- **Addressing Consistency and Interpretation**

  - If we wanted to **map** participants' hometowns, how could we do that?

  - Are there **inconsistencies** in how people wrote their hometown?

  - Did everyone **interpret** "hometown" the same way?

DATA CLEANING & STORYTELLING.

- **Patterns in Data Quality**

  - What **consistencies** or **inconsistencies** do you notice in the dataset?

  - Did **everyone** fill in every column?

  - Did **anyone opt out entirely**?

CONCLUSION – 1 MINUTE.

- Data is always a **simplified representation of reality**.
- Different data types require **different methods** of organisation and analysis.
- Data cleaning is essential for **meaningful storytelling**.
- **Ethical** and **privacy** considerations **matter** even in simple datasets.