



Excel for Sorting & Analysing

DISCOVER. LEARN. ANALYSE. SHAPE. REPEAT

BE MORE DATAWISE

#DatawiseLondon



Today's agenda

- 10:00 Welcome, housekeeping & Datawise introduction
- 10:10 Morning session – part 1
- 11:40 Break
- 11:55 Morning session – part 2
- 1:00 Lunch
- 1:40 Afternoon session
- 2:50 Wrap up
- 3:00 Finish



FOR CHARITIES & COMMUNITY ORGANISATIONS



London's community data is one of our greatest assets - our mission at Datawise is to help you unlock it.

DISCOVER. LEARN. ANALYSE. SHAPE. REPEAT.



**TRAINING, ADVICE AND HELP
WITH DATA CHALLENGES**

For people who want to explore the role of data in shaping their own charity or community organisation's services - or influencing others.

Our mission at Datawise London is to help you unlock the value of data.

We aim to improve use of data by small local charities and community organisations, leading to better shaping of services to meet the needs of Londoners.

<http://bit.ly/datawiselondon>



New partnership programme



COALITION
— FOR EFFICIENCY —



Makerble

london plus

DataKindUK

Introductions

Please tell us all a bit about yourself, for example:

- ✓ Who you are
- ✓ Which organisation you come from
- ✓ What your role is
- ✓ What you hope to get out of today



Excel Sorting & Analysing data what we'll cover today...

- ✓ Superhighways Guide to Sorting & Analysing data
- ✓ Working with Excel – general tips
- ✓ Viewing spreadsheets
- ✓ Managing data with tables
- ✓ Creating a workable dataset
- ✓ Formulas & Functions
- ✓ Pivot tables
- ✓ Presenting your data



Topic 1: Working with Excel

- ✓ Understanding the ribbon
- ✓ Getting help
- ✓ Correcting mistakes
- ✓ Different versions of Microsoft Excel



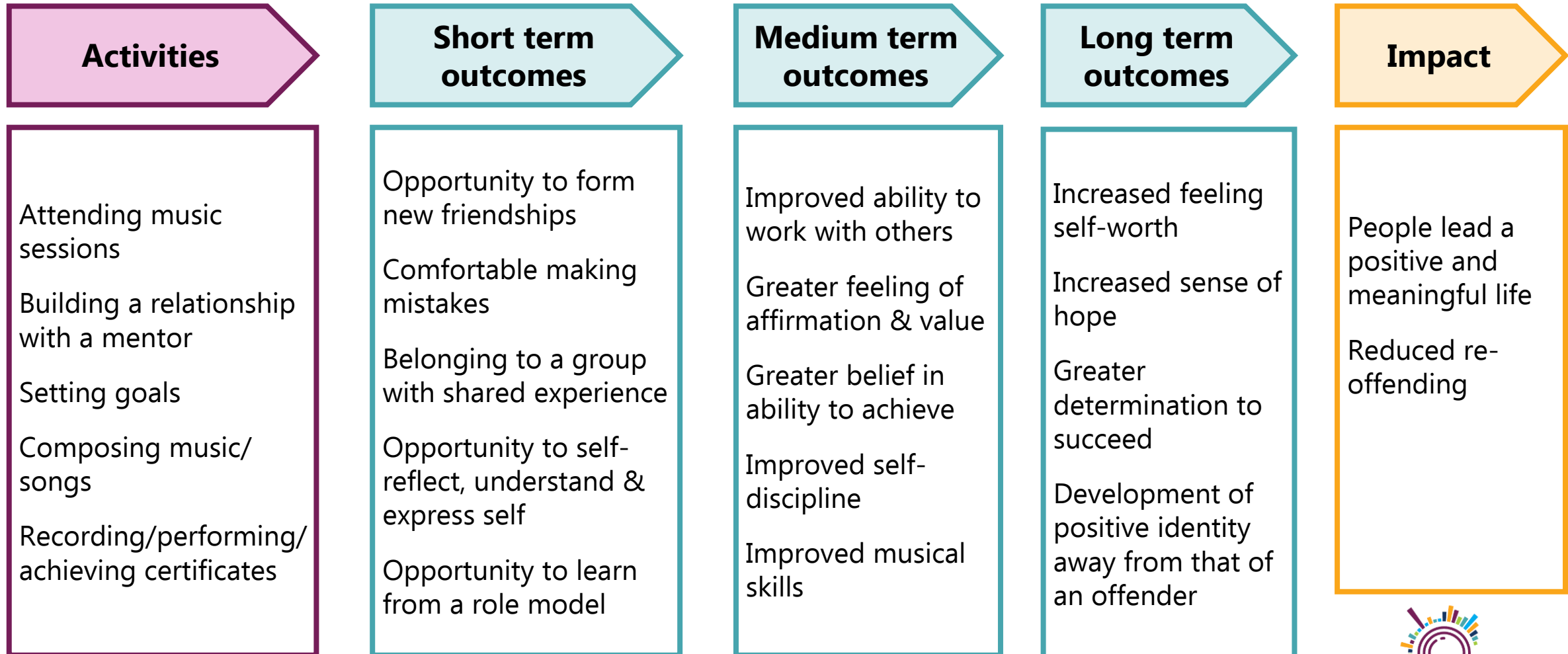
Today's data: Music Mentors

Music Mentors work with young offenders in prisons. People sign up to take part in group sessions where they work together with other offenders and mentors to write, play and record music.

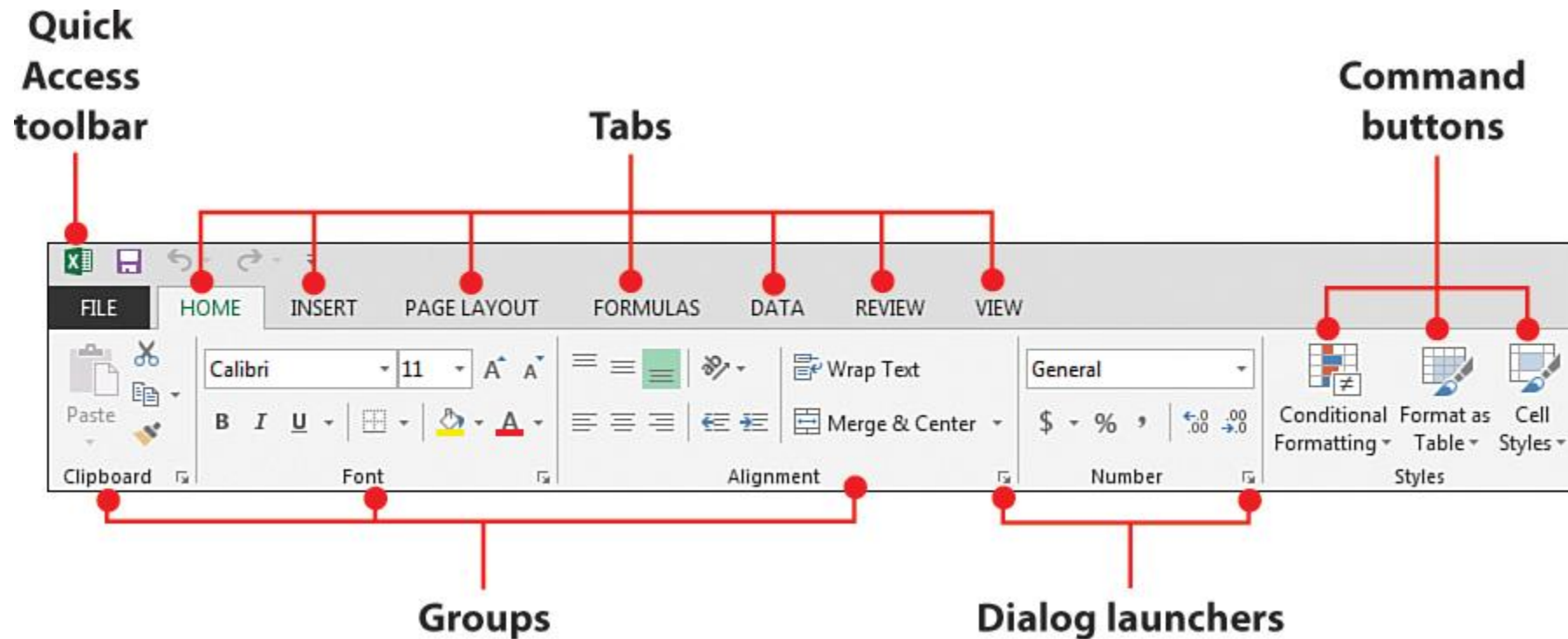
The data we are using today is fictional data for the programme which we have created for training purposes.



Logic model / theory of change



Understanding the ribbon



Getting Help

The screenshot shows the Microsoft Excel interface with the PivotTable task pane open. The task pane is titled "Pivot" and contains the following sections:

- Best Action:** PivotTable
- Actions:** PivotChart, Recommended PivotTables
- Get Help on:** "Pivot" (10 results)

Two red boxes with arrows point to specific elements in the task pane:

- A box labeled "Launch an Action" points to the "PivotTable" item in the "Best Action" section.
- A box labeled "Launch Help" points to the "Pivot" item in the "Get Help on" section.

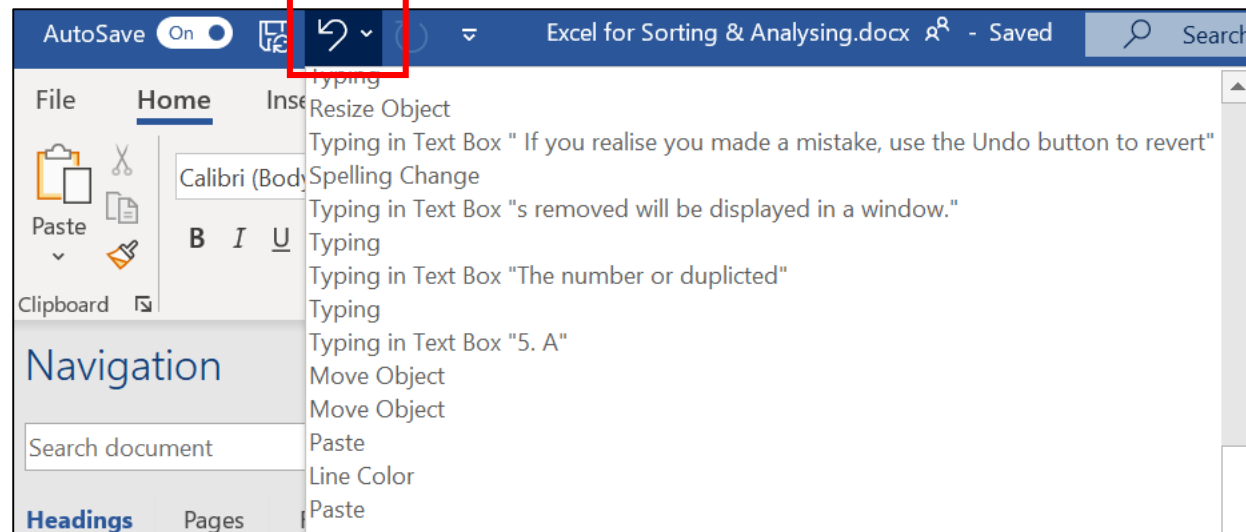
The background shows a spreadsheet with the following data:

	A	B	C	E	
1	Name	Prison	Date of birth	Date registered	Instr
2	Wolfgang Puck	HMP Pentonville	11/10/1982	20/01/2002	Bass
3	Julie Walters	HMP Bronzefield	08/02/1972	08/02/2012	Bass
4	Margaret Atwood	HMP Bronzefield	07/06/1952	07/06/2015	Drum
5	Usain Bolt	HMP Manchester	05/05/1986	05/05/2014	Drum
6	Alain Prost	HMP Manchester	17/08/1953	05/04/2003	Guitar



Correcting Mistakes

Undo steps



Different versions of Microsoft Excel

- ✓ Microsoft Excel 2010, 2013, 2016, 2019 & Microsoft Excel 365 all have slightly different layouts & functionality. Upgrade to 2019 or use 365 & make sure you have the latest version for full functionality
- ✓ The screen size you are using determines how the ribbon is displayed – all features are there but they might not appear exactly as the screen prints in the Superhighways guide
- ✓ Microsoft Excel works slightly differently for Apple Macs than on PCs – all the same features exist but might have a slightly different way of getting there



Topic 2: Viewing Spreadsheets

- ✓ Format tabs
- ✓ Freeze panes
- ✓ Unfreeze panes
- ✓ Hide columns
- ✓ Unhide columns
- ✓ Resize columns & rows
- ✓ Wrap text



Exercise for topic 2: Viewing Spreadsheets

- Rename Sheet 2 to "Attendance"
- Make the tab green
- Move the "Attendance" tab to after the "Participants" tab
- Freeze the top row of the sheet
- Hide the MM Supervisor column



Topic 3: Managing Data with tables

- ✓ Making your data into a table
- ✓ Naming the table
- ✓ Formatting the table



Advantages of using tables in Excel

- ✓ **Quick Styles**
Add color, banded rows, and header styles with just one click to style your data.
- ✓ **Table Names**
Give a table a name to make it easier to reference in other formulas.
- ✓ **Cleaner Formulas**
Excel Formulas are much easier to read and write when working in tables.
- ✓ **Auto Expand**
Add a new row or column to your data, and the Excel table automatically updates to include the new cells.
- ✓ **Filters & Subtotals**
Automatically add filter buttons and subtotals that adapt as you filter your data.
- ✓ **Calculated columns** Enter a single formula in one cell, and then that formula will automatically expand to the rest of the column by itself.
- ✓ **Dynamic Pivot tables**
If you use an Excel Table for the source data of your pivot table, the data range becomes "dynamic". A dynamic range will automatically expand and shrink the table as you add or remove data, so won't have to worry that the pivot table is missing the latest data. When you use a Table for your pivot table, the pivot table will always be in sync with your data.



Exercise for topic 3: Managing Data with Tables

- Make the data on the Attendance tab into a table
- Name the table "Attendance"
- Unhide the column "MM Supervisor",
- Sort by date, add a Slicer on "MM Supervisor"
- Filter on Rachel & Asif

Quiz question: How many sessions were run in total and, out of those, how many of those were run by Rachel & Asif?



Topic 4: Creating a workable dataset

- ✓ Identify duplicates
- ✓ Remove duplicates
- ✓ Unique reference numbers
- ✓ Changing field formats
- ✓ Find & Replace
- ✓ Splitting columns



Exercise for topic 4: Creating a workable data set

- In “Attendance”, highlight duplicates in the date column
- Remove the duplicate date entries
- Add a unique reference number of each session
- Change all "Jon Potter " entries to "Jonathon Potter“
- Split “MM Supervisor” into 2 columns: first name & last name
- Validate the 6 prison columns so that only a whole number between 1-100 can be entered
- In “Participants”, create a data validation list for the ethnicity column (just add a few)



Topic 5: Formulas & Functions

- ✓ What is a formula versus a function?
- ✓ Calculation functions
 - ✓ Sum
 - ✓ Average
 - ✓ Min
 - ✓ Max
- ✓ Creating basic formulas
- ✓ Copying formulas
- ✓ Add on topic when time allows: Common formulas



Common formulas

- ✓ **Age calculation** – To calculate the age using today's date and the date of birth

=YEAR(TODAY())-YEAR(D2)-IF(D2-DATE(YEAR(D2),1,1)>TODAY()-DATE(YEAR(TODAY()),1,1),1,0)

- ✓ **If** – To return one value if a condition is true and another if it is false

=IF(E2>=D2,"Yes","No")

- ✓ **Count If** – To count the number of cells that meet the criteria

=COUNTIF(D2,"*guitar*")



Exercise for topic 5: Formulas & Functions

- In the “Mentors” sheet, make a table from the data set, name the table “Mentors”
- Add a Sum, Average, Min and Max to the prison data **columns** & round to 2 decimal places where there are more decimal places.
- Work out the total monthly travel cost.
- In the “Supervisors” worksheet put the data into a table.
- Work out the age of each supervisor from their date of birth.
- Work out the difference between target & actual sessions

Extension exercises:

- In the “Supervisors” sheet, specify if they met their target sessions using the If function
- In the “Participants” sheet, use Count If to work out how many different skills participants identified learning as a result of the programme

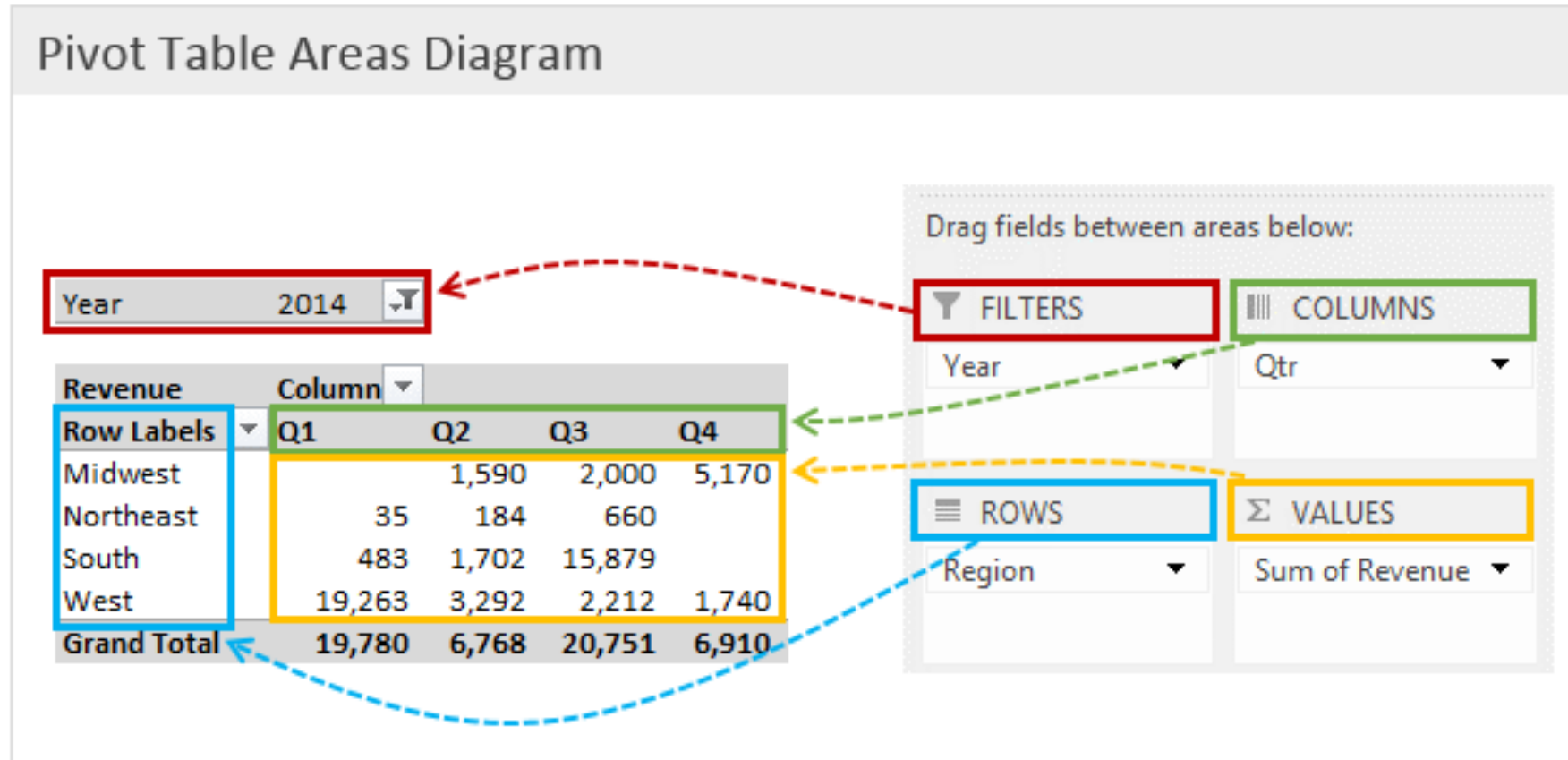


Topic 6: Pivot Tables

- ✓ Creating a pivot table
- ✓ Field values
- ✓ Sorting & filtering
- ✓ Adding a slicer
- ✓ Formatting a pivot table
- ✓ Adding a pivot chart
- ✓ Refreshing data in a pivot table
- ✓ Recommended pivot tables



Pivot table areas

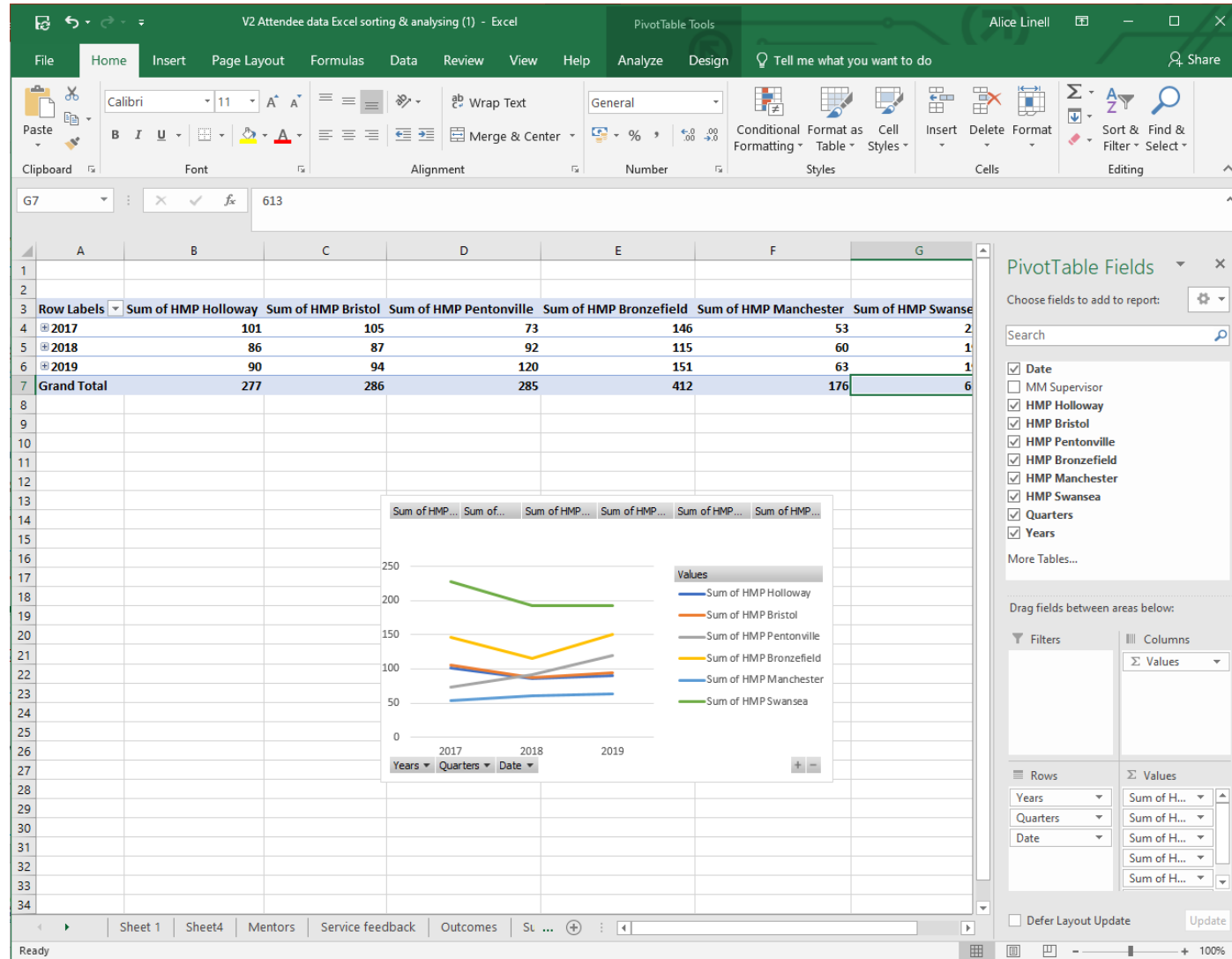


Pivot table questions

- ❑ Question 1: How many participants are there from each prison?
How many of them can play a musical instrument?
- ❑ Question 2: How many people attended sessions from each prison by year & quarter?



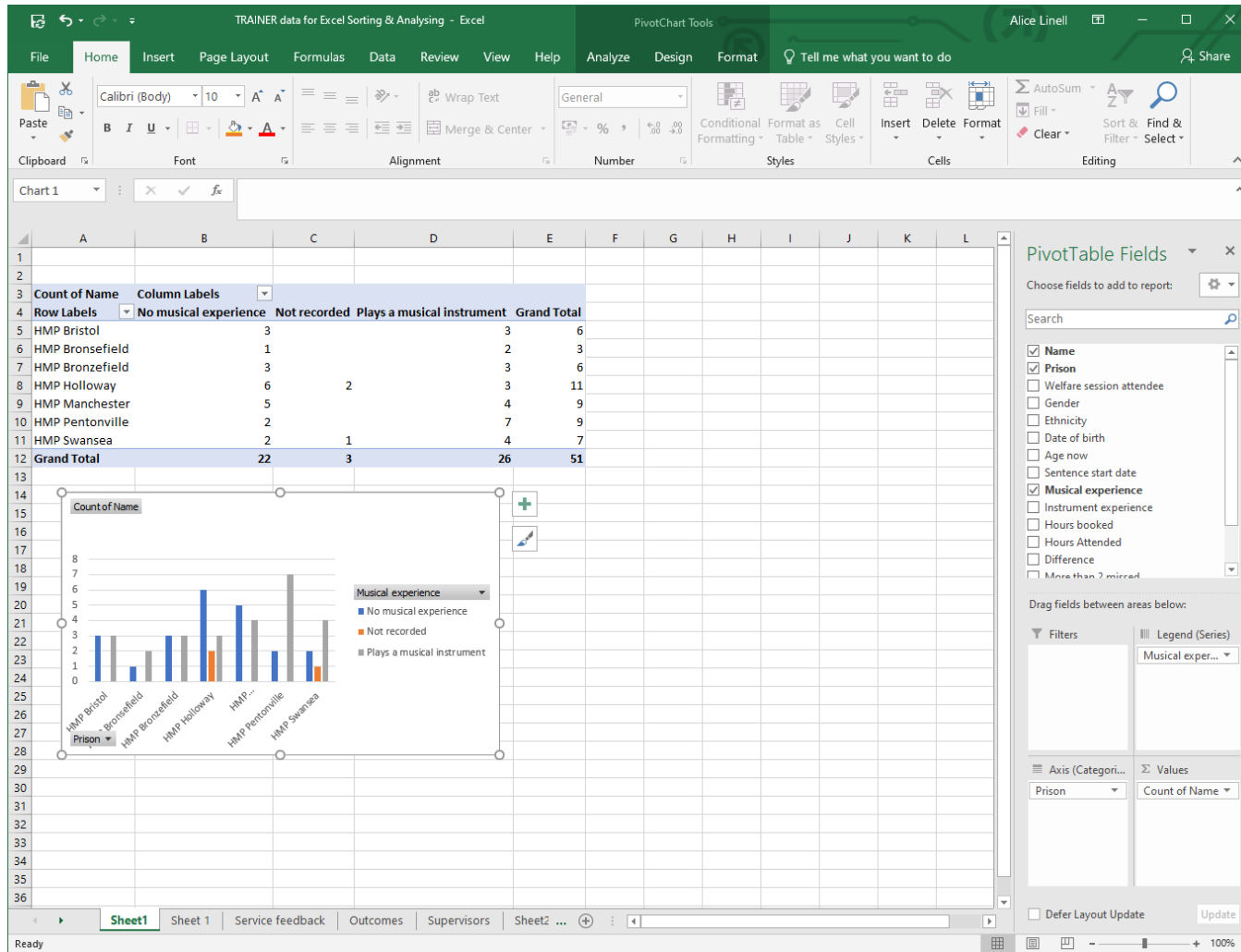
Pivot table: Question 2



Based on the Attendance data set



Pivot table: Question 1



Based on the
Participants data set

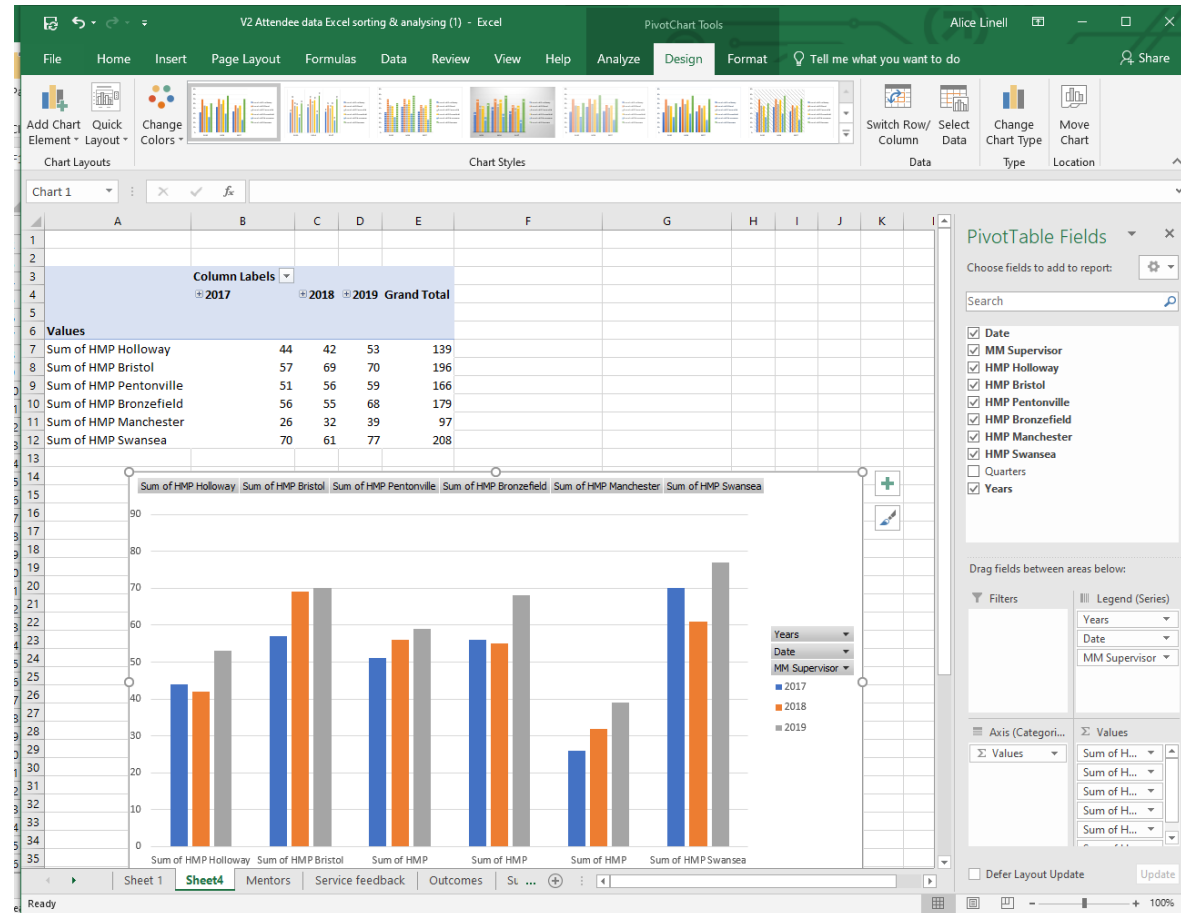


Exercise for topic 6: Pivot tables

- ❑ Question to answer: How many mentors attended sessions in each prison by year & quarter?
- ✓ Create a pivot table using the data from the “Mentors” tab to show how many mentors attended sessions each year
- ✓ Add a slider
- ✓ Format the pivot table & rename the tab to “Mentor Attendance”
- ✓ Add a chart
- ✓ Change the axis on the chart



Exercise 6 answer



Presenting your data

- ✓ Conditional Formatting
 - ✓ Adding colour scales
 - ✓ Adding icon sets
- ✓ Printing
 - ✓ Making sure everything prints on one page
 - ✓ Adding headers & footers



Exercise for topic 7: Presenting your data

- ✓ On the “Supervisors” tab, how can you clearly show if the target was met using formatting?
- ✓ Print preview the “Supervisors” sheet to make sure it all fits on the page, with a header & page number



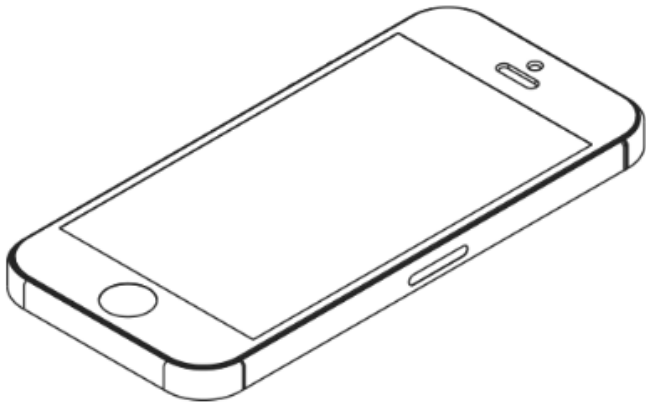
Extension Question: Working on a hunch

The Programme Manager has a hunch that the music mentor programme at HMP Manchester isn't as successful as at other prisons. Can you help her figure out if her hunch is correct and identify what might be causing the problem?



How was the session?

Enter code 89 70 17



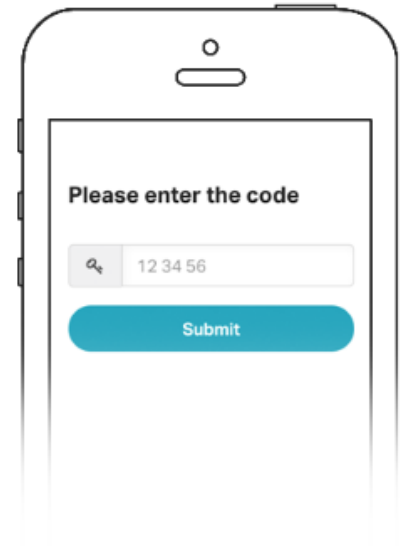
1

Grab your phone

www.menti.com|

2

Go to www.menti.com



3

Enter the code 89 70 17



Next steps...

Using Excel for reporting and visualising your data

24th March or 23rd April – [see our Eventbrite page](#)

- ✓ Choose and use the most appropriate charts and graphs for your data
- ✓ Use a simple mapping application to visualise postcode data
- ✓ Link worksheets & create functional summaries
- ✓ Connect your Excel sheets to PowerBI and produce interactive dashboards you can share

