

Practice combining datasets in Excel

This planning document is intended to support teachers who are delivering the NPA/PDA Data Science or for students who are learning independently. It also aligns with the Data Skills for Work framework.

The lesson has been designed for learners using Microsoft Excel on a Windows based machine.

At time of publishing Power Query is still being developed by Microsoft so that it can used on other platforms as such Mac-based machines or through a web browser.

For more information on using Power Query on non-window based machines please see, <https://learn.microsoft.com/en-us/officeupdates/release-notes-office-for-mac>

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Version Control

Version number	Purpose/Change	By	Date
1.0	Published by effini	Emma Nylk	24 May 2023
1.1	<ul style="list-style-type: none">• Changed term “key column” to “key”• Changed term “Outer (full) join” to “Outer join”• Fixed typos	John Bell	10 Aug 2023

Lesson Description

Lesson Overview	Practise joining and appending simple datasets in Excel.
Topic	Data Manipulation
Book Chapter(s)	Data Transformation and Manipulation

NPA level	5/6
PDA level	7/8
Data skills for work level	Core, Analysis

Lesson Contents

This lesson consists of:

- A lesson plan (this document)
- A PowerPoint/PDF presentation, 'Practise combining datasets in Excel'
- Question worksheet (for learners) on 'Practise combining datasets in Excel' in Excel
- Answers worksheet (for teachers) on 'Practise combining datasets in Excel' in Excel

Learning Intentions

We will be learning **how to combine datasets in Excel**, specifically

- how to use Power Query Editor to **append rows** to a dataset
- how to use Power Query Editor to **join columns** to a dataset

Success Criteria

I can *use* Power Query Editor in Excel to append rows to a simple dataset.

I can *use* Power Query Editor in Excel to left join simple datasets.

I can *use* Power Query Editor in Excel to right join simple datasets.

I can *use* Power Query Editor in Excel to inner join simple datasets.

I can *use* Power Query Editor in Excel to outer join simple datasets.

Knowledge Prerequisites

Learners should know:

- what data is
- data can be transformed into valuable information
- data can be used to solve problems and find answers to questions
- data can be stored in different types
- how to rows and columns in a dataset can manipulated
- the theory behind combining datasets

Learners should complete the **Combining Datasets** lesson before completing this lesson.

Lesson Requirements

	PDA	NPA	Data Skills for work
Qualification	Yes	Yes	Yes
Outcome ID(s)	WD8.3c, CD8.1g, WD7.2a, WD7.2b, CD7.3a	DS5.3c, DS5.3d, DS6.2b, DS6.3c	A2.1, A2.3, C2.1,
Outcome description(s)	<p>WD8.3c - Transformations including joins,</p> <p>CD8.1g - Preparing data for visualisation,</p> <p>WD7.2a - Types of data transformation,</p> <p>WD7.2b - Common transformations including filtering, sorting, combining, separating, and grouping,</p> <p>CD7.3a - Preparing data for visualisation</p>	<p>DS5.3c - Perform routine data cleaning and structuring,</p> <p>DS5.3d - Perform analyses including query, sort, filter, consolidate, group, and summarise,</p> <p>DS6.2b - Explain techniques for data capture, cleaning and transformation including data modelling,</p> <p>DS6.3c - Perform data transformation to complete, correct and structure data.</p>	<p>A2.1 - Use of tools to analyse data,</p> <p>A2.3 - Data calculation and manipulation,</p> <p>C2.1 - Vocabulary used in data science and analytics,</p>
Level	7/8	5/6	Core, Analysis
Software language	N/A	N/A	N/A
Required equipment /software for student	Lesson: PowerPoint/PDF, Worksheet: Excel	Lesson: PowerPoint/PDF, Worksheet: Excel	Lesson: PowerPoint/PDF, Worksheet: Excel

Task-types

In the worksheet for this lesson, there are up to 6 task-types to that become increasingly challenging to support the students learning. Based on the student's previous knowledge it is possible to select the task-types that are relevant to their stage.

Task-type	Description
1. Recall	To be able to recognise definitions or procedures.
2. Define	To be able to define definitions or procedures.
3. Rephrase	To be able to use their own words to describe definitions or procedures.
4. Apply	To be able to apply definitions or procedures to problem-solving activities.
5. Create	To be able to apply definitions or procedures and create their own solutions to a defined problem.
6. Active	Using knowledge from the lesson which they apply to scenarios they have researched/designed themselves.

Worksheet

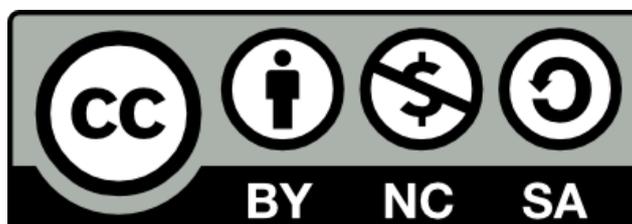
The worksheet associated with this lesson is available either in Excel or as a PDF that can be printed. The answer worksheet is available in both formats too.

Worksheet section ID	Description	Task-type	Number of questions
1.1	Appending	Apply	3
2.1	Left join	Apply	4
3.1	More joins	Apply	4
3.2	More joins - extension	Apply	3
Total			14

How you can use this lesson

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Alternative format

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