Know Your Numbers

Online course learning objectives

This course teaches easy ways to nail basic numbers and gives an understanding of why this is important. It explores the relationships between numbers and how this underpins all quantitative research. It will develop an understanding of fractions, percentages, and ratios - and teach learners to use these to evaluate data and make comparisons.

This course will help learners to:

- Understand the importance of number and how to use numbers in practical tasks.

- Recognize, understand, and manipulate fractions and apply the seven interlocking rules for dealing with fractions to assemble and compare numbers.

- Use tables to interpret and evaluate data, recognizing the value of numbers in rows and columns, and comparing fractions based on rows and columns to tell a story.

- Turn decimals into percentages to analyze data effectively and draw comparisons.

- Read different tables and pull useful data to make valuable interpretations.

- Identify when and how to round numbers up or down and apply rules of rounding to simplify superfluous numbers.

- Use ratios, percentages and fractions to describe any comparison between two amounts.

Language: English
Time to complete: 5 hours
Instructor: John MacInnes
Level: Beginner

Online course full syllabus

MODULE ONE: FLUENCY WITH NUMBERS MAKES TASKS EASIER
Numbers are basic to understanding many aspects of society, and with the data revolution taking place, they're more important now than ever.

Topics:

1. Numbers: why bother?
2. Why we need to understand data
3. Getting your head around numbers
4. The rules and rewards of numbers

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MODULE TWO: MAKING SENSE OF FRACTIONS

This module will look at describing and manipulating fractions of a number and use this knowledge to make comparisons.

Topics:

1. Fractions represents proportions
2. Anatomy of fractions
3. From fractions to decimals
4. From decimals to percentages

MODULE THREE: SEVEN RULES FOR HANDLING FRACTIONS

This module will look at the seven interlocking rules to work with and use fractions to complete calculations including multiplying, dividing, and subtracting fractions.

Topics:

1. Rule 1: the value of a fraction
2. Rule 2: multiply the value of the numerator
3. Rule 3: dividing a fraction by a whole number
4. Rule 4: the number one is equal to any number divided by itself
5. Rule 5: multiplying fractions together
6. Rule 6: dividing one fraction by another
7. Rule 7: adding and subtracting fractions

MODULE FOUR: MAKING SENSE OF TABLES

This module will look at how to read the data presented in tables, which allows us to make so many different kinds of comparisons, all based on fractions.

Topics:

1. What is in a table?
2. Turn raw numbers into row percentages
3. Turn decimals into percentages
4. Turn raw numbers into column percentages
5. Different tables tell us different thing

MODULE FIVE: USING ROW AND COLUMNS TO MAKE COMPARISONS

This module will look at comparing row percentages down a column and column percentages along a row and start to understand the relationship between the two elements of a table.

Topics:

1. Making comparisons of comparisons
2. Combining categories in a table
3. Using tables to tell a story

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MODULE SIX: ROUNDING NUMBERS

How to get rid of the fog of numbers as well as make it easier to present numbers by rounding.

Topics:

1. Rounding Makes Life Easier
2. Rounding Numbers
3. Rounding Decimal Numbers
4. Scientific Notation

MODULE SEVEN: PERCENTAGES AND RATIOS HELP TO MAKE COMPARISONS

Percentages and ratios help. This module will show you how to avoid traps when using numbers to make comparisons.

Topics:

1. Using Numbers to Make Precise Comparisons
2. Calculating Absolute and Relative Differences
3. Describing Absolute and Relative Difference Clearly
4. Ratios and Index Numbers
5. Odds

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