

FUNDAMENTALS OF NUMERACY



The Skills You Need Guide to Numeracy

All you ever wanted to know about maths, but never liked to ask...

PART 1

FUNDAMENTALS OF NUMERACY

Skills You Need

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by Skills You Need available for sale at:

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[Cover Illustration by Freepik Storyset](#)

ISBN: 978-1-911084-36-5

Published by Skills You Need Ltd

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This version was published in April 2021

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INTRODUCTION: NUMERACY SKILLS COUNT

Numeracy skills matter.

Improved numeracy skills lead to better paid jobs, greater well-being and a less stressful life.

Numeracy skills are not just for scientists, accountants and the tax man. Many professions and vocations require at least a basic level of understanding when it comes to numeracy and mathematics.

Chris Humphries, founding Chair of National Numeracy, said:

“It is simply inexcusable for anyone to say ‘I can’t do maths.’”

He suggested that many people cannot get jobs because they struggle to read graphs and interpret documents, and that plumbers, for example, may find it difficult to do the necessary calculations to install a boiler and as a result lose income.



WHAT ARE BASIC NUMERACY SKILLS?

Careers New Zealand suggests that basic numeracy, needed for the workforce, should include:

- Counting quantities for a customer.
- The use of percentages and subtraction when giving a discount.
- Using division when calculating costs per head.
- Measuring the area of shapes.
- Calculating fuel consumption.
- Understanding tables in reports and interpreting graphs.

It may come as a surprise that almost half of the working-age population of England (17 million people) have numeracy skills equivalent to those expected for an 11-year-old child.

This problem is not unique to England or the UK.

In a study in Australia, business leaders were asked how poor numeracy affected their businesses. Over three-quarters of respondents said that their businesses were affected, with almost 40% reporting a moderate to high effect.

In the USA, two-thirds of all 13–14 year olds, and over half of 9–10 year olds, scored below the level regarded as ‘proficient’ for their age group on the National Assessment of Educational Progress in 2019.

Poor numeracy is a huge problem that affects people and organisations in ways that are not immediately obvious.

Adults with poor numeracy skills are twice as likely to be unemployed than those who enjoy some competency in numeracy. Those adults with at least basic numeracy skills can expect to earn a quarter more than those who lack the necessary skills to solve basic mathematical problems.

Those with poor numeracy skills are less likely to be able to save money on day-to-day affairs, like a visit to the supermarket.

They are also less likely to be able to find or negotiate the best deals on financial products, and therefore more likely to pay higher levels of interest on higher levels of debt. It is well documented that debt problems can lead to stress and/or depression. Between a third and a half of people with poor numeracy skills have a desire to improve them but less than 4% have actually attended any numeracy classes.

1

NUMBERS

We use the word ‘numbers’ to refer to numerical ‘digits’ or ‘numerals’.

Digits are unique symbols or characters (such as ‘0’, ‘1’, ‘3’ or ‘7’), that are used alone or in groups (such as ‘37’ or ‘1073’) to identify a number.

We use the term ‘numerals’ to refer to the digits in a ‘numerical system’.

For example, you might have heard the term ‘Roman numerals’. The Roman system is an ancient system that uses letters, such as I, V and X and is sometimes still used today. We will look at some examples later.

However, the numerals that many of us are familiar with are from the base 10 system, also known as the ‘decimal’ system. These are the numerals 0 (zero) through to 9 (nine). We don’t usually refer to these as ‘numerals’ because it is the system that we use most of the time. We simply call them ‘numbers’ or sometimes ‘digits’.

No matter which numerical system we use, numbers are a useful language for counting, measuring and identifying. We use numbers in an unlimited range of ways: in mathematical calculations, to make phone calls and to identify our bank accounts.

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is available at
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