

# Middle School Mathematics

## Overview

In this goal-driven program, students will work with a mentor to develop their quantitative skill set. Together, the student and their mentor will identify the student's strengths and weaknesses and curate a personalised curriculum including short- and long-term goals, various methodologies, and a step-by-step guide. Students will have the opportunity to communicate their preferred methodologies throughout the course, which will help them understand, develop, and execute their learning strategy. As they progress through the program, they will expand on their knowledge and understanding across a range of mathematical topics. Through the use of real-world examples and problem-solving questions, students will develop their critical thinking while appreciating the use of maths in their everyday lives.

## Objectives

- Develop useful mathematical and numeracy skills for everyday life and work
- Apply mathematical concepts, skills and processes to pose and solve problems
- Develop interest in various mathematics topics and an overall sense of wonder about the subject
- Further understanding of how mathematics is a real-world subject and used in everyday life

## Structure

- Review prior knowledge and identify areas to specifically target
  - Set SMART goals
  - Develop a personalised curriculum with an associated timeline based on a specific set of goals.
- Expand on student's mathematical skill set in a variety of topics
  - E.g., Number & Algebra, Statistics & Probability, Measurement & Geometry
  - Improve on the ease of which maths is used
- Use real world examples and word problems to understand practical use
  - Acquire critical thinking skills
  - Develop a systematic approach to solving problems
- Role reversal to test understanding of skills

## Topics

- |                             |  |                                     |
|-----------------------------|--|-------------------------------------|
| • Units of Measurement      | • Chance                               | • Number & Place Value              |
| • Shapes                    | • Data Representation & interpretation | • Real Numbers                      |
| • Location & Transformation | • Money & Financial Mathematics        | • Patterns & Algebra                |
| • Geometric Reasoning       |  | • Linear & Non-Linear Relationships |

