

MATHEMATICS OVERVIEW

What Is Mathematics?

Mathematics is a subject in which students study patterns and relationships to understand various aspects of the world. Mathematical understanding is connected to many branches of mathematics, including arithmetic, algebra, geometry, data, statistics, and probability. The procedures associated with mathematics range from counting, calculating, and measuring to analyzing, modelling, and generalizing. Communication is also fundamental to mathematics. The language of mathematics has its own system of symbolic notation and a specific vocabulary with which to communicate mathematical thinking concisely.

Mathematical skills and knowledge support the interpretation of diverse quantitative and spatial information and can be applied to solving both theoretical and practical problems. With mathematics, abstract ideas can be visualized, represented, and explained. Mathematics is a powerful tool that can be used to simplify and solve complicated real-life problems.

Why Is Mathematics Important?

Mathematics is central to the development of numeracy: the ability to engage with quantitative and spatial information in a variety of situations. Mathematics is necessary in many pursuits of daily life, including comparing costs, locating a destination, interpreting a schedule, or adapting a recipe. Students become numerate as they learn the foundational skills and knowledge of mathematics, including mental processes and standard algorithms that are useful both in and beyond their learning environments.

As students learn and apply mathematics, they build the critical thinking skills required to analyze information and make decisions carefully in a wide range of situations. Many important life skills, such as financial literacy, rely on the foundational skills and knowledge of mathematics. Many careers use the logical or creative thinking and perseverance developed during the study of mathematics. Students will continue to use their mathematical learning as they contemplate new ideas in their schools, communities, and future workplaces.