



# Math of the Solar System

## --- Size, Distance and Time (MATP1912)

### Introduction

Math is always essential for exploring our interesting and mysterious physical world. From the perspective of learning, providing students with problems and examples demonstrating math's applications in everyday life gives math meanings. Space Math is then considered by NASA to offer such math applications through one of the strongest motivators – Space. By raising and solving 'problems' identified in our solar system, e.g. in the process of creating a scale model of the system, it is expected that this programme could enhance students' understanding of mathematical concepts and their application. This programme is co-organized with Stewards Pooi Kei Primary School.

### Programme Type / Level

Across Domains and Interdisciplinary Course (Level 1) ([Token-required](#))

### Instructor(s)

Mr Ng Ching Kong

(Headmaster of Stewards Pooi Kei Primary School)

### Pre-requisite

Students should be able to know the following Math skills and Science concepts:

- our solar system is a vast system which includes the Sun and the eight planets;
- measurement units (km and AU) and unit conversion;
- the distance from Earth to the Sun;
- multiplication of multiple digit numbers;
- circumference and its relation to radius;
- the Least Common Multiple (LCM).

### Target Participants



- P4 to P6 HKAGE student members
- Class size: 30

### Medium of Instruction



Cantonese with Chinese/ English handouts

### Certificate



**E-Certificate** will be awarded to participants who have:

- ❖ Attended **AT LEAST 3** sessions **AND**
- ❖ Completed all the assessments with satisfactory performance.

### Intended Learning Outcomes



Upon completion of the programme, participants should be able to:

1. gather information about the Sun and the planets in our solar system;
2. convert appropriate units with a system of measurement;
3. create a scale model of our solar system that includes distance from the Sun and the diameter of the planets;
4. use ratio and proportion to compare the size of the scale model solar system to the actual size of the system;

5. use Microsoft Excel to design simple equations and Google Map to measure distance;
6. understand the concepts of time dilation and length contraction.

## Screening



Please answer the screening question in the online application form.  
 \*The screening question is designed to help the applicant understands the course level and the course content. The question must be answered by the student applicant and it can only be attempted once. The answer cannot be changed once the application is submitted. Selection is based on students' performance in answering the question. Only students who can demonstrate motivation and the knowledge of Math skills and Science concepts in the screening question can be enrolled in the programme.

## Application Deadline

**11 May, 2020**  
**12:00n.n.**

## Application Result Release Date

**22 May, 2020**

If student members withdraw from the programme after the Application Deadline, the token will be deducted.

## Schedule



Session	Date	Time	Venue
1	<del>23 Jul</del> <del>28 Dec 2020</del> <b>29 Mar 2021</b>		
2	<del>24 Jul</del> <del>29 Dec</del> <b>30 Mar</b>	<del>2:00 p.m. – 5:00 p.m.</del> <del>9:00 a.m. – 12:00 n.n.</del>	*Stewards Pooi Kei Primary School New Wing Room 412
3	<del>27 Jul</del> <del>30 Dec</del> <b>31 Mar</b>	<b>9:30 a.m. – 12:30 p.m.</b>	
4	<del>28 Jul</del> <del>31 Dec</del> <b>1 Apr</b>		

\*Address: Lok Ha Square Fo Tan Shatin ([Map](#))

## Enquiries

For enquiries, please contact us at 3940 0101 after language selection, press "1".