



Exploring Numbers (E1MAT001C)

Introduction Ordinary calculators are fast and convenient, but they still have limitations; for example, they cannot handle problems about divisibility, calendar conversion and Nim game. In this course, you will learn tricks to beat the calculator. You can challenge and amaze your friends who use calculators. Are you ready?

This programme is co-organized with Stewards Pooi Kei Primary School.

Programme Type / Level Numbers and Arithmetic Course (Level I) ([Token-required](#))

Instructor(s) Mr Tang Wai Man
(Mathematics Teacher of Stewards Pooi Kei Primary School)

Pre-requisite Students should be able to:

- four fundamental operations of arithmetic;
- factor, multiple and prime factor.

Target Participants

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

Medium of Instruction Cantonese with Chinese 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:

- investigate and explain the pattern and relationship between numbers;
- critically examine the mathematical principle behind everyday phenomena (e.g. Chinese and Western Calendars);
- investigate and apply the divisibility of numbers in daily life;
- explain the creativity and perseverance of ancient mathematicians in solving problem with limited resources.

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 mathematics in the screening question can be enrolled in the programme.

Application Deadline	1st batch:	Application Result Release Date	1st batch:
	15 Nov 2021, 12:00 n.n		26 Nov 2021
	2nd batch:		2nd batch:
	29 Nov 2021, 12:00 n.n		10 Dec 2021

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

Schedule

Session	Date	Time	Venue
1	23 Dec	9:30 a.m. – 12:30 p.m.	Stewards Pooi Kei Primary School*
2	24 Dec		
3	28 Dec		
4	29 Dec		

*Address: 2 Lok Ha Square, Fo Tan, Shatin, N.T. ([MAP](#))

Sample Notes

《蟲食算》&《覆面算》

- 自古以來，為人所熟知的有所謂「蟲食算」。因那時商人記帳的流水帳簿，常常被蟲所蛀食，因此，經常有數字看不清的情形。於是，推測為蟲所蛀食的數字，即為「蟲食算」的起源。為此，當時的「蟲食算」，常常和稻米的行情有所關聯。
- 覆面算也是蟲食算的一種，但是連一個線索數字都沒有的，所以又稱為幽靈算。



農曆—天干、地支

天干和地支合稱干支。十天干分別是甲、乙、丙、丁、戊、己、庚、辛、壬、癸。十二地支是子、丑、寅、卯、辰、巳、午、未、申、酉、戌、亥。天干和地支組合便成為以「甲子」為首的六十干支循環(表二)。

表二 六十干支表

1	2	3	4	5	6	7	8	9	10	11	12
甲子	乙丑	丙寅	丁卯	戊辰	己巳	庚午	辛未	壬申	癸酉	甲戌	乙亥
13	14	15	16	17	18	19	20	21	22	23	24
丙子	丁丑	戊寅	己卯	庚辰	辛巳	壬午	癸未	甲申	乙酉	丙戌	丁亥
25	26	27	28	29	30	31	32	33	34	35	36
戊子	己丑	庚寅	辛卯	壬辰	癸巳	甲午	乙未	丙申	丁酉	戊戌	己亥
37	38	39	40	41	42	43	44	45	46	47	48
庚子	辛丑	壬寅	癸卯	甲辰	乙巳	丙午	丁未	戊申	己酉	庚戌	辛亥
49	50	51	52	53	54	55	56	57	58	59	60
壬子	癸丑	甲寅	乙卯	丙辰	丁巳	戊午	己未	庚申	辛酉	壬戌	癸亥

歷史上以干支紀年、紀月、紀日和紀時的起始年代各不相同，干支紀年和紀日已使用了二、三千年。月份和時辰本來只與十二地支配對(圖一和表三)，後來人們根據年干訂定月干(表四)，又根據日子訂定時干(表五)，把年、月、日、時的干支合成八字。

<http://www.hko.gov.hk/gts/time/stemsandbranchesc.htm>

Enquiries

For enquiries, please contact us on 3940 0101 or email at programme@hkage.org.hk.