

# MathXplosion – Pick A Block Of Dates, Any Block

**ABC ME screening details:** Wednesday 27 May 2020 at 11:45am

This episode can also be viewed on [ABC iView](#).

**Key learning areas:** Mathematics

**Level:** Levels 4 – 6

**About:** A trick you can do by calculating the sum of a 3 by 3 block of dates on a calendar without using a calculator.

## Before the episode

1. What are some different ways you could complete this pattern?

\_\_\_ 5 \_\_\_ \_\_\_ 20 \_\_\_

2. Have a look at these growing and shrinking patterns. Can you work out what the pattern is?

3	6	9	12	15	___	___	___
2	4	8	16	32	___	___	___
1600	800	400	200	100	___	___	___

## After the episode

**Calendar Challenge.** Let's explore 'magical' mathematical tricks you can do with a calendar.

### May 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

3. Choose a 3 by 3 square of dates from anywhere on the calendar.
4. Add the numbers in the four corners.
5. Try a few examples. What do you notice? Why do you think this happens?

6. Now try adding the numbers in each row, column and diagonal that passes through the centre number. What do you notice? Can you explain your results this time?

Adapted from <https://nrich.maths.org/>

**Follow-up activity:** How would your results change if you chose a 4 by 4 square? What other calendar patterns can you find?

# Teacher notes

This resource contains self-directed learning activities that students can complete while learning at home or in the classroom. The activities align with the Victorian Curriculum F-10 and can be modified to meet the needs of your students. Teachers could collect student work for feedback and assessment.

## Learning intentions

- To identify, continue and describe number patterns using a calendar.

## Victorian Curriculum content descriptions

	Level 4	Level 5	Level 6
Patterns and algebra	Define a simple class of problems and solve them using an effective algorithm that involves a short sequence of steps and decisions ( <a href="#">VCMNA164</a> )	Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction ( <a href="#">VCMNA192</a> )	Continue and create sequences involving whole numbers, fractions and decimals. Describe the rule used to create the sequence ( <a href="#">VCMNA219</a> )

## Victorian Curriculum achievement standards

	Level 4	Level 5	Level 6
Mathematics	Students use the properties of odd and even numbers and describe number patterns. Students continue number sequences involving multiples of single-digit numbers and unit fractions.	Students find unknown quantities in number sentences and continue patterns by adding or subtracting whole numbers, fractions and decimals.	Students specify rules used to generate sequences involving whole numbers, fractions and decimals.

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