

# 3-6: REMOTE MATHS

EDITION 11

## NUMBER AND ALGEBRA - WARM UPS

**Mathematical language:** Difference, estimate, total, division, predict, add.

### TASK 1: NUMBER HOKEY POKEY

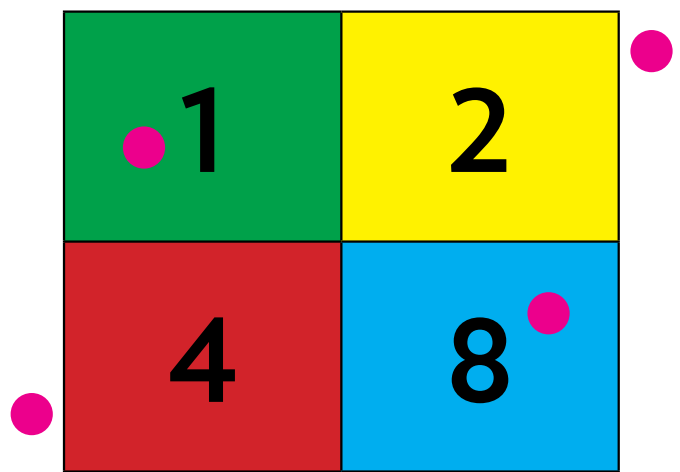
*Adapted from Dr Paul Swan*

**Materials:** 4 pieces of paper, 4 counters (or similar)

Place the numbers 1, 2, 4 and 8 on the pieces of paper and place the four counters next to/near each of the numbers. With only one counter allowed to go on one number, how can you make the following target numbers? For example, in the example here there is a counter on 1 and 8 to make a total of 9.

- 7
- 3
- 12

**Extending prompt:** Create a list showing all of the numbers you can make, if only one counter can go on one number.



### TASK 2: NAUGHTY NUMBERS

Watch this video and create your own Naughty Numbers. <https://youtu.be/igfrVVctrzA>

**Extending prompt:** Will this work for decimal numbers? Prove it.

### TASK 3: MISSING NUMBERS *(Adapted from Sullivan 2017)*

What might the missing numbers be to this problem?

$$\square \square \div \square = 3$$

**Extending prompt:** There are six possible solutions. Find them all.

## EDITION 11: NUMBER AND ALGEBRA (CONT.)

### TASK 4: CANDY CORN *Adapted from Estimation180*

How many pieces of cotton candy are there in this quarter cup?

First make some estimations:

- How many would be too low?
- How many would be too high?
- What is your estimation?

Then watch this video to see the solution

<https://estimation180.com/day-25/>

Repeat the same steps for these next two problems also featuring the candy corn.

- <https://estimation180.com/day-26/>
- <https://estimation180.com/day-27/>



### TASK 5: WHICH ONE DOESN'T BELONG? *Adapted from <https://wodb.ca/numbers.html>*

Choose one of these three images to work out which object, number or equation doesn't belong and why.

Think of at least 3 different responses.

17	26
44	65

$8+6$	$7+7$
$8+7$	$5+9$

$\frac{1}{2}$	$\frac{5}{3}$
$\frac{2}{10}$	$\frac{2}{5}$

*Look out for more tasks next week!*



# TIMETABLES

**Mathematical language:** Analogue, digital, am, pm, calendar, hours, minutes, 12 hour time, 24 hour time, months (names), year, timetable.

## TASK 1: TRAIN TIMETABLES

Complete [this interactive exercise](#) on reading train timetables and making time calculations. Choose your level.

**Level 1:** Highlighting journeys on a train timetable. Click the cells in the timetable to highlight the journeys.

**Level 2:** Finding information from a train timetable. Give your time answers in 24 hour time format in the same way it is shown in the timetable.

**Level 3:** Finding information from a real train timetable. Give your time answers in 24 hour time format in the same way it is shown in the timetable.

## TASK 2: 24 HOUR TIME

Watch the video Late Again which explains the connection between 24 hour and 12 hour time.

<https://education.abc.net.au/home#!/media/1566174/>

- Write out a list of six – eight daily activities starting from when you get up to when you go to bed. Record the time you do these activities in 12 hour time. Next to each include the 24 hour time.

## TASK 3: AROUND THE WORLD *Adapted from FUSE and DET*

Use the website [world clock](#) to find the times for places around the world. Create a table to compare the time zones in a Perth, Rome and Melbourne.

- What is the best time to call your family when you arrive in Perth?
- What time will it be in Rome, if it is 5pm in Melbourne?
- When do you depart from Perth? What time will you arrive in Melbourne?
- Travel to a city on every continent and fill in the table above to show the difference in time zones
- Can you name other places (states, cities or towns) that are in the Australian Eastern Standard Time AEST zone?

Destination	Time	Date	Hometown	Time	Date	Time difference
Perth						
London						
Rome						



## EDITION 10: TIMETABLES (CONT.)

### TASK 4: INVESTIGATING CALENDARS *Adapted from Sullivan 2017*

What months of 2020 start on the same day as each other? Without looking at a 2021 calendar, what months next year start on the same day? Investigate this pattern for 2019 and 2021? What do you notice? What inferences can you make?

### TASK 5: HISTORY OF CALENDARS *Adapted from Nrich*

Calendars were one of the earliest calculating devices developed by civilizations. There have been many different calendars, but most are based on the sun, moon, seasons and often involve religious ideas. The Mayans made an incredibly accurate calendar. The Mayan pyramid (Mexico) was built in about 1050 as a huge calendar. It has 91 steps up each side and one platform at the top, making a total of 365 (one for each day of the year). The Mayan calendar was adopted by the Aztecs, who kept the mathematics of the calendar the same, but changed the names of the months.



We take our modern 'western' calendar for granted, but it has passed through a dramatic history, including the famous affair between Julius Caesar and Cleopatra, a bloody war fought over dates! But it is not the only calendar. There are still forty different calendars in use around the world. Investigate these questions:

- Why are there 53 weeks in some years, not 52?
- Which day is the first day of the week, Sunday or Monday?
- Where did the names for the days come from?

## MATHS APP OF THE WEEK: MATH CLOCK



Math Clock helps students become fluent working with time. Learners use analog clocks with geared or free-moving hands to learn how to tell time, explore jumps with count by numbers, and visualize story problems involving intervals of time. By placing and shading fraction overlays, students use the clock to contextualize fractions with frequently used denominators.

**iOS:** <https://apps.apple.com/us/app/math-clock-by-mlc/id1444666967?ls=1>

**Google Play:** <https://chrome.google.com/webstore/detail/math-clock-by-the-math-le/dmiciodncblfmmchmkihafeiimihaagn>

*Look out for more tasks next week!*