# P4 Parents Symposium <br> Learning Mathematics through Hands-on activities <br> 26 January 2024 

## Objectives

1. Learning Mathematics using

- Lego
- Calendar
- Post-it notes
- Magnetic tiles

2. Mathematics Around Us

## Learning Mathematics using Lego



## What are the mathematical concepts that you can learn using lego?



- Whole numbers (e.g. factors and multiples)
- Fractions
- Ratio
- Decimals
- Percentage
- Geometry (e.g. symmetry)
- Measurement (e.g. area and perimeter)


## What is a factor?

It is a multiplication of $\mathbf{2}$ numbers to get a product.
$1 \times 8=8$
$2 \times 4=8$

The factors of 8 are 1, 2, 4 and 8

## Factors

- Find the factors of a number.
- Determine if a 1-digit number is a factor of a given number.
- Find the common factors of $\mathbf{2}$ given number.

You are given 8 lego pieces as shown below, how will you arrange them to form a square/rectangle?


## Factors


$1 \times 8=8$
$2 \times 4=8$

Find the factors of 8.
Is 2 a factor of 8 ?
Is $\mathbf{3}$ a factor of $\mathbf{8}$ ?

## Factors

You are given 12 lego pieces as shown below, how will you arrange them to form a square/rectangle?

## Factors



$$
\begin{aligned}
& 1 \times 12=12 \\
& 2 \times 6=12 \\
& 3 \times 4=12
\end{aligned}
$$

Find the factors of 12. Is 4 a factor of 12 ? Is 5 a factor of 12 ?

Find the common factors of 8 and 12.

(1) $\times 8=8$
(2) $\times(4)=8$

(1) $\times 12=12$
(2) $\times 6=12$
$3 \times(4)=12$

Ans: 1, 2 and 4.

## Area and Perimeter

## Area \& Perimeter

Find the area of the yellow/red rectangle. Find the perimeter of the yellow/red rectangle.

| Rectangle | Area | Perimeter |
| :--- | :--- | :--- |
| Yellow | $1 \times 8=8$ | $8+1+8+1=18$ |
| Red | $2 \times 4=8$ | $4+2+4+2=12$ |



## What did you notice?

Same area does not mean the same perimeter.

## Parallel and perpendicular lines

Can you identify the perpendicular and parallel lines of the models that was built?


- Identify horizontal and vertical lines, and make connection with parallel and perpendicular lines.


## Symmetry

## Symmetry

- Design and make a symmetric figure.
- Determine the lines of symmetry. How many lines of symmetry are there in the figure?


## Symmetry



## Fraction

- Identify proper fractions.
- Express mixed number as an improper fraction and vice versa.



## Learning mathematical concepts using the calendar

Find the first common multiples of 2 and 6.
Multiples of 2Multiples of 6

## Learning Mathematics using post-it notes.

Get 12 post-it notes. The notes can be in red, blue or green colours. Arrange them into a rectangle.

- What fraction of the figure is red?
- What fraction of the figure is blue?
- What fraction of the figure is green?
- If I add 3 more red post-it notes, what
 fraction of the figure is red now?
- If I remove all the green post-it notes, what fraction of the figure is blue?

How many more squares do I need to colour blue so that $\frac{2}{3}$ of the figure is blue?


Swap the position of the white post-it notes with the blue post-it notes.

How many more squares do I need to colour blue so that $\frac{2}{3}$ of the figure is blue?

$\square$


Since 7 squares are blue, I need to colour 1 more square blue.

How many more squares do I need to colour blue so that $\frac{2}{3}$ of the figure is blue?

$\square$

$\square$

$\square$


$$
\frac{2}{3}=\frac{8}{12}
$$

Since 7 squares are blue, I need to colour 1 more square blue.

The figure is made up of 10 squares. 9 squares are coloured blue. How many more white squares must be added so that $\frac{3}{4}$ of the figure is blue?


The figure is made up of 10 squares. 9 squares are coloured blue. How many more white squares must be added so that $\frac{3}{4}$ of the figure is blue?

$\square$

$\square$

$\square$


Rearrange the squares.
Since 9 squares are shaded, there must be 12 squares in total, so I need to add $\mathbf{2}$ more white squares.

The figure is made up of 10 squares. 9 squares are coloured blue. How many more white squares must be added so that $\frac{3}{4}$ of the figure is blue?
$\square$



$$
\frac{3}{4}=\frac{9}{12}
$$

Since 9 squares are shaded, there must be 12 squares in total, so I need to add $\mathbf{2}$ more white squares.

What is the smallest 5 -digit even numbers that can be formed using the following digits?

$$
2, \quad 1, \quad 9,6, \quad 3
$$



What is the biggest 5-digit even numbers that can be formed using the following digits?

$$
5, \quad 1, \quad 9, \quad 6, \quad 3
$$



What is the biggest 5 -digit odd numbers that can be formed using the following digits?
$4,0,8,7,2$


What is the smallest 5-digit odd numbers that can be formed using the following digits?
8, $0,5,6,2$


## Learning Mathematics using Magnetic Tiles.



## NETS

- identifying the nets of 3D solids (cube, cuboid, prism, pyramid)
- identifying the solid which can be formed by a given net



## Is this a net of a cube?



## 11 Nets of a cube



## Mathematics around us.

The sum of two numbers is 45 . The difference between the two numbers is 1 . What are the two numbers?




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    mp=
```







```
    preame
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```
    reveal+lymen
2 2
```








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## Multiplication

There are 16 levels in Block 120. How many houses are there in the block?


## Parallel and perpendicular lines



```
10089

What is the time now?

How many more minutes do I need to wait for the next bus service number 75 to arrive? What time will the bus arrive?

If I miss the upcoming bus service number 75, when will the next bus service number 75 arrive?

The distance between the 1st pillar the 2nd pillar is 120 cm . What is the total distance between the 1st pillar and the 5th pillar?


The distance from the 2nd pillar to the 4th pillar is 360 cm . Find the total distance from the first pillar to the 7th pillar.


Is it cheaper to buy a set of \(\mathbf{\$ 1 2}\) than ala carte \(\$ 5\) McChicken meal and \$6 Filet-O-Fish meal? What is the difference in price and the food?


\section*{How do you get your child to be involved in the decision making?}


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