#### P4 Parents Symposium Learning Mathematics through Hands-on activities 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 2 numbers to get a product. 1 x 8 = 8

2 x 4 = 8

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







- Find the factors of a number.
- Determine if a 1-digit number is a factor of a given number.
- Find the common factors of 2 given number.

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





$$1 \times 8 = 8$$

Find the factors of 8. Is 2 a factor of 8? Is 3 a factor of 8?

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





**1 x 12 = 12** 

- $2 \times 6 = 12$
- 3 x 4 = 12

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 x 8 = 8	8 + 1 + 8 + 1 = 18
Red	2 x 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







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











- 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.







22

# 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.



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





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

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?



Since 9 squares are shaded, there must be 12 squares in total, so I need to add 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?

## Since 9 squares are shaded, there must be 12 squares in total, so I need to add 2 more white squares.

What is the smallest 5-digit even numbers that can be formed using the following digits? 2, 1, 9, 6, 3



What is the biggest 5-digit even numbers that can be formed using the following digits? 5, 1, 9, 6, 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?











# Mathematics around us.



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

If you wanted to, you could add page numbers one manually, here we wouldn't economical in This would acceler country a separate and have no every page and then typing the country page member jugs in.

Here if you have the westfame built tem you Marter Pape, it's not a peoplaine in it this way. A basis test frame on you Marter Pape would could you to more the wyling and the provise of your pape multice; but not much the. More improved, it would not change assumed ally if you deale to comparise the pape in puer decompart.

Incoming page technics in InDutgs manually to the Informitation for and tenderics. It's a much hone blue to not resonantly page manforcing investil.

22

We've crusted a black was her on the hormer of our blacky Pagas. Eds. is where one page monitor will gu-

Rather than using the Type instance, print can also instant InDusign page members from the scatter instance. To report it, eight which in the test Rame when your want your page member to appear and adapt Instant Special Character v. Madami v. Constant Page Nomber.

Non-can appy then exit frame anywhere also you want it or appear, and it will automatedly update. We're explicitly to the second page of new Marcer specal.

Now, if you hand to any other page bath on this Manaw, the page wandows will be automatically ideal to.

23

# **Multiplication**

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



#### Parallel and perpendicular lines







## Time

#### 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 \$12 than ala carte \$5 McChicken meal and \$6 Filet–O-Fish meal? What is the difference in price and the food?





# How do you get your child to be involved in the decision making?









