29. Numbers & Operations

Materials: pattern blocks
laminated mat

Cover the surface of the mat with pattern blocks of different sizes and different shapes. Do not leave any spaces between the tiles. Copy and fill-in the following chart:

blocks	total number	fraction of the area
yellow hexagons		
red trapezoids		
blue parallelograms		
orange squares		
beige rhombi		
green triangles		
TOTAL		

When you have completed this station,
place your chart in your portfolio
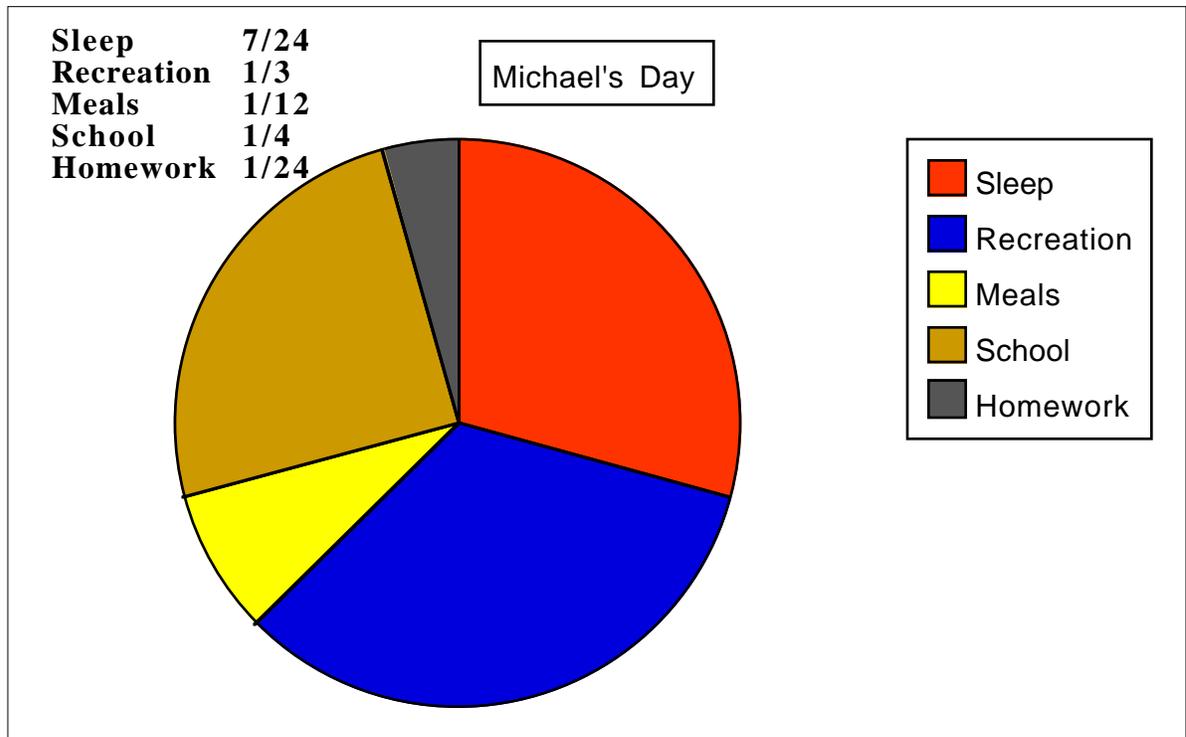and put the blocks back into the container.
Do not forget to label your entry.

Please tidy up the station.

30. Numbers & Operations

Materials: cubes (many colors)

1.   **Here is a circle graph representing a typical day in Michael's life:**

Sleep   **7/24**
Recreation   **1/3**
Meals   **1/12**
School   **1/4**
Homework   **1/24**

Michael's Day

Sleep
Recreation
Meals
School
Homework

a)   **What fraction of his time does Michael spend on recreation and meals?**

b)   **What fraction of his time does Michael spend at school and doing homework?**

c)   **How much more time does he spend sleeping than at school?**

d)   **What fraction of his day is spent on meals, recreation, sleep, homework and school?**

e)   **Does he spend more time on recreation or on school? Write the fraction that represents the difference between the two.**

e)   **What fraction of a week does he spend on each activity?**

Please turn the card over . . .

2. Use blocks of different colors to represent a typical day in your life. Draw and fill in the chart to record your work:

activity	number and color of blocks	fraction of the day
TOTAL		

3. Make up three addition questions with fractions and answer them.

4. Make up three subtraction questions with fractions and answer them.

5. Make up three multiplication questions with fractions and answer them.

When you have completed this station,
place your chart in your portfolio
and put the blocks back into the container.
Do not forget to label your entry.

Please tidy up the station.

31. Numbers & Operations

Materials: pattern blocks
laminated mat

> ### THE TRAPEZOID IS WORTH ONE WHOLE

1.   **How much are each of the following worth?**
(Write in simplest form):

   a)   **3 green triangles**

   b)   **2 blue parallelograms**

   c)   **4 yellow hexagons, one red trapezoid and 5
   green triangles**

   d)   **18 green triangles**

   e)   **12 blue parallelograms, 6 green triangles**

2.   **Make four shapes that are worth 3 2/3. Draw your solution.**

3.   **Use the pattern blocks to explain why**

$$\frac{17}{3} \quad = \quad 5\frac{2}{3}$$

4.   a)   **Cover the shape in two different ways and draw your
   shapes.**

   b)   **Give the fraction of each color in both cases.**

5.   **Tell how you could use the pattern blocks to put the following
   fractions into order of increasing size:**

4 2/3   2   2 1/3   13/3

When you have completed this station,
place your chart in your portfolio
and put the blocks back into the container.
Do not forget to label your entry.

Please tidy up the station.

Materials:

You are having a party and you would like to make the following recipe. Because you have several guests coming, you will need to triple the recipe. Rewrite the recipe and multiply each amount by 3.

1 pkg. chocolate pudding
3/4 cup shortening
1 cup flour
1 cup white sugar
1 tsp. hot water
2 eggs
2/3 tsp. vanilla
1/2 tsp. baking powder
3/4 tsp. salt
1/3 cup nuts

Combine above ingredients.
Put in greased pan and bake for 30 minutes.
Cut into squares.

When you have completed this station,
place your chart in your portfolio
and put the blocks back into the container.
Do not forget to label your entry.

Please tidy up the station.

33. Numbers & Operations

Materials:

1. **The concept of fractions is varied. Fractions can be used to show:**

> a)   **a part of a whole**
> b)   **a part of a set**
> c)   **a point on the number line**
> d)   **a measure**
> e)   **division**
> f)   **a ratio**

1. **In each of the cases below, tell which concept is being demonstrated.**

a)   **To make frozen orange juice you need 1 can of juice to 4 cans water (1/4)**

b)   **3/17 of the smarties in the box are red**

c)   **They only ate 1/2 the pizza.**

d)   **2/3 is between 0 and 1**

e)   **1/5 the area was carpet**

f)   **2 pizzas to be shared by 3 people (2/3)**

2. **Use your own imagination to write an example of each of the concepts. You can write your examples as problems if you wish.**

When you have completed this station,
place your chart in your portfolio
and put the blocks back into the container.
Do not forget to label your entry.

Please tidy up the station.

34. Numbers & Operations

Materials: pattern blocks
paper
fraction strips

1.   **Use the pattern blocks to show and explain (in your own words) the following operations**

   a) $\dfrac{3}{4}$ + $\dfrac{1}{3}$ =

   b) $\dfrac{1}{3}$ - $\dfrac{5}{6}$ =

2.   **Fold a piece of paper to demonstrate and explain (in your own words) that**

$$\frac{1}{2} + \frac{1}{4} = \frac{1}{8}$$

3.   **Use the fraction strips to illustrate and explain (in your own words) that**

$$\frac{5}{6} \times \frac{1}{5} = \frac{1}{6}$$

4.   **Make up one problem for each of the four operations (addition. subtraction, multiplication and division) with fractions. Provide the solutions.**

When you have completed this station,
place your chart in your portfolio
and put the blocks back into the container.
Do not forget to label your entry.

Please tidy up the station.

35. Numbers & Operations

Materials: pattern blocks
paper
fraction strips

USE THE HEXAGON AS ONE WHOLE

Use the pattern blocks to show and explain (in your own words) the following operations

1. $2\frac{1}{6}$ + $4\frac{2}{3}$ =

2. $3\frac{1}{2}$ - $1\frac{5}{6}$ =

3. 6 x $4\frac{1}{6}$ =

4. $4\frac{1}{2}$ ÷ $\frac{1}{2}$ =

When you have completed this station,
place your chart in your portfolio
and put the blocks back into the container.
Do not forget to label your entry.
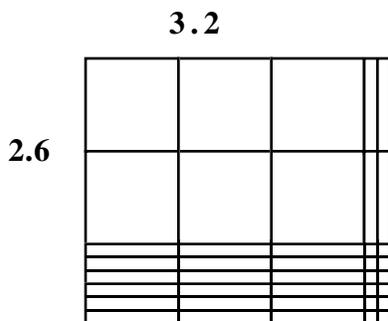
Please tidy up the station.

36. Numbers & Operations

Materials: base ten blocks
                  calculator

1.   **Revalue the base ten blocks so that the "flat" represent one, the "rod" represents one tenth and the "unit" represents one unit.**

The diagram below shows the multiplication 3.2 x 2.6.

3.2

2.6

a)   **Use base ten blocks and this diagram to find the product and explain your procedure.**

b)   **Use the same procedure to find the product of 4.4 and 2.3. Use drawings to help you explain your procedure.**

2.   **Jacques bought 13.2 m of fabric to make table cloths. Each cloth takes 2.4 m of fabric. Use base ten blocks to find how many table cloths he can make?**
Explain how your answer is related to your answer on the calculator.

When you have completed this station,
place your chart in your portfolio
and put the blocks back into the container.
Do not forget to label your entry.

Please tidy up the station.

37. Numbers & Operations

Materials: base ten blocks
activity sheet with number lines

1.   **a)**   **Show how you could compare 0.34 and 0.43 using base ten blocks.**

   b)   **How would you show this on a number line? Use the activity sheet to record your answer.**

2.   **Explain how you would place each of the following numbers as fractions on a number line. Use the activity sheet to record your answer.**

$$0.25 \qquad 1\frac{1}{3} \qquad 1.9 \qquad 1\frac{3}{12} \qquad 1\frac{4}{9}$$

3.   **Explain how you would place each of the following numbers as decimal numbers on a number line. Use the activity sheet to record your answer.**

$$1.75 \qquad 1.2 \qquad \frac{6}{5} \qquad \frac{9}{2} \qquad 2\frac{1}{4}$$

4.   **Estimate the numerator of the fraction that satisfies:**

$$0.45 \quad < \quad \frac{\square}{8} \quad < \quad 0.7$$

When you have completed this station,
place your chart in your portfolio
and put the blocks back into the container.
Do not forget to label your entry.

Please tidy up the station.