

# Parts and wholes : Types of Fraction

CBSE, Maths, Grade - V

## Represented in Different Way, But it should give same meaning

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### Prior Knowledge:

- An understanding about fractions - numerator and denominator.
- Knows to pictorially represent proper fractions.

### Objective:

- To develop knowledge about the types of fraction - proper, improper and mixed fractions.
- Convert improper fraction to mixed fraction and represent it pictorially.
- Develop conceptual understanding about improper and mixed fraction.
- Solve simple problems related to mixed and improper fractions.

### ENGAGE:

Students were asked to pictorially represent as many fractional numbers as they can in five minutes. They then exchanged notebooks and corrected each other's answers and pointed out if they found any mismatch between the fractional number and its pictorial representation. They discussed and arrive at the right answers.

Students understanding about fraction was assessed. I used this opportunity to clarify their misconceptions.

### EXPLORE:

Students were asked to pictorially represent the given fractions.

$$\frac{1}{4} -$$

$$\frac{2}{4} -$$

$$\frac{3}{4} -$$

$$\frac{4}{4} -$$

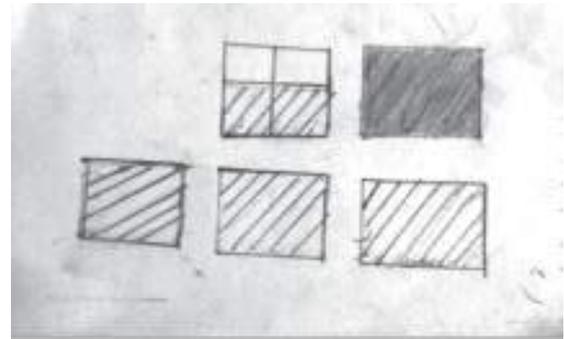
$$\frac{5}{4} =$$

$$\frac{6}{4} -$$

$$\frac{7}{4} -$$

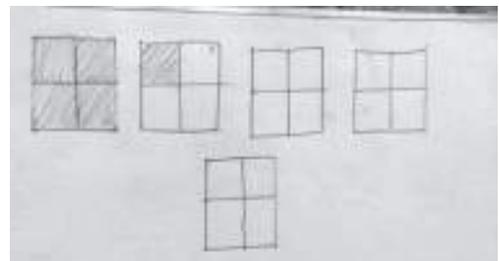
$$\frac{8}{4} -$$

During this activity, students were easily able to represent the proper fractions. But their first response to improper fractions was that it is not possible to pictorially represent them.

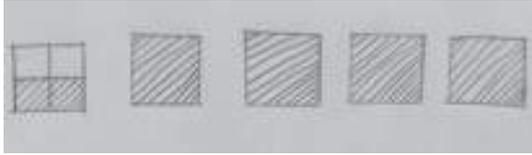


### EXPLAIN:

These are some of the picture drawn by students.



Students tried to represent the improper fractions based on their understanding. One student explained her picture saying that since 4 is in the denominator, the box needs to be divided into four parts. And 5 being the numerator, she drew five such boxes.



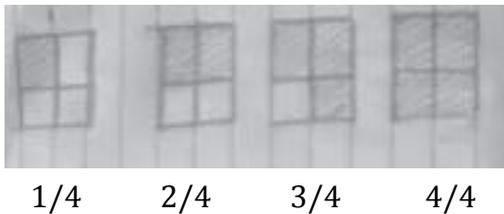
Some students struggled with this concept. So they were asked to explain their rationale while representing proper fractions like  $\frac{1}{4}$ ,  $\frac{2}{4}$ ,  $\frac{3}{4}$ ,  $\frac{4}{4}$ .

I asked them a few questions to check their understanding levels.

1. Why did you divide the square into four parts? What does that mean?
2. What does  $\frac{1}{4}$  stand for?
3. What is each part called?

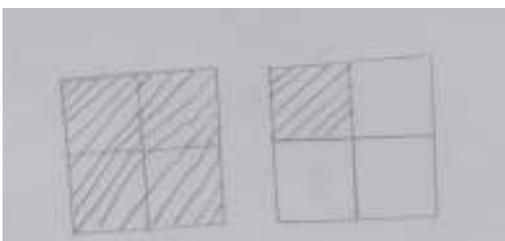
Students responses were that since 4 is in the denominator it was divided it into 4 equal parts. The shaded region or selected parts denote the numerator.

Since they had understood the concept of proper fractions, they could be taught improper fractions now. So I asked them to draw the pictures for all the proper fractions that were written on the board.



Here I asked a few more questions based on the pictures. I asked them how many parts are shaded in  $\frac{1}{4}$ ? - One. How many portions are shaded in the second picture? - Two. Likewise, in the rest of the pictures three and four portions are shaded.

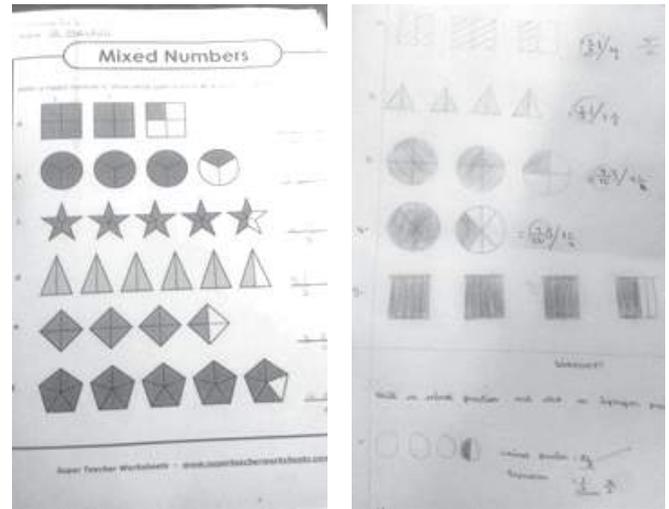
So, In order to get  $\frac{5}{4}$  how many such portions would have to be shaded? - 5 portions should be shaded and students shaded 5 portions.



I explained that the fully shaded portion is called a whole and is represented as one and the other is  $\frac{1}{4}$ . So  $\frac{5}{4} = 1\frac{1}{4}$ . Then the children pictorially represented the other fractions  $\frac{6}{4}$ ,  $\frac{7}{4}$  and  $\frac{8}{4}$  and also wrote them as mixed fractions.

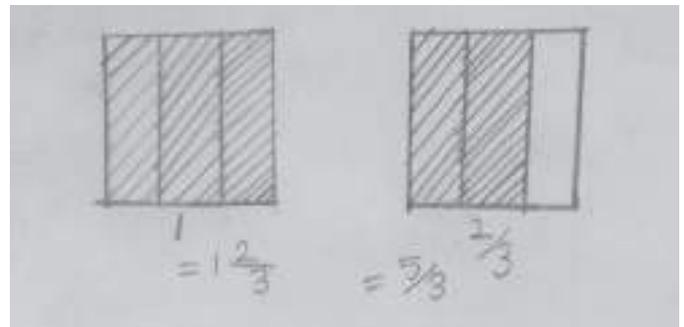
## ELABORATE:

I have drawn a few fraction diagram in board. students were asked to write the corresponding mixed fraction and improper fraction for the given diagram.



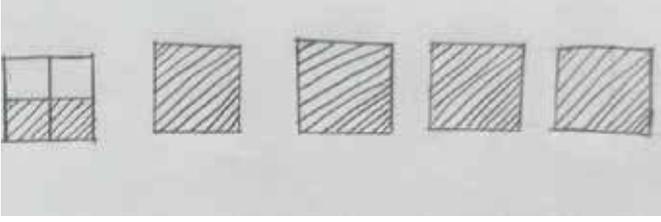
## Assessment:

Students' ability to count the whole and the parts and write it as mixed fraction and their ability to convert a given mixed fraction into improper fraction was assessed.



## Activity 2:

In this activity, I have given a few improper fraction number. Students have to shade the picture and write it as mixed fraction in their note book.



## EVALUATE

A game was conducted to evaluate the children. I drew many fractions in chits and put them in a bowl and passed them around. Music was played while they passed the bowl. When the music

stopped, the student who had the bowl, had to pick a chit and say 3 points about that fractional number or diagram.

For example: the chits had both numbers and diagrams. Like  $4/5$ ,  $5/4$ ,  $6/10$ ,  $9/7$



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