

Tenths & Hundredths

CBSE, Maths, Grade – V, Team - II

Hundredth: Right side, decreases the value

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Concept: Uses decimal fractions in the context of money.

Objective

- Gains knowledge and understanding in hundredths.
- Able to express paise as rupees in decimal format.
- Understand the place value of hundredths
- Able to read and write hundredths

Pre-requirement

- Knowledge about fraction and its types. (Mixed fraction, equivalent fraction)
- Knowledge about the tenths place in decimal.
- Good understanding in the concept of money (Rupees and paise)

Engage

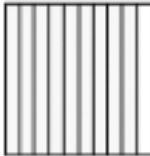

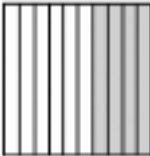
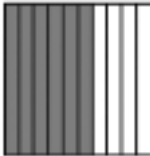




- I gave worksheet (Worksheet no 1) to children to check their understanding about tenths place
- Following this, I gave another worksheet (Worksheet no 2) and asked the students to write the number name of the given decimal numbers (upto tenths place).
- I also showed real paise coins (that are not currently in use) to the students. After they took a look at the coins, I asked the students to use as many coins as they want so that the collection should show One rupee. (Since its not possible to give as many real coins, we may ask the students

Worksheet no 1

Name: _____

Decimals: Tenths

Write the decimal and the fraction shown by each square.

a. 	b. 	c. 	d. 
_____	_____	_____	_____
e. 	f. 	g. 	h. 
_____	_____	_____	_____

Worksheet no 2

Decimals in Words

Write the decimals in word form:

- | | |
|---------------|---------------|
| 1) 9.5 _____ | 2) 7.7 _____ |
| 3) 74.9 _____ | 4) 1.6 _____ |
| 5) 2.8 _____ | 6) 65.8 _____ |
| 7) 76.1 _____ | 8) 6.9 _____ |

to draw pictures of coins) By this activity I wanted to find their understanding and misconceptions about the money concept. In this activity my expectation is to derive the concept 100 paise makes 1 Rupee.

Reflection:

- i. In the first two activities, most of the children were able to write the fraction into decimals and then the decimals into words. But there were some children lagging behind in it to whom I had to once again explain.

Example:



Students have to write this as follows Fraction – $\frac{6}{10}$; Decimal notation – 0.6; In words – six tenths.

Students did this conversion of fraction into decimal notation and writing their names. In the second worksheet I gave numbers as follows

- 9.2 – This was written as nine and two tenths.
54.6 – Fifty four and six tenths.

Students felt it very easy to read and write this as fifty four point six. But again I insisted that they read the decimal portion as six tenths and write it in the same manner. This is because they can reinforce themselves in the place value of numbers in the tenths place.

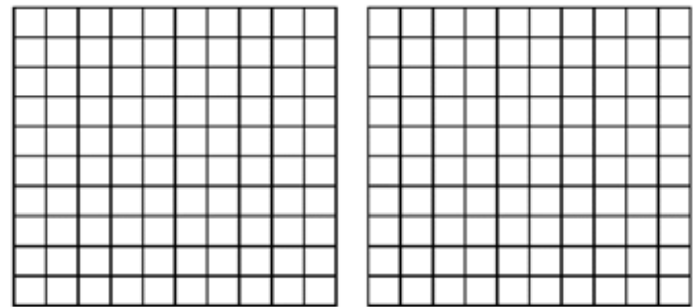
- ii. In the third activity one of the girls could not find the value of two twenty five paise. But she could say the value of two fifty paise as one rupee. This shows that she does not have practical knowledge in handling 25 paise coins. Then she added the numbers to make it up to one Rupee. This shows me that those children who are handling money were good in mental calculation. Mathematics is not just knowing the concepts but the real learning is in the application of the concept.

Explore:

I divided the students into four groups. Gave “hundred grid” sheets and flashcards with paise written on it. Asked the students to colour the grid to represent the coin they are having with them. Hint given to the students is that one square of the grid represents one paise. Also told the students had to write the shaded portion in fraction. (Worksheet no 3)

Worksheet 3

Hundredths Grids



REFLECTION: The main objective of this activity is to help the students to explore and understand the hundredths place value. The question is “If each square is one paise how much is the square worth 25 paise and write it in fraction”

Students shaded 25 boxes to show 25 paise and wrote it in fraction as $\frac{25}{100}$. They didn't find any difficulties in doing this activity. Everyone did it. Students also made different patterns while doing this shading activity.

Students helped each other and were interactive while working in groups. They didn't hesitate to get help from their peers. I could see cooperation, helping others, caring for their group members, team spirit among the students while they were doing this activity as a group. Mostly in my classroom I used to do group activities so as to enable peer learning. Students didn't find any kind of difficulties in doing this activity.

Explain

Student shared their understanding and pose their queries based on the explore activity. I

discussed the above activity and explained how tenth and hundredth from one whole by asking the following questions:

- How many paise make 1 rupee?
- Then how can we call that one rupee in fractional terms?
- How many parts make one rupee?

I introduced the word hundredths.

- $1/100$ is read as one hundredths.
- $25/100$ is read as 25 hundredths. (In Primary classes is better to use this term instead of making the students to read 0.25 as point two five)

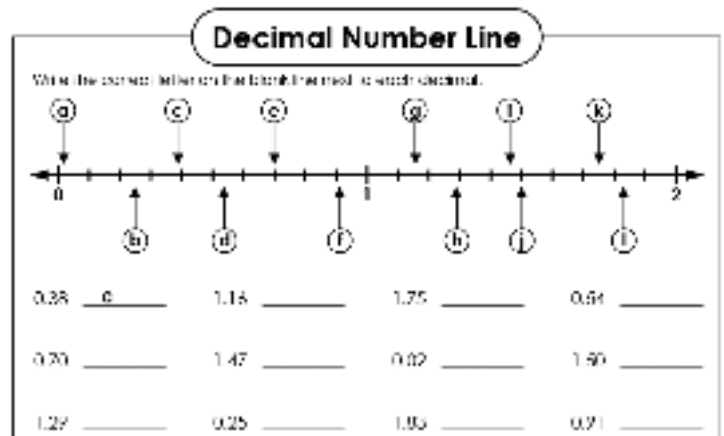
Had also told them about the way to write $1/100$ as 0.01. From this I derived that while writing 1 paise in the decimal notation (Rs.0.01) we are representing that one paise as one hundredths of a rupee. Had explained that the portion before the point shows the number of wholes and after the point shows the fractional part of a whole. With this explanation the students completed the worksheet 3 of the explore activity by writing the fractions as decimal notations i.e. Converting paise into rupees.

REFLECTION:

I asked a student from each group to share their experience. Students said that they shaded the boxes for the given paise. Simultaneously I started asking questions as mentioned above. I said that $1/100$ (one hundredth) should be written as 0.01 (My students didn't ask me the question that why we should write it like this). But I failed to convey that while representing paise in Rupees, one has to write a paise as one hundredth of a rupee (Rs.0.01). Eventually I corrected my mistake.

Elaborate

- To create deep understanding about the concept of hundredths I gave a worksheet showing decimals on number line (Worksheet no 4). Had asked the students to fill it by guiding them wherever required.
- I have given a "tenths grid" showing 2 tenths. Asked students to convert it into a "hundred grid" and see what happens to the 2 tenths part. By this activity students were able to represent $2/10$ as $20/100$. (We can make use



of the worksheet no1 used in the engage activity for this.)

- I gave worksheet no.5 to the students and asks them to split up the rupees and fill it up in the decimal place value chart.

DECIMAL PLACE VALUE CHART

FILL UP THE AMOUNT IN THE GIVEN PLACE VALUE CHART

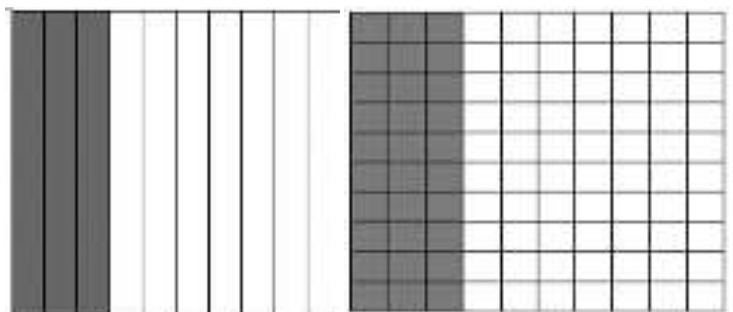
RUPEES	NUMBER NAME	HUNDREDS	TENS	ONES	TENTHS	HUNDRETHS
2.10						
5.04						
24.33						
362.50						
101.25						
451.99						

REFLECTION:

- I gave activity 1 in order to make the students realize the relation between the tenths and hundredths. But students found it very difficult to locate the hundredths in that number line. So, I changed my plan. I gave activity 2 prior to activity 1. By doing activity 2 students understood the relation between the tenths and the hundredths.

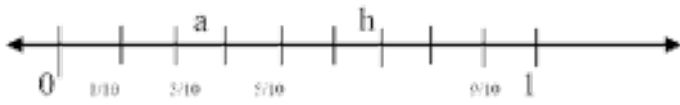
Tenths grid

Hundredths grid



So two tenths ($2/10$) equals Twenty Hundredths ($20/100$)

ii. After this I asked the students to mark the line as follows.



Then the students were ready enough to do the first activity with less difficulty.

To locate a number say 0.25 on the number line they write as $25/100$. They can sense that it comes after $2/10$.

iii. Third activity is filling up the rupees in the place value chart. It looks like this

RUPEES	NUMBER NAME	HUNDREDS	TENS	ONES	.	TENTHS	HUNDREDTHS
2.10							
5.04							

This activity helped the children to see the place value of tenths and hundredths. Here also students made mistakes like

RUPEES	NUMBER NAME	HUNDREDS	TENS	ONES	.	TENTHS	HUNDREDTHS
5.04	Five and four tenths			5	.	4	

Since I have told them earlier that there is no value for the zeros coming after the decimal point, they left this zero before four and had written it as above.

My students were aware about the concept of hundredths but still some of them needed more clarification. So I gave some more problem in converting fraction into decimals to reinforce the concept.

1. $25/100$
2. $635/100$
3. $2/100$
4. $4562/100$
5. $89/100$

Asked the students to write these in decimals. Students did mistakes like

திசைமானி

i. $635/100 = 63.5$

ii. Some did mistakes like this they wrote $25/100 = 00.25$ and in the same way $4562/100 = 00.4562$

iii. One girl wrote like this $36/10 = 0.36$, $376/10 = 0.376$, $443/100 = 00.443$, $5/100 = 00.5$

iv. Another girl did like this $1/10 = 0.1$, $7/100 = 00.7$, $4/10000 = 0000.4$, $5/10000 = 0000.5$

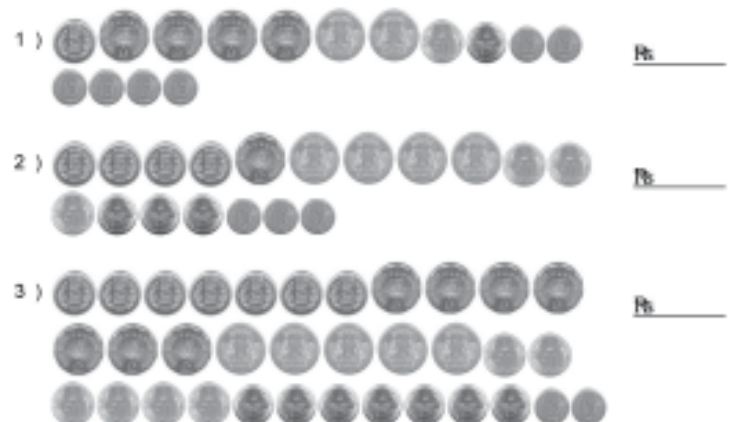
All these showed that students had not understood the place value of this decimal. I then explained the place value using the place value chart after which I asked my students to do the sums. This time they could do it correctly but not all of them could. I explained the concept once again to those students who could not do it correctly and reshuffled the group in a way that in each group there were one or two students who were not able to do correctly. This helped them to learn from their peers.

Regarding this elaborate activity I felt that all the three activities designed are important, but sequencing the activity needed some changes.

The place value of the decimals chart should be given first, then the tenths to hundredths activity and finally comes the number line activity.

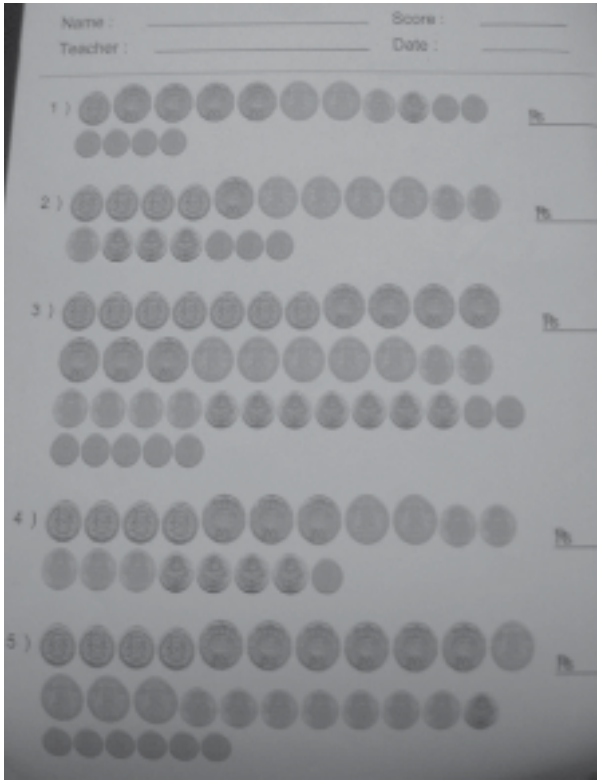
Evaluate:

i. Asked the students to calculate the coins and write down the rupees in decimal context. (Worksheet no 6).



REFLECTION:

Students calculated the rupees and paise and wrote it in the sheet. Students were able to write. I asked the students to write Rs.42.5 as



fraction. They had some misconception. One girl wrote it as $5/42$ taking 42 as the whole and 5 as the fractional part. But some others wrote it as $42 \frac{5}{10}$ (mixed fraction). So, those girls who had written it correctly as mixed fraction are very clear about the concept of expressing paise as rupees in decimal contexts. For the rest they need some more exposure and practice.

ii. Asked the students to fill up the columns. Had given this as a follow up activity.

Most of the Students did it correctly but a few children ie 3-5 could not do it.

Fraction (words)	Fraction (figures)	Decimal (figures)	Rs in word
7 units, 8 tenths and 9 hundredths	$7 \frac{89}{100}$	7.89	Seven rupees and eighty nine paise
3 units, 75 hundredth			
4 units, 42 hundredth			
3 units 9 tenths and 1 hundredth			
1 ten, 9 units, and 5tenths			
8 units, 6 tenths and 0 hundredth			
6 units, 1 tenth and 0 hundredths			
0 units, 0 tenths and 2 hundredths			
2 units, 4 tenths and 0 hundredths			

Overall Reflection:

It took six periods for me to execute this lesson plan. I found that students felt it difficult to understand the concept of place value of numbers which extend in an opposite direction. They could understand this tenths and hundredths when taught separately. Their understanding is that tenths means part of ten and hundredths as part of hundreds. It was difficult to make them realize that tenths and hundredths are part of a whole. Though it seems difficult it is surely not impossible. Everything is possible if we are determined to do it. So it is possible for my children to understand tenths and hundredths. Constant and continuous practice is needed to make them understand. Their mistakes, their misconceptions, their confusions and their clarification taught me a lot. I learnt the way to teach tenths and hundredths from my students. Good experience.



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