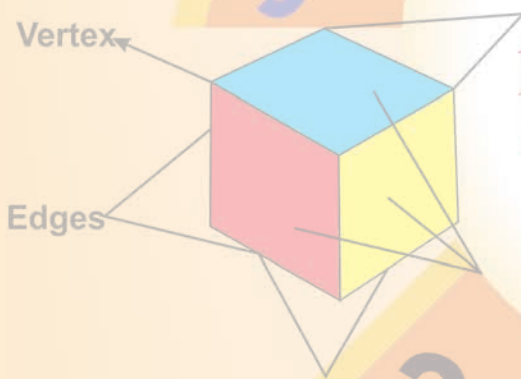


# Learning Mathematics



## Class 3



# Excerpts from National Curriculum Framework 2005

## An overall summary of the National Curriculum Framework 2005

The fact that learning has become a source of burden and stress on children and their parents is an evidence of a deep distortion in educational aims and quality. To correct this distortion, the present NCF proposes five guiding principles for curriculum development

- (i) connecting knowledge to life outside the school;
- (ii) ensuring that learning shifts away from rote methods;
- (iii) enriching the curriculum so that it goes beyond textbooks;
- (iv) making examinations more flexible and integrating them with classroom life; and
- (v) nurturing an over-riding identity informed by caring concerns within the democratic polity of the country

## National Curriculum Framework 2005 on the perspective of education

Education must be able to promote values that foster peace, humaneness and tolerance in a multicultural society.

The National Curriculum Framework document seeks to provide a framework within which teachers and schools can choose and plan experiences that they think children should have. In order to realize educational objectives, the curriculum should be conceptualized as a structure that articulates required experiences. For this, it should address some basic questions:

- (i) What educational purposes should the schools seek to achieve?
- (ii) What educational experiences can be provided that are likely to achieve these purposes?
- (iii) How can these educational experiences be meaningfully organized?
- (iv) How do we ensure that these educational purposes are indeed being accomplished?

## National Curriculum Framework 2005 on the Guiding Principles of education

Children acquire varied skills naturally while growing up in their environment. They also observe life and the world around them. When imported into classrooms, their questions and queries can enrich the curriculum and make it more creative. Such reforms will also facilitate the practice of the widely acknowledged curricular principles of moving from 'known to unknown', from 'concrete to abstract', and from 'local to global'.

*The MFERD books are designed to adhere to the guiding principles laid down in the National Curriculum Framework 2005. We want the followers/students to abide and fulfill the educational objectives framed by the NCF so that they not only become honest and faithful citizens but also to be a part of the ever growing global world and economy. We sincerely believe that by following this curriculum the students will develop their personality which will be a beacon of light for others to reflect and ponder and be like one.*

*For MFERD's approach to address these perspectives please refer to the back cover page.*

# Preface

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Praise be to Allah who created the man and taught him which he knew not. Peace and blessings of Allah be upon the last Prophet Muhammed ( ) who abolished all the darkneses of ignorance and set human being on the track which leads to paradise, the eternal abode of the believer.

MFERD prepares a series of the books for children which could ingrain in them best and blessed teachings of Quran and Hadees which guarantee the entry in Jannat if obeyed with sincerity of intention.

Learning Mathematics has been written keeping in mind the intention of making math easy to understand and practise for the young learners.

Mathematics is a challenge for many of all ages. This is not unusual phenomenon that even a literate can have a specific phobia when it comes to discussing any mathematical problem. The obvious reason is mathematics was not introduced and explained to them in an easy and desired manner.

Learning Mathematics focuses on explaining and introducing all mathematical concepts in an easy language using different examples to make the concept clear for young learners.

In order to generate interest in the subject multiple intelligence techniques have been used for students with different aptitudes, wherein the exercises are based upon the interest of the young learners.

Every chapter starts with the explanation of the concept that has been introduced in the chapter in a way that generates curiosity in the young minds.


Math swift at the end of the chapter helps the young learner to apply the knowledge gained in the chapter and form the concept learnt.

At places, some very basic Islamic concepts have also been given in mathematical perspective and explained at the child's cozy level. This is to show the fact that Islamic teachings have left no field of knowledge where some clear or exploring idea has not been given. We hope that experts would find the book to be an appreciable endeavour. Suggestions from all sides for improvement of the book are always welcome. We pray to Allah that this book becomes highly beneficial for every learner of mathematics. **Ameen.**

III  
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 3<sup>rd</sup>  
Class

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III  
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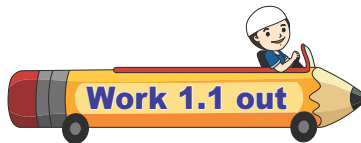


# Fun learning numbers

## Let's recall the number facts

- We have learnt to read and write **1-digit**, **2-digit**, and **3-digit** numbers.
- To build these numbers we used the following digits:  
0, 1, 2, 3, 4, 5, 6, 7, 8 & 9.
- Numbers from **0** onwards are called **Whole numbers** and denoted by **'W'**.
- Numbers from **1** onwards are called **Natural numbers** or **counting numbers** and denoted by **'N'**.
- A number written in figures is a **numeral**.
- A number written in words is a **number name or numeration**.

**Example :** 226 is written as two hundred twenty six.



### 1. Write the numbers in the given boxes.

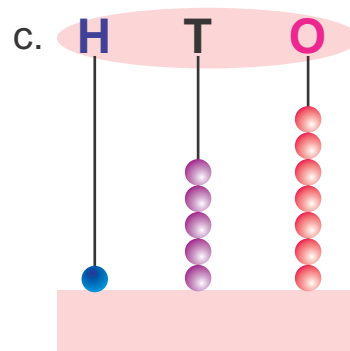
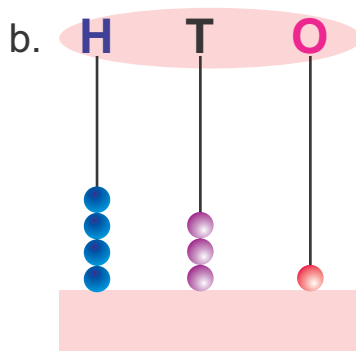
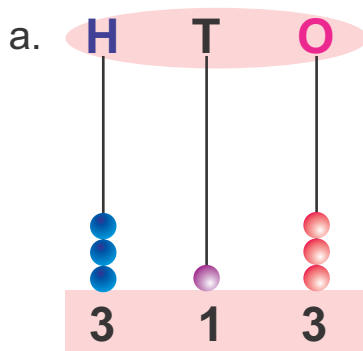
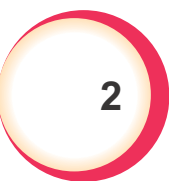
a. 118 to 157



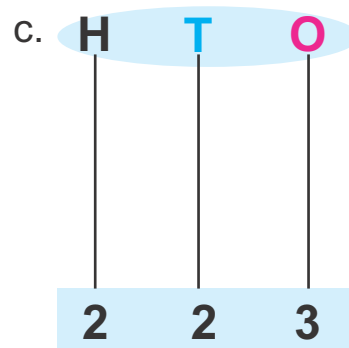
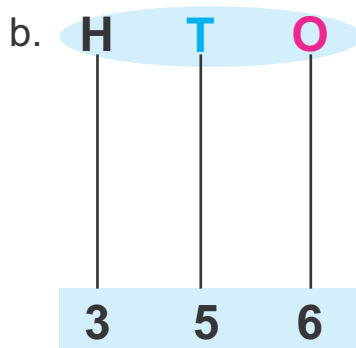
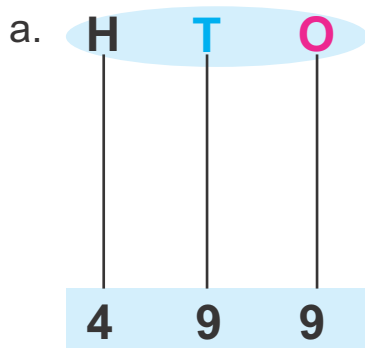

b. 375 to 414


**2. Write the number shown on the abacus.**





*(One has been done for you)*



**3. Draw beads on abacus to show the number.**



















**4. Write the numerals for the following.** *(One has been done for you)*

- a. Four hundred four 
- b. Two hundred thirty seven 
- c. One hundred sixty nine 
- d. Three hundred fifty five 

















**5. Write the number names for the following.**

- a. 167 \_\_\_\_\_
- b. 389 \_\_\_\_\_
- c. 236 \_\_\_\_\_
- d. 450 \_\_\_\_\_

**6. Arrange the following in ascending order.**

- a. 17    163    436    36       
- b. 195    58    473    295       
- c. 100    111    0    201       
- d. 4    6    449    293       

**7. Arrange the following in descending order.**

- a. 273    410    135    447       
- b. 493    283    139    203       
- c. 368    165    249    424       
- d. 218    469    261    336       



### 8. Write the expanded form of each of the following.

(One has been done for you)

- a. 251 200 + 50 + 1
- b. 410 \_\_\_\_\_
- c. 387 \_\_\_\_\_
- d. 119 \_\_\_\_\_

### 9. Put the correct sign '>', '<' or '=' in the box.

- a. 419  212
- b. 349  298
- c. 100  101
- d. 189  408
- e. 10  10
- f. 354  175

### 10. Circle the smallest number and cross out the biggest number in each row. (One has been done for you)

a.	100	<del>280</del>	162	121
b.	370	486	367	240
c.	500	260	158	236
d.	435	496	222	316

### Even and odd numbers

- Numbers 2,4,6,8.....make pairs. They are called **even numbers**. Numbers that have 0,2,4,6, and 8 in their one's place are even numbers.



- Numbers 1,3,5,7,9 do not make pairs. They are called **odd numbers**. Numbers that have 1,3,5,7 and 9 in their one's place are odd numbers.





## Relationship between even and odd numbers

$$2 + 4 = 6$$

Even Number + Even Number = Even Number

$$3 + 9 = 12$$

Odd Number + Odd Number = Even Number

$$2 + 3 = 5$$

Even Number + Odd Number = Odd Number

### 11. Circle the odd numbers and cross out the even numbers. (One has been done for you)

- a. ~~92~~    (121)    ~~6~~    ~~118~~    (273)
- b. 154    447    330    109    228
- c. 481    462    333    4    332
- d. 182    253    331    350    418
- e. 183    197    226    221    338
- f. 445    116    305    408    117

## Successor and predecessor

- A number that comes just after (or succeeds) a given number is called the **Successor**.

We get the successor by adding 1 to a given number.

**Example :**             $9 + 1 = 10$             The successor of 9 is 10.  
                                $61 + 1 = 62$             The successor of 61 is 62.  
                                $123 + 1 = 124$         The successor of 123 is 124.

- A number that comes just before (or precedes) a given number is called the **Predecessor** of the number.



We get the predecessor by subtracting 1 from the given number.

**Example :**  $7 - 1 = 6$       The predecessor of 7 is 6.  
 $85 - 1 = 84$       The predecessor of 85 is 84.  
 $178 - 1 = 177$       The predecessor of 178 is 177.

<b>50 - 1 = 49</b>	<b>50</b>	<b>50 + 1 = 51</b>
<b>Predecessor</b>		<b>Successor</b>

### Forming Numbers

- We have learnt to make four different numbers using 2 given digits and identifying the biggest number and the smallest number.
- Now let's learn to form the biggest and the smallest number using 3 digits.

### Biggest Numbers

6

In order to form the biggest 3-digit number we put the biggest digit in the hundred's column, then the next greatest digit and so on. In other words:

**We write the digits in descending order to form the biggest number.**

**Example :** Arrange 2, 1, 4 in order to form the biggest number.

**Step 1 :** Write the digits in descending order.

421 is the biggest number that can be formed using the given digits.

### Smallest number

In order to form the smallest number we put the smallest digit in the hundred's place and the next smallest digit in the ten's place and so on. In other words:

**We write the digits in ascending order to form the smallest number.**

**Example 1 :** Arrange 4,2,8 in order to form the smallest number.

**Step 1 :** Write the digits in ascending order.

248 is the smallest number that can be formed using the given digits.



**Example 2 :** Form the greatest and the smallest 3-digit numbers using 3,0,4.

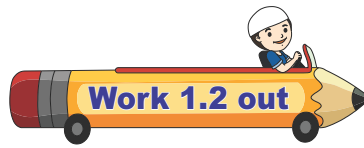
We cannot start a number with zero. So, it will come in one's place or ten's place.

**Greatest number** → 430 (Descending order)

**Smallest number** → 304 (Ascending order)

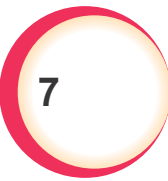
**Example 3 :** Build four different numbers using 3,2,4.

**Solution:** 432, 423, 324, 243.



**1. Write the successor of the following numbers.**

- |             |              |              |
|-------------|--------------|--------------|
| a. 76 _____ | b. 109 _____ | c. 315 _____ |
| d. 10 _____ | e. 465 _____ | f. 247 _____ |
| g. 49 _____ | h. 389 _____ | i. 124 _____ |

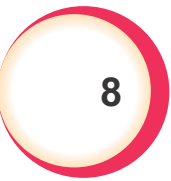


**2. Write the predecessor of the following numbers.**

- |              |              |              |
|--------------|--------------|--------------|
| a. _____ 15  | b. _____ 368 | c. _____ 36  |
| d. _____ 185 | e. _____ 416 | f. _____ 217 |
| g. _____ 298 | h. _____ 116 | i. _____ 315 |

**3. Write the predecessor and successor of the following numbers.**

- |                      |                      |
|----------------------|----------------------|
| a. _____, 395, _____ | b. _____, 178, _____ |
| c. _____, 76, _____  | d. _____, 499, _____ |
| e. _____, 231, _____ | f. _____, 13, _____  |



4. Write any 5 even and 5 odd numbers between 50 and 100 in your note book.

5. Form the greatest and the smallest 3-digit numbers using the given digits.

	Greatest	Smallest
a. 4, 2, 3	_____	_____
b. 2, 3, 1	_____	_____
c. 1, 0, 4	_____	_____
d. 3, 1, 4	_____	_____

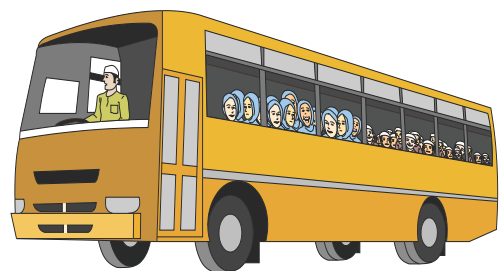
6. Form four different numbers using the given digits.

a. 3, 4, 2				
b. 1, 0, 3				
c. 2, 4, 1				
d. 3, 0, 4				

### Rounding off numbers

To make calculations easy we can round off numbers. Rounding off is making a guess to help us take a decision.

**For example :** When you want to make a guess about the number of people travelling in a bus, you say there are about 40 to 50 people in the bus. Whereas when you count them they may be 46 or 47.

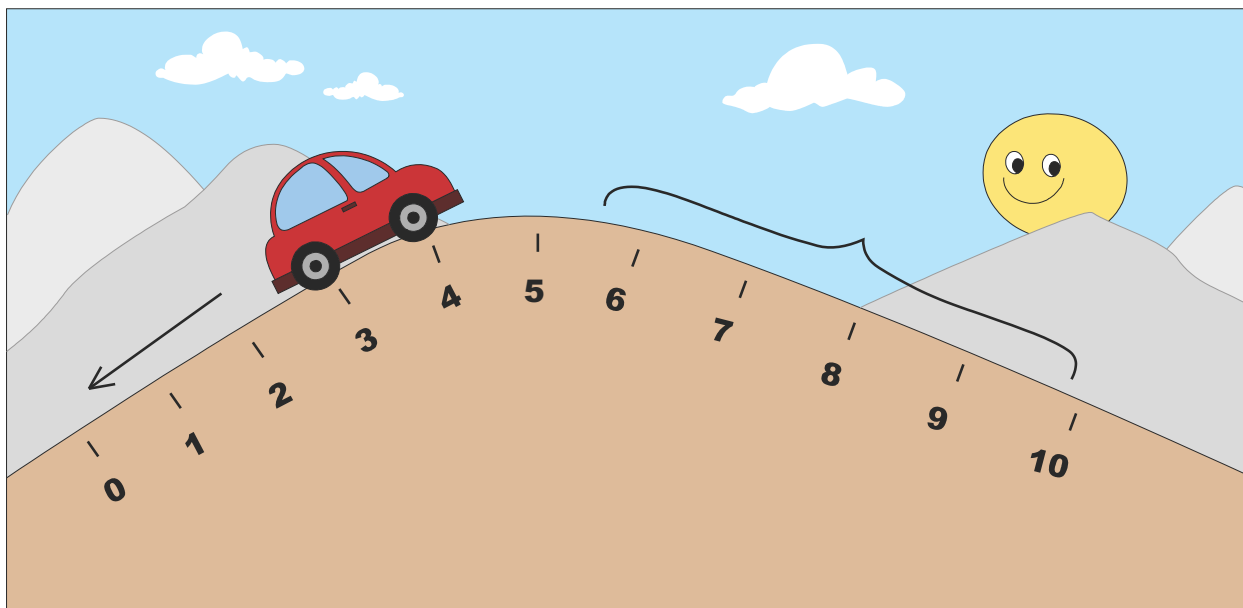


Therefore, we **round off** the numbers to estimate the figures or amounts.



## Rounding off to the nearest 10

- If we have ₹ 11, we say we have about ₹ 10.
- If we have ₹ 17, we say we have about ₹ 20.



**For rounding off a number to the nearest 10, we look at the digit in the one's place.**

- In the above picture, if the digit in the one's place is between 1 and 5 the car goes back towards zero, as it is closer to 0.

**Example :** 12 will be rounded off to 10.  
33 will be rounded off to 30.  
74 is rounded off to 70.

- **If the digit in one's place is less than 5, put zero in the one's place and do not change the digit in ten's place.**
- If the digit in the one's place is 5 or between 5 and 9 the car goes down towards 10, as it is closer to 10.

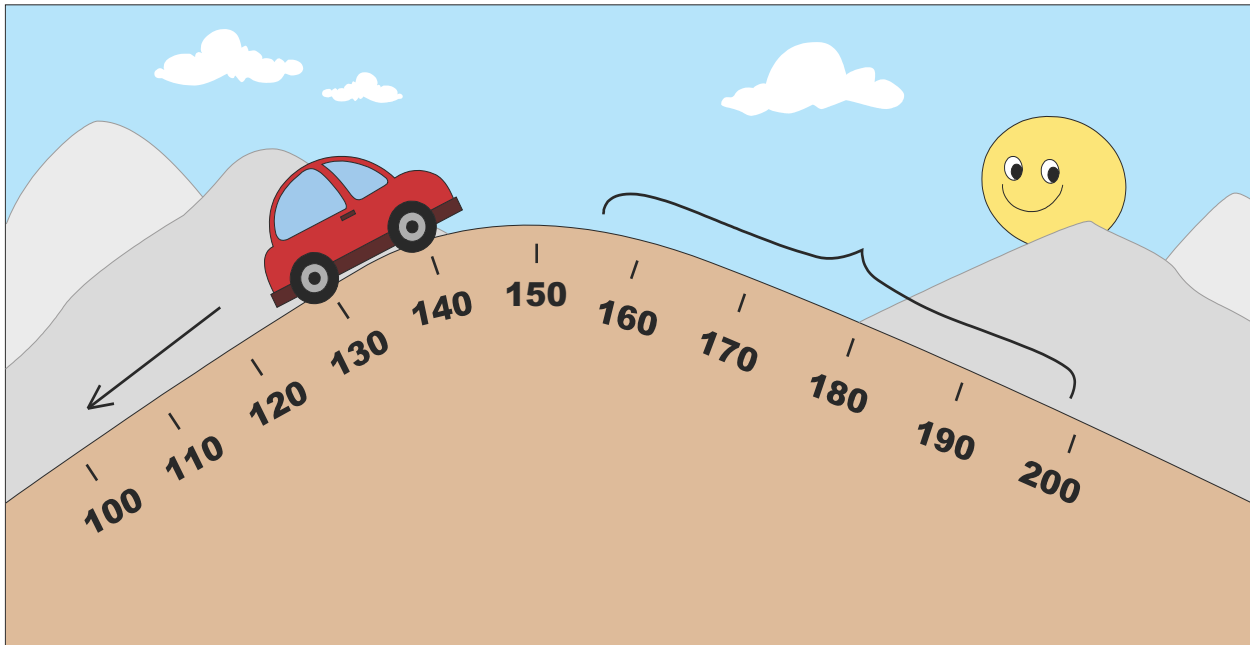
**Example :** 16 is rounded off to 20.  
38 is rounded off to 40.  
97 is rounded off to 100.

- **If the digit in one's place is 5 or greater than 5. Put zero in the one's place and add 1 to the digit in ten's place.**



## Rounding off to the nearest 100

- If we have ₹121, we say we have about ₹100.
- If we have ₹191, we say we have about ₹200.



10

**For rounding off a number to the nearest hundred we look at the digit in the ten's place.**

- In the above picture, if the digit in the ten's place is between 0 and 5 the car goes back to the same hundred.

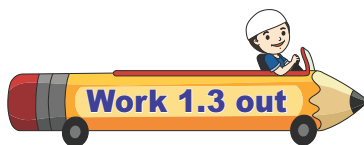
**Example :** 113 is rounded off to 100.  
246 is rounded off to 200.

- **If the digit in ten's place is less than 5 put zeroes in the ten's and one's place and keep hundred's place as it is.**
- If the digit in the ten's place is 5 or between 5 and 10 the car goes down towards higher hundred.

**Example :** 156 is rounded off to 200.  
387 is rounded off to 400.

- **If the digit in the ten's place is 5 or greater than 5 add 1 to the hundred's place and put zeroes in the ten's and one's place.**





**1. Round off the following numbers to the nearest 10.**

- a. 12 \_\_\_\_\_      b. 8 \_\_\_\_\_      c. 74 \_\_\_\_\_  
 d. 99 \_\_\_\_\_      e. 25 \_\_\_\_\_      f. 33 \_\_\_\_\_  
 g. 51 \_\_\_\_\_      h. 67 \_\_\_\_\_      i. 63 \_\_\_\_\_

**2. Round off the following numbers to the nearest 100.**

- a. 376 \_\_\_\_\_      b. 253 \_\_\_\_\_      c. 434 \_\_\_\_\_  
 d. 101 \_\_\_\_\_      e. 368 \_\_\_\_\_      f. 345 \_\_\_\_\_  
 g. 225 \_\_\_\_\_      h. 477 \_\_\_\_\_      i. 163 \_\_\_\_\_

**Math Swift**



*cce*

**Determine the number shown in each box.**

*(One has been done for you)*

Hundreds	Tens	Ones
● ● ● ●	● ● ● ● ● ● ● ●	● ● ●

Hundreds	Tens	Ones
●	●	● ● ● ● ● ● ● ● ● ●

Hundreds	Tens	Ones
● ● ● ●		● ● ● ● ● ● ●

Hundreds	Tens	Ones
	● ● ● ● ●	● ● ● ● ● ●

Answer

483

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

