MATHEMATICS
STANDARD ONE

## The Constitution of India Chapter IV A

## Fundamental Duties

## ARTICLE 51A

Fundamental Duties- It shall be the duty of every citizen of India-
(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
(c) to uphold and protect the sovereignty, unity and integrity of India;
(d) to defend the country and render national service when called upon to do so;
(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities, to renounce practices derogatory to the dignity of women;
(f) to value and preserve the rich heritage of our composite culture;
(g) to protect and improve the natural environment including forests, lakes, rivers and wild life and to have compassion for living creatures;
(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
(i) to safeguard public property and to abjure violence;
(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;
(k) who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.


Maharashtra State Bureau of Textbook Production and Curriculum Research, Pune - 411004


Download DIKSHA App on your smartphone. If you scan the Q.R.Code alongside, you will be able to access the full text. Q.R.Codes are given at the foot of some pages also. Scanning these you will be able to access audio-visual study material as teaching and learning aid, related with some contents.

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## NATIONAL ANTHEM

Jana-gana-mana-adhināyaka jaya hē Bhārata-bhāgya-vidhātā,

Panjāba-Sindhu-Gujarāta-Marāthā
Drāvida-Utkala-Banga
Vindhya-Himāchala-Yamunā-Gangā
uchchala-jaladhi-taranga
Tava subha nāmē jāgē, tava subha āsisa māgē, gāhē tava jaya-gāthā,

Jana-gana-mangala-dāyaka jaya hē Bhārata-bhāgya-vidhātā,

Jaya hē, Jaya hē, Jaya hē, Jaya jaya jaya, jaya hē.

## PLEDGE

India is my country. All Indians are my brothers and sisters.

I love my country, and I am proud of its rich and varied heritage. I shall always strive to be worthy of it.

I shall give my parents, teachers and all elders respect, and treat everyone with courtesy.

To my country and my people, I pledge my devotion. In their well-being and prosperity alone lies my happiness.



## Preface

Dear Little friends,
W elcome to the first standard! Now you have new school, new friends, new teachers and new books. Open your new Mathematics book. You will find it amusing with colorful pictures, games and poems. Do jump around, dance, play and also learn maths with the book.

Counting is possible only if you are able to recite numbers first from one to ten and then from eleven to twenty. You can recite numbers using the fun songs in this book.

Fingers are useful in counting. You can decorate your fingers with colourful paper caps. Try to carry out the activities given in the book. Take help from your teachers, parents, siblings and friends for doing these activities. Rama and $Y$ ash will accompany you in this fun filled book-journey. A colourful kingfisher may appear to help you .

We need ample practice of additions and subtractions in practical life. Some stories in the book will help you to practise such sums. Some pictures are also given so that you can make stories based on them. M ake such stories yourselves, prepare examples and enjoy posing problems to each other.
Q. R. Codes are given at the foot of some pages. You will find the information in the Q. R. Codes interesting.

You will find that $M$ athematics is an easy subject once you make friends with the numbers and play with them!

## Pune

Date: 16 M ay 2018
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(Dr. Sunil Magar) Director
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## Mathematics Standard I - Learning Outcomes

Suggested Pedagogical Processes

## All learners may be provided opportunities in pairs/groups/ individually and encouraged to-

- observe different contexts and situations, for example, inside/ outside the classroom.
- encourage them to use the spatial vocabulary or concepts like topbottom, on-under, inside-outside, above-below, near-far, thin-thick, bigsmall etc.
- identify and draw the things which are near-far, tall-short, thick-thin etc.
- handle concrete materials and models and classify them, for example, objects which are round in shape like chapatti, ball etc. and which are not round such as pencil, box.
- count objects such as students may take out objects up to 9 from a given collection of objects such as picking any 8 leaves $/ 4$ beads $/ 6$ ice cream sticks etc. from the given box.
- take out objects up to 20 from a given collection of objects.
- use words like more than, less than or equal through the strategy of one to one correspondence in objects in two groups.
- explore different strategies to add numbers up to 9 like counting on forward and using already known addition facts.
- explore/Develop different strategies to subtract numbers up to 9 like recounting after taking out objects from a given collection.
- use different strategies like aggregation, counting forward, using addition facts etc., to extend addition up to 20 (sum no exceeding 20)
- develop different strategies of taking away through objects/pictures.


## Learning Outcomes

## The learner -

01.71 .01 works with numbers from 1 to 20 .
01.71 .02 classifies objects into groups based on the shape of the objects and size of the objects.
01.71 .03 recites number names and counts objects up to 20 , concretely, pictorially and symbolically.
01.71 .04 counts objects using numbers 1 to 9 .
01.71.05 compares numbers up to 20 , for example, tell whether number of girls or number of boys is more in the class.
01.71 .06 applies addition and subtraction of numbers 1 to 20 in day-to-day life.
01.71.07 constructs addition facts up to 9 by using concrete objects, for example, to find $3+3$ counts 3 steps forward from 3 onwards and concludes that $3+3=6$.
01.71 .08 subtracts numbers using 1 to 9 , for example, the child takes out 3 objects from a collection of 9 objects and counts the remaining to conclude $9-3=6$.
01.71 .09 solves day-to-day problems related to addition and subtraction of numbers up to 9 .
01.71 .10 recognizes numbers up to 99 and write numerals.
01.71 .11 observes, extends and creates patterns of shapes and numbers, for example, arrangement of shapes / objects / numbers like


| Suggested Pedagogical Processes | Learning Outcomes |
| :---: | :---: |
| - count in groups of tens and ones for numbers more than 20 like 38 has 3 groups/bundles of ten each and 8 loose (ones) <br> - sort objects based on similarities and difference through their sense of touch and observation. <br> - use concrete play money for making amounts up to Rs. 20. <br> - conduct classroom discussions on observation of pattern and allow them to describe in their own language. Let children find what will come next and justify the answer. <br> - observe and collect information from the visuals, contexts/situations such as number of items. | - $1,2,3,4,5, \ldots$ <br> - $1,3,5$ <br> - $2,4,6 \ldots$ <br> - $1,2,3,1,2, \ldots 1, \ldots 3, \ldots$ <br> 01.71.12 collects, records (using pictures/numerals) and interprets simple information by looking at visuals. (For example, in a picture of a garden the child looks at different flowers and draws inference that flowers of a certain colour are more.) <br> 01.71.13 understands the concept of zero. |

## Instructions for Teachers

Let's make efforts so that students understand and like $M$ athematics and find it enjoyable. $M$ ake sure that they are not afraid of maths. While dealing with the songs and games in the book, see that the students participate happily.

When it comes to counting, it is necessary to recite first from one to ten, and then from eleven to twenty. See that the students do it with pleasure. A lot of practice of counting different objects is expected. Small additions can be practised with the help of fingers. You can make a game out of it.

Specific instructions for teachers are given in the book at several places.

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8
 the child who is in front of the stumps.


## 










```
Instructions
    for
teachers
```


## Number song and finger caps

Cut circles of about 5 cm diameter. Cut each of them into 3 equal parts. Make a cap of each piece using a gum tape. See that children participate in the activity. They will enjoy, exchanging the caps and playing with them.

It is easy to count the objects only after reciting the numbers from one to ten. So ask the children to sing the number song. Students will happily practise reciting from one to ten by singing the song.



One two three, four five six seven eight
nine ten, my fingers are ten.
Let's count them, now and again, everybody has fingers just ten.

> Decorate them, with papercaps, Red Yat are so, easy to get the blue purple, or is the white your best









## Practice 1 to 9

$1,2,3,4,5,6,7,8,9$ are symbols used for numbers. They are called digits. Practise writing the digits.

| $\mathbf{1}$ |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | | 2 |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 3 |  |  |  |  |  |  |  |  |  |



| 7 |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



9
|
$\square$
W rite numbers in the blank spaces.






Let us count the butterflies!


Has Y ash counted correctly ? Is Rama's counting correct ?

Magician Kingfisher came to their help,
He told the butterflies to stay in a line.



What is easier ? counting children while they are playing or while they are standing in a row ?

M ake groups and ask children to discuss the above point.




## One to one pairing

Let us pair the boats in group A and group B.


By joining one boat in group $A$ with one boat in group $B$, we observe that, the boats in group A are over. Some boats in group $B$ remain. It means that boats in group $B$ are more.

Pairing helps to decide more or less.
Pair the boats in group $A$ and group $B$ and observe.



The boats in which group are over?
Colour the box under the group which has less boats.


W hen the number of boats is large, it is easier to use the pairing to know which group is bigger.




## Addition of Zero

Add, write the numbers and draw proper pictures.

Let's practise addition.



## Read and solve.

- Salil had 6 chalks. Hameed gave him 3 more chalks. How many chalks does Salil have in all ?

| $\mathbf{6}$ | Salil's chalks |
| ---: | :--- |
| $+\mathbf{3}$ | Hameed gave |
|  | Total chalks |

- K etan has 4 almonds and Neha has 4 almonds. How many almonds do they together have ?

- Joseph has 7 flowers and A ngel has 2 flowers. Find the total number of flowers with them.

| $\square$ | Joseph's flowers <br> A ngel's flowers |
| :--- | :--- |
| Total flowers |  |

- Jiya has 5 beads and Parmeet has 3 beads. How many beads do they have together ?


Jiya's beads
Parmeet's beads
Total beads


Y ash had $\mathbf{3}$ J amuns. He gave $\mathbf{2 J}$ amuns to Rama,

* how many J amuns does he have now ?

Did you observe this picture?
Five frogs were on a river bank. One frog jumped into water. Count how many frogs are on the river bank now.

$$
5-1=\square
$$



## 




## The story of L addoos

M other made 6 laddoos and kept them in a jar. Then she went to the market to buy vegetables. When Rama came home from school, she saw the laddoos. The ladoos were very tempting. Rama ate $\mathbf{2}$ laddoos. W hen mother came home, she saw 4 laddoos in it.
M other : Rama, did you eat 2 laddoos ?
Rama : I ate one laddoo mother.
M other : Rama, are you telling the truth ?
Rama : M other, I liked the laddoo very much. Sol ate one more laddoo.
M other : Very good! I am happy that you spoke the truth. Now take one more Iaddoo for you. Give one laddoo to your father one to your grandmother and I will eat this one.

Did you like the story ? N ow tell us,

1) How many laddoos did mother keep in the jar? $\square$
2) How many laddoos did Rama eat? $\square$
3) How many laddoos did mother give to Rama as an award for telling the truth ?

4) How many laddoos did Rama give in all to her father and grandmother ? $\square$
5) How many laddoos did mother take for herself ? $\square$
6) How many laddoos were left in the jar at the end? $\square$


## Read and solve

- Nagma had 5 berries, she gave 3 berries to Salma. How many berries are left with Nagma now ?

| -5 | Berries Nagma had |
| :---: | :--- |
| -3 | Berries given to Salma |
| $\square \square$ | Berries left with Nagma |

A fruit- basketcontained 9 custard apples. M y brother di stributed 6 of them to his friends. Find the number of custard apples remaining in the basket.

| -9 | Custard apples in the basket |
| ---: | :--- |
| $\square$ | Custard apples distributed |
| $\square$ | Remaining custard apples. |

- There were 3 pencils with Samira. She gave 1 pencil to her friend. How many pencils are left with Samira now?

| $\square \square$ | Pencils Samira had |
| :--- | :--- |
| $\square$ | Pencils given to her friend |
| $\square$ | Pencils left |

- There were 4 laddoos in a jar. Balbir ate one of them. How many laddoos are there in the jar now ?

| $\square \square$ | Laddoos in the jar |
| :--- | :--- |
| $\square$ | Laddoo eaten by Balbir |
| $\square$ | Remaining laddoos in the jar |






Thirteen and one make fourteen

C
Fourteen and one make fifteen


| ! | \& | ¢ $\because \bullet \bullet$ |  | $\because$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
|  |  |  |  |  |  |


Fifteen and one make sixteen










Which notes or coins will you pay to buy given articles?

| Article | Price | Coins/Notes |
| :---: | :---: | :---: |
|  | 3 rupees |  |
|  | 12 rupees |  |
|  | 18 rupees |  |
|  |  |  |

Find the price of the article by counting coins.

| Article | Coins | Price |
| :---: | :---: | :---: |
|  |  |  |
| $\nabla_{s, s_{k}}$ |  |  |
|  |  |  |

Read and write the answers.

1) A bunch of methi costs 10 rupees. How many five-rupee coins are needed to pay for it? $\square$
2) A pencil was bought by giving 3 coins of two-rupee, so what was the price of the pencil? $\square$
3) The price of a candle is rupees 10 and price of a match box is rupeel. Find the total price of one candle and one match box. $\square$
4) A jahar bought a note book by giving one currency note of 10 rupees and one coin of rupees 10 , what is the cost of the note book ?


|  |  | Introduction and writing of 31 to 40 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Let's learn... |  |  |  |  |  |  |
|  | (1) | $\begin{array}{\|c\|} \hline \text { Tens } \\ \hline 3 \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { Units } \\ \hline 1 \\ \hline \end{array}$ | Three Tens <br> One Unit | Thirty One | 31 |
|  | W II | 3 | 2 | Three Tens Two Units | Thirty Two | 32 |
|  | MII | 3 | 3 | Three Tens <br> Three Units | Thirty Three | 33 |
|  | W川W | 3 | 4 | Three Tens Four Unit | Thirty Four | 34 |
|  | $\text { W }\\|\\|\\| \mu$ | 3 | 5 | Three Tens Five Units | Thirty Five | 35 |
|  | * III\\| \| | 3 | 6 | Three Tens Six Units | Thirty Six | 36 |
|  | * I/IIIII | 3 | 7 | Three Tens Seven Units | Thirty Seven | 37 |
|  | * IIJIIIJI | 3 | 8 | Three Tens Eight Units | Thirty Eight | 38 |
|  | * IM I/IM I/ II | 3 | 9 | Three Tens Nine Units | Thirty Nine | 39 |
|  | * 需 | 4 | 0 | Four Tens | Forty | 40 |
| Toran of consecutive numbers. W rite correct numbers in the blank spaces. |  |  |  |  |  |  |


(20) Introduction and

## Toran of consecutive numbers.

Write correct numbers in the blank spaces.


| (1) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Let's learn... |  |  |  |  |  |  |
| (1) I | Tens | Units | Five Tens | Fifty One | 5. |  |
|  | 5 | 1 | One Unit | fity One |  |  |
|  | 5 | 2 | Five Tens <br> Two Units | Fifty Two | 52 |  |
|  | 5 | 3 | Five Tens Three Units | Fifty Three | 53 |  |
|  | 5 | 4 | Five Tens Four Units | Fifty Four | 54 |  |
| 20* $11 / \mathrm{l}$ | 5 | 5 | Five Tens Five Units | Fifty Five | 55 |  |
| ** Illill | 5 | 6 | Five Tens Six Units | Fifty Six | 56 |  |
| * M / Willil | 5 | 7 | Five Tens Seven Units | Fifty Seven | 57 |  |
| * IJ/j/j/jl | 5 | 8 | Five Tens Eight Units | Fifty Eight | 58 |  |
|  | 5 | 9 | Five Tens Nine Units | Fifty Nine | 59 |  |
| as a d a d | 6 | 0 | Six Tens | Sixty | 60 |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |










## Addition by counting forward



Let's add five and three. Count three numbers after five. 6, 7, 8. Total beads are 8 . So the sum is 8 .

Now, let's find the sum of eight and five. For it, count five beads after 8 beads. 9,10 , 11, 12, 13. So total beads are 13.


While adding two numbers, count forward the numbers equal to the second number after the first number. A ddition will be easy if we take bigger number and then count forward the smaller number. While adding $4+9$ counting four numbers after 9 is easier than counting nine numbers after 4.
Let's practise A ddition.













## Days of a week



See the above table and write answers in the boxes.

1) Which game do children play on
Tuesday?
2) If children are playing today K ho--K ho, which game will they play
tomorrow ?
3) Which day they play hide and seek ?

4) If yesterday children played

L angadi, which game will they play today ? $\square$

| Saturday | Sunday | M onday |
| :---: | :---: | :---: |
| Y esterday | Today <br> is a holiday for <br> our school | Tomorrow <br> there will be school as <br> usual |



## इयत्ता 9 ली ते ८ वी साठीची पाठ्यपुस्तक मंडळाची वैशिष्ट्यपूर्ण पुस्तके

- मुलांसाठीच्या संस्कार कथा
- बालगीते
- उपयुक्त असा मराठी भाषा शब्दार्थ संग्रह
- सर्वाच्या संग्रही असावी अशी पुस्तके


## - स्फूर्तीगीते

- गीतमंजुषा
- निवडक कवी, लेखक यांच्या कथांनी युक्त पुस्तके


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## साहित्य पाठ्यपुस्तक मंडळाच्या विभागीय भांडारांमध्ये

विकीसाठी उपलब्ध आहे.






