Samreen Jawaid

## TITLE VIRSO

## How to use this guide

This teaching guide provides the teacher the objectives of, and lesson plans for, each unit. Clear, step-by-step guidelines are given for each particular topic.
The activities suggested in this guide can be carried out easily using the materials suggested. If something is unavailable, the materials or the activity can be modified to suit the teacher and students. Whilst doing these activities, it is important to relate them to the main topic that is to be taught. The time spent on the activities may vary from class to class, but nevertheless they must form an integral part of the period as it involves students more into the lesson.
Mathsmagic 1 contains ample exercises for each topic. The lesson plans are flexible enough to be followed according to the school's own time frame. I have indicated the number of periods that are required to complete each unit, but an individual school can adjust these according to the time available and also the ability of the students.
I have tried to cover the topics in the textbook in the most accessible way and I hope that teachers will find the guide a valuable assistant in teaching mathematics.

Samreen Jawaid

 ان رنما

户



 ربنما

## Table of Contents

How to use this guide ..... iii
Lesson plans ..... 2
Basic mathematics teaching learning material ..... 6
Time break up ..... 6
Unit 1 Concept of Whole Numbers ..... 8
Unit 2 Number Operations ..... 22
Unit 3 Measurement of Length and Mass ..... 32
Unit 4 Money ..... 34
Unit 5 Measurements: Time and Date ..... 36
Unit 6 Geometry ..... 40
Answers ..... 50
iii

3

7

7

9

23

33

35

37

41

50

2 اسبات كمنوبج بنىى
 وتت كتّتيم
ب! 1: كممل اعرارك تصور
ب!2: عروى وابل
!ب! 4:
ب!5: تياكث : وتت اورتارت
!ب!6: جيوبيمّى
جوابات

## Lesson plans

A mathematics lesson comprises three main parts.

1. Starter activity: The purpose of this session is to engage students' attention. It can be games, starter cards etc. and can be oral or written. Its purpose is to practise and consolidate the rapid and accurate recall of number facts and mental strategies. The most important aspect is the reinforcement of the correct use of mathematical vocabulary. It should be interesting because it leads to the main lesson.
2. Main lesson: This cannot be simply the introduction of the new unit and the accompanying exercises. It should comprise the following:

- Teacher-led exposition: this includes the introduction of the main topic along with some interesting activities.
- Pair work or group work: students complete activities in pairs or groups; maximum learning takes place if it is done with peers.
- Practice work: mathematical concepts cannot be learnt if they are not practised. Some questions related to the exercises can be asked as practice. This activity can also be done in pairs or groups. The teacher must monitor the group or pair work and provide support wherever required.
- Individual task: this should be given to students when the teacher is confident that most of them understand the concept. If an exercise is given as an independent task, the teacher can guide and support students individually.
- Homework: this should be related to real-life problems. It should be interesting and logical and should be completed by the students themselves.

3. Recapitulation: Here the teacher can ask the students different questions to assess their learning during the lesson. Students can discuss problems related to the current concept. This is the most important segment as it forms the base of the next lesson. It helps the teachers to decide whether to continue with the same concept or proceed to the new one.

## Some important issues regarding mathematics lessons

## Starter activities

The first 15 minutes or so of a lesson should be used to give a lively and positive start to the work.
To make these activities successful:

- the teacher must ensure that all students demonstrate full concentration and actively participate.
- oral questions should be carefully selected so that students can recall previous knowledge and build upon it.
- resources should be prepared in advance.







ك








ابتزاكَّ رُرهيان
 ا ا




- students should be encouraged to apply alternative strategies to solve any word problem with multiple operations.
- encourage discussion and the use of mathematical vocabulary.
- the selected activity must be appropriate for individual / group / pair work and it should not take too long.
- the activity must be linked to the main lesson.
- the selected activity should be appropriate to the students' ability.


## Time

A lesson should be well timed, keeping in mind the class level and the students' ability to complete a given task on time. The teacher should not consider the lesson taught if only $80 \%$ of the students understand the concept, but continue until the whole class shows understanding.
A teacher should never introduce a new concept until the old one is well understood, because all lessons are inter-linked, although succeeding lessons increase in complexity. A concept must be reinforced if most of the students are unable to understand it. The time duration is not mentioned in the activities as it is highly influenced by the students' ability, class level and school contexts. A topic can be completed in one period or in five periods, hence flexibility is provided in the developed lesson plans which can easily be adapted / adopted by teachers easily.

## Practice session

This is the most important session when the teacher can identify the students who need extra help and give them the individual support they require.

## Recapitulation

This session can be quickly done by asking a few questions related to the current topic. Students can be encouraged to share their views on the lesson. Their feedback helps to plan the new lesson.

## Review exercises

These assess the students' ability and confidence to work individually. They help the teacher to identify students who need more help. For them, the teacher must prepare extra worksheets to be completed in class if time allows or to be given as homework.













اعار0

 كبثروع كيا با




## Basic Mathemmatics Teaching Learning Material for Class I

The following materials will be very helpful in teaching mathematics for class I:

Set of plastic animals(farm, sea, zoo)
100 square paper
Match Sticks
Bottle tops
Candles
Plastic Bottles of different sizes
Number cards 1 to 100

Empty containers
Empty boxes
Pencils
Spoons

Pictures of animals and objects
Old newspaper/magazines
Dice (number and spots)
Rulers
Bowls

Teachers may use these materials for introducing or even practicing different math concepts.

## Time Break Up

In the academic year there are forty weeks, excluding summer break. If we exclude winter break, other regional / religious holidays and also assessment time periods, we are left with about thirty-two teaching weeks.
In these weeks, in most schools, maths is taught on a daily basis. Therefore, in a week, there are at least five periods of mathematics. So altogether there are 160 maths periods, each lasting 40 to 50 minutes, and that is a lot of learning time. The teacher should take full advantage of this time to provide the students with a variety of learning opportunities.
To assist the teachers, a recommended number of periods required to complete each unit is provided, keeping 160 teaching periods in mind. Please note that this is the recommended time required to complete one unit. Teachers can do further division or break up of topics and subtopics of each unit according to their school planners. If it is suggested that unit 3 requires fifteen periods, it does not mean that all fifteen are taught in one go to complete unit 3. The teacher should break the units into topics / subtopics and teach topics of different units together such as numbers, measurement, or geometry, keeping the progression of each concept in mind. This will enable students to actually see the connection and application of different mathematical concepts with each other, which will be helpful in their daily life.

## Class I

Unit 1 Concept of Whole Numbers
Unit 2 Number Operations
Unit 3 Measurement Length and Mass
Unit 4 Money
Unit 5 Measurements: Time and Date
Unit 6 Geometry

50 periods
30 periods
15 periods
20 periods
15 periods
30 periods


جانورو اور اشياءك تصاوري
Lレرゥ

（اهـيل）

ظال مّبان（جار）
100 چوكر كا
خال وُ
＋i
6＊


هوم تيال
پた

 اسبات كع مطا．تّ وتت كاتّتم





فا فا






．

50 يمئيز
30 يتئيز
15 يتئيز
20 يتئيز
15 يتئئز
30 يمئيز


ب！

！
！ب5：إ وتت اورتارت
باب6：جويمّمى

## Unit 1 Concept of Whole Numbers

## Topic: Numbers 0 to 9

## Objectives

To enable students to:

- identify the numbers 1 to 9
- match the numbers 0 to 9 with objects
- identify 0 as a number
- read numbers up to 9 in numerals and in words
- write numbers up to 9 in numerals and in words
- count objects up to 9 and represent in numbers
- match the numbers 0 to 9 with objects
- count backward from 9
- arrange numbers in ascending and descending order
- identify which number (up to 9) comes:
before / after a number
between two numbers.


## Starter activities

Sing counting songs. Select any two students to act like zoo animals when singing a song like the one given:

Walking through the zoo
Walking through the zoo
Walking through the zoo
What do you see?
I see one monkey
Jumping on the tree
Walking through the zoo
Walking through the zoo
Walking through the zoo
What do you see?
I see two lions
Roaring loudly...
Complete the song till the number 9 .
متامد
طبا آ قابل چوِ كـ:

$$
1 \text { Ht } 9 \text { كتن ك ثناذت كيكي }
$$

$$
0 \text { كو بطر بر ثیاخت كيكي }
$$

$$
9 \text { تكَ اعرارك آنرون بيل لمهيكي - }
$$

ا:ترانَ رُكيان

Walking through the zoo
Walking through the zoo
Walking through the zoo
What do you see?
I see one monkey
Jumping on the tree
Walking through the zoo
Walking through the zoo
Walking through the zoo
What do you see?
I see two lions
Roaring loudly...


$$
\begin{aligned}
& \text { !ب! 1: كمكل اعراوكا تصور }
\end{aligned}
$$

## Main lesson

- The teacher should tell the story of the students who went to the zoo and saw different animals. Students' personal experiences about a visit to the zoo should be asked.
- The teacher should make cut-outs of egg shapes and at the back of each, glue a picture of an animal that lays egg to be hatched. While singing the song the teacher should turn these egg cut-outs one by one till all of them are turned or hatched.
9 little eggs shinning so bright,
1 little egg cracks open wide,
Look, look, look see what's inside,
What could it be, oh what is it?
Cheep, cheep, cheep, it's a baby chick!
Ask each time how many eggs are left.
The other verses which should be replaced with the verse 'look, look, look see what's inside' could be:
Roar, roar, roar
It's a dinosaur,
Swish, swish, swish
It's a baby fish
Chirp, chirp, chirp
it's a baby bird
Quack, quack, quack
it's a baby duck
grumble, grumble, grumble
It's a baby turtle
Crack, crack, crack
It's a baby lizard
Shrug, shrug, shrug
It's a lady bug
Shake, shake, shake
It's a baby snake
At the end of the activity ask students to count backwards from 9 to 0 .


## سبق عَوضوع كَّ مريل





9 little eggs shinning so bright,
1 little egg cracks open wide,
Look, look, look see what's inside,
What could it be, oh what is it?
Cheep, cheep, cheep, it's a baby chick!


Roar, roar, roar
It's a dinosaur,
Swish, swish, swish
It's a baby fish
Chirp, chirp, chirp
it's a baby bird
Quack, quack, quack
it's a baby duck
grumble, grumble, grumble
It's a baby turtle
Crack, crack, crack
It's a baby lizard
Shrug, shrug, shrug
It's a lady bug
Shake, shake, shake
It's a baby snake
$x$
Show students a number line from 0 to 9 . Ask them to count forward and backward from 0 to 9 and 9 to 0 . Ask questions related to the sequence from 1 to 9 for e.g. what comes after, before, between specific number / numbers.

## Practise session

- Students should be given plastic zoo animals and boxes with numbers (as cages). They should be asked to place the correct number of animals in each box.
- Make a number line on the floor in the shape of a snake with numbers from 0 to 9. Ask students to jump forward and backward on the number line. Ask students to tell the number before, after, and between pairs of given numbers.
- The teacher should put number cards in two circles drawn on the floor and then ask students to place the animals according to the given numbers placed in each circle. Next, ask the students which ring has more animal. The next lesson should be to find out which number is bigger and which is smaller. The same activity can be carried on by using three rings and finding out the largest and the smallest number.


## Individual work

Exercises on pages 1 to 24 of the textbook should be given.

## Homework

Students should be asked to make a zoo using pictures from old magazines, stickers etc. They must count and write how many animals they have kept in each cage.

## Recapitulation

The teacher should hide animal cut-outs or plastic animals around the class. Ask two students to go on a mock hunt of the animals. They should gather as many animals as they can till the teacher rings the bell. Students should count how many animals they have hunted and write the number on a card. They should find out who has more or less animals.

## Topic: Concept of 10

## Objectives

To enable students to:

- identify 10 as a number
- compare and order the numbers $0-10$.

 ،و \%


زيّن پた





انزاوك كم

\% 6

اعاو0




موضوع: (10 6 تور )
مٌاصم

10 كو بطر عدرش: شاذت كريكي

## Starter activities

- Divide students into groups. Bring object like sticks, blocks, caps etc and ask students to make bundles / piles / bars of ten using rubber bands to tie, or stacking up the objects. Whenever a pile, a bundle or a ten is complete, the group shouts 10. The group that makes more bundles or piles wins.


## Main lesson

The teacher should give students number badges from 0 to 10 to wear and say aloud the numbers from 1 to 10 . The students should act like monkeys and hop when the number on their badge is called out. The teacher can even call numbers randomly and sing the song and let the student act on it.

10 little monkeys swinging on the tree
Teasing Mr Crocodile
You can't catch me
Out came the crocodile as big as can be
Snap!
Now 9 little monkeys swinging on the tree
Teasing Mr Crocodile...
Continue reducing the number until there are 0 monkeys left.
At the end of the activity ask student to count backwards from 10 to 0 .
Show students a number line from 0 to 10. Ask them to count forward and backward from 0 to 10 and 10 to 0 . Ask questions related to the sequence from 1 to 10 for e.g. what comes after, before, between specific number / numbers.

## Practise session

- Students should be given plastic zoo animals and boxes with numbers from 1 to 10 (as cages). They should be asked to place the correct number of animals in each box.
- The teacher should make a large circle on the floor with a chalk and put or write number cards from 1 to 10 . She should then ask questions regarding the sequence of the numbers, for example, what comes after 4 . Students have to follow the instructions and jump on the correct number card.
- The teacher should select and give 3 number cards from the sequence of 1 to 10 . Next, ask the children to put the number in increasing / decreasing order.
\%
 -

بتق ع موضوع كَ تّريك




10 little monkeys swinging on the tree Teasing Mr Crocodile
You can't catch me
Out came the crocodile as big as can be Snap!
Now 9 little monkeys swinging on the tree Teasing Mr Crocodile...
-2با




ط طا كا كا


 -



21068

## Individual work

Exercises on pages 25 to 31 from the textbook should be given.

## Homework

Students should be asked to gather small useless objects for e.g. seeds; sticks, etc, in different numbers (ranging from 1 to 10) from their home and paste them on cardboard squares. Count and write the correct number on each card.

## Recapitulation

The teacher should hide number cards from 1 to 10 in envelopes. Select one student at a time to open the envelope, look at the hidden number, make a riddle related to that number and ask it from the other students for e.g. if the number is 7 , the student should say 'the number I have comes after 6 and before 8 , it is the number of the days of the week,' etc.

## Topic: Numbers up to 100

## Objectives

The students should be able to:

- read numbers up to 99
- write numbers up to 99
- count numbers up to 99
- recognize the place values of numbers (tens and ones)
- identify the place value of the specific digit in a two
- digit number
- compare one and two digit numbers
- write numbers in increasing and decreasing order
- place the mixed numbers in order
- order the set of numbers from 0 to 99 in increasing and decreasing order
- identify which number (up to 99) comes:
before/after a number
between two numbers
- write numbers in increasing and decreasing order up to 99
- count in tens and recognize 100 as a number.




 بوضوع :100 بكَ كـ اعراو

مقاصم
طبا

99 تكَ اعدارگن يكّي


توز اعداركر تيب ينكهكيكي

- B L
 0



## Starter activities

The teacher should take children for a nature walk and ask students to collect in their bags, things they can find e.g. flowers, sticks, stones, pebbles, etc. After coming back to the class, provide students with boxes to sort and put 10 objects in each. The teacher should introduce counting in 10 s up to 90 initially. When 100 is introduced then the counting should be extended to 100 .

## Main lesson

- The teacher should make a gorilla face with his mouth open, paste it on a carton and make a hole for its mouth. The teacher should tell the story of Guddo the gorilla as given in the textbook on page 32 and describe how it likes to eat ten things at a time. The teacher should provide students with sticks and rubber bands to make bundles of sticks, interlocking cubes, and beads with laces to interlink. Students should put them into bundles or bar of tens and feed the gorilla. Each time a student puts a bundle or bar of ten, the teacher should put the corresponding number card extending from 10-90. When hundred is introduced, then the activity should be repeated by feeding the gorilla with 10 bundles to make a 100.
- The teacher should introduce the concept of place value by taking a bundle of 10 sticks and units from 1 to 9 to make numbers from 11 to 19. Corresponding number cards should be placed along with the quantity. The numbers sequence from 21 to 99 should be introduced in a similar manner (objects for making bundles / bars should be changed each time.)
- The teacher should ask ten students to trace their hands on a large piece of paper. They should count in tens and write in the corresponding number after each set of 10 fingers. Continue the counting till 100.
- The teacher should make a large circle on the floor with a chalk and put or write number cards from 1 to 100 (randomly select 10 cards from the 1 to 100 sequence). Next, ask questions regarding the sequence of the numbers, for example, what come before 55 , which is the largest number. Students have to follow the instructions and jump on the correct number card. The teacher should then ask children to pick up the cards and put them in correct order.


## Practise session

The teacher should make a number square / grid from 1 to 100. Ask questions in the form of riddles related to a specific number and ask from the students for e.g. the number after 46.

## Individual work

Exercises on pages 32 to 65 from the textbook should be given.

ابتزاكَ مرگى




سبّ كـموضوع كّر بّل















انغ اوك كم


21068

## Homework

Students should be asked to get their parent to cut numbers room 1 to 100 from newspaper, magazines, etc. and paste them on a white sheet of paper. They should be asked to identify the number.

## Recapitulation

The teacher should provide students with 25 squares in a grid and then ask them to write numbers from 1 to 25 . The teacher calls numbers randomly and asks the students to colour the number called. Whoever is able to complete colouring one line horizontally / vertically should say bingo and win the game.

## Topic: Cardinal and Ordinal Numbers

## Objectives

To enable students to:

- identify the position of objects using ordinal numbers such as first, second, third and so on, and represent then as 1st, 2nd etc.


## Starter activities

Organize a race asking 10 students to run. After the race, distribute the ordinal number cards from $1^{\text {st }}$ to $10^{\text {th }}$ among the students according to their positions.

## Main lesson

Use a plastic bus and animals. Ask children to line up the animals and put the corresponding ordinal number cards from 1st to 10th with them. The teacher should ask questions randomly asking which animal is standing first, last or at the 8th position. The teacher should change the position of the bus and directions of the animals and repeat the questions.

## Practise session

The teacher should distribute ordinal / cardinal number cards from 1st to 10th or cards written in words as first to tenth among groups of students. When the teacher rings a bell, the group that lines up in the least time according to the correct position should win.

## Individual work

Exercises on pages 66 and 67 of the textbook should be given.

## Homework

Students should draw a door/ bus and draw / paste pictures of animals or people. They should write their corresponding positions in the form of cardinal and ordinal numbers.

## Recapitulation

The teacher should tell a story using 10 pictures. The students should then arrange the pictures according to their correct order and place the corresponding ordinal number flashcards with them.



اعار0




متاصم
طبا اس قابل هويكيك :



ابتزاكَ مرگى








انزاوك كم

م

اعار0



## Unit 2 Number Operations

## Topic: Addition of numbers (without carrying)

## Objectives

To enable students to:

- compare numbers from 1 to 20 to identify 'How much more' one is from the other
- recognize and use symbols of addition '+' and equality ' $=$ '
- add two, one-digit numbers (sum up to 9)
- add a two-digit number with one-digit number
- add a two-digit number with 10s
- add two, two-digit numbers
- complete equation such as $3+4=7$ (include questions that sum up to 20 )
- add mentally the numbers using real life examples
- construct addition equations from given pictures.


## Starter activities

The teacher should sing the song:
Asad the farmer has a farm eyya, eyya, yoo
Use pictures or plastic farm animals whenever a name appears in the song. Students should sing and at the end of the song count the animals that Asad has on his farm altogether.
Asad the farmer has a farm
eyya, eyya, yoo
And on his farm he has a duck
eyya, eyya, yoo
with a quack, quack here and a quack, quack there
here a quack, there a quack, every where a quack, quack
Asad the farmer has a farm
eyya, eyya, yoo
Continue adding animals for e.g., horse, hen, cat, goat, cow, bull, sheep, dog, and rooster.

ب! 2: عروى ووال
بوضوع: اعراوك تُق (بنير طل ع )

متاصم
طبا انقابل ،ونك:

$$
\begin{aligned}
& \text { (1) }
\end{aligned}
$$

$$
\begin{aligned}
& \text { ابتراكَ مرگميان }
\end{aligned}
$$

"Asad the farmer has farm eyya, eyya, yoo"


Asad the farmer has a farm
eyya, eyya, yoo
And on his farm he has a duck
eyya, eyya, yoo
with a quack, quack here and a quack, quack there
here a quack, there a quack, every where a quack, quack
Asad the farmer has a farm
eyya, eyya, yoo

$x$

## Main lesson

- The teacher should use animal picture cards or plastic farm animals. Make different addition stories initially using the language 3 and 2 donkeys makes 5 . Next, introduce addition and equality symbols.
- The teacher should introduce the concept of vertical sums by placing the number cards and symbols in the vertical position. Tell the fact that the sum can be represented in this given manner also.
- The teacher should provide different sets of plastic animals / other objects until 10 and put them in different manners in two trays to make addition facts till 10 (you can do it randomly not necessarily in a sequence).
The same activity should be done taking a number from 1 to 10 . The teacher should start putting the animals / objects with zero in the first tray and the rest in the other. Number cards representing a specific addition fact should be placed also. The activity should be continued by completing addition facts of that specific number.


## Practise session

- Students should make their own addition sums by drawing pictures and then representing it in numbers. for e.g.

- The teacher should provide students with addition stories written in a simple language. Students should represent the story using objects and number flash cards.
- The teacher should take a specific number of objects for example 4. She should then ask a student to make 8 by putting more objects along with the previous quantity.
- The teacher should make 2-digit addition flash cards and ask children to solve them.
- Take 2 dice with numbers or spots on them. Students will throw the dice and add up the numbers from the two of them.

التا, پلا
كى كامت تعارفكرواع -


 .





$$
\begin{array}{r}
2 \\
+1 \\
\hline 3 \\
\hline
\end{array}
$$








## Individual work

Exercises on page 68 to 81 from the textbook should be given.

## Homework

Students should make their own addition stories and represent it in numbers and through pictures in their exercise books.

## Recapitulation

The teacher should play an addition card game. Pairs of students should be provided with cards having addition sums and answer cards. A child with an addition sum card shows it to his or her partner and asks if the answer card has the answer. If he or she has the correct answer he will show it and collect a counter. The pairs will next choose another sum and answer card. All other pairs of students will do so similarly. At the end of the game the pairs of students having more counters will win.

## Topic: Subtraction of numbers (without carrying)

## Objectives

To enable students to:

- compare numbers from 20 and find 'How much smaller?'
- recognize and use the symbol of subtraction '-'
- subtract ones from ones.
- subtract ones from 2-digit numbers
- subtract tens from 2-digit numbers
- subtract 2-digit numbers from 2-digit numbers
- fill up the equation, such as $9-2=7$ with proper number
- subtract mentally the numbers given in simple real-life examples
- construct subtraction equation from given pictures.


## Starter activities

The teacher should use sea animals' props and tell the story of the rainbow fish which distributes its shiny scales to other sea animals until 0 scales are left.

انغارىكم






ثوضوع : اعراوك تٌ پ.

متاصم
طبا انقابل ،ولم:
2011






ابتناكَ مرگى
 ,

## Main lesson

Students should act like a fish and a shark and the teacher should sing this song.
Five little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be
It snapped a fish up
Right out of the sea
Four little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be
It snapped a fish up
Right out of the sea
Three little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be
It snapped a fish up
Right out of the sea
Two little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be
It snapped a fish up
Right out of the sea
One little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be

Five little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be It snapped a fish up
Right out of the sea
Four little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be It snapped a fish up
Right out of the sea
Three little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be It snapped a fish up
Right out of the sea
Two little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be It snapped a fish up
Right out of the sea
One little fish in the sea
Teasing Mr Shark
You can't catch me
You can't catch me
Well along came Mr Shark as quiet as can be

It snapped that fish up
Right out of the sea
Now Mr Shark is lonely can't you see
As a variation, the teacher should substitute Mr Shark with another fish, for example a whale and track different number of fish each time.

- Using animal picture cards or plastic farm animals, the teacher should make different addition stories using simple language.
- The teacher should introduce the concept of vertical sums by placing the number cards and symbols in a vertical position. Tell the fact that sums can be represented in this given manner also.
- The teacher should provide different sets of plastic sea animals, shells or other objects till 10 and put them in different manner in two trays to make subtraction facts till 10 (randomly / or in a sequence).


## Practise session

Students should make their own subtraction sums by drawing pictures and crossing out the subtracted objects.


The teacher should provide students with subtraction stories written in a simple language. Students should represent the story using objects and number flash cards.

## Individual work

Exercises on page 82 to 89 of the textbook should be given.

## Homework

Students should make their own subtraction stories and represent it in numbers and through pictures in their exercise books.

## Recapitulation

- The teacher should write subtraction sums on the board to be solved by students.
- Take 2 dice with numbers or spots. Students will throw the dice and subtract the bigger number from the smaller one.

It snapped that fish up
Right out of the sea
Now Mr Shark is lonely can't you see
 الِّا
 كه كَ باكت بـ




$$
\begin{array}{r}
4 \\
-\quad 1 \\
\hline 3 \\
\hline
\end{array}
$$



انزاروى كم


 "

## UNIT 3 Measurement of Length and Mass

## Objectives

To enable students to:

- Compare objects to identify, long, longer, longest
short, shorter, shortest
tall, taller, tallest
high, higher, highest
heavy, heavier, heaviest
light, lighter, lightest.


## Starter activities

- Arrange a collection of objects and ask student to describe it using the correct vocabulary i.e. tall, short, heavy, light, etc.


## Main lesson

- The teacher should compare heights of some students and ask the rest of the class to tell who is the tallest and shortest.
- The teacher should compare the length of two objects and ask the class which is the longest and shortest amongst them.


## Practise session

The teacher should arrange a variety of objects and divide them amongst groups of students. They should be asked to compare and find the heaviest, lightest, tallest, shortest, longest, shortest objects. amongst these.

## Individual work

Exercises from the pages 90 to 101 of the textbook should be given.

## Homework

Students should be given charts to prepare at home with the help of the parent. Give them different topics to do: tall and short, heavy and light, high and low as given in the unit.

## Recapitulation

- Students should be provided with variety of objects. The teacher will select an object and ask students to find out another object heavier, lighter, taller, and shorter than the given object.
- Children should be given play dough to make heavy or light, tall or short things.


#  

:




. -2 -






## シ

 ك ثغثريكى كيّ

انزارى كم

م66



اعار0



## Unit 4 Money

## Objectives

The students will be able to:

- identify Pakistani currency coins (Rs 1, 2, and 5).
- identify Pakistani currency notes (Rs 10, 20, 50 and 100).
- match a group of coins/notes to an equivalent group of different denominations.
- add and subtract money using the prices of objects (e.g. toys).
- recognize money change (up to 100) to its equivalent denominations.
- determine if enough money is available to make a purchase.
- add different combinations of coins / notes.


## Starter activities

The teacher should take students to a nearby market. Students should observe and buy things from market. Have a brain storming session about where and how things are being bought or sold.

## Main lesson

- The teacher should bring Pakistani currency (Re 1, Rs 2, Rs 5, Rs 10, Rs 20, Rs 50 , and Rs 100) and show it to the students. Show the students how to pay for an item by laying out the notes and coins. Also show how to use groups of money equal to another group using different coins and notes.
- Arrange different toys and objects. Label them with price tags and introduce the concept of selecting the correct combination of notes or coins to pay for an item. Students should practise the same.


## Practise session

Students should do a role play of shopkeeper and costumer and use fake money for buying and selling. They can talk abut the amount of money they have, the amount used for purchasing and the amount of money left.

## Individual work

Exercises on pages 102 to 108 of the textbook should be given.

## Homework

Students should buy things along with their parents. They should record the objects purchased, the money used, the amount spent and the amount left.

## Recapitulation

Students should be given an amount of fake notes and coins and objects with price tags. They should be asked to pay for them using different coins and notes. They should be asked which objects they will be able to purchase from the given amount.

ب! 4
متاصم
طبا








 ز
سبق ع موضوع كَ تر ربي




苑

انزارى كم


 اعاره
 ،

## Unit 5 Measurements: Time and Date

## Topic: Introduction of basic shapes

## Objectives

To enable students to:

- recognize the hour and minute hands of an analog clock.
- read and tell time in hours from the analog clock e.g., two o'clock.
- read and tell time in hours from the digital clock
- name in order, the days of the week
- identify which day comes after / before a particular day
- name (orally) the solar months of the year.


## Starter activities

- The teacher should put pictures of day and night on the soft board. Students should talk about and put pictures of activities done or things used during the day or night.
- The teacher should bring analog and digital clocks (they can be a wall clock or a wrist watch as well). Have a brainstorming session about where the clocks are used.
- Sing the days of the week and months of the year song.


## Days of the week

There are seven days
There are seven days
There are seven days in a week
Sunday, Monday, Tuesday
Wednesday, Thursday, Friday
and Saturday
Months of the year
January, February, March and April
May, June, July, and August
September, October, November and December
Twelve months in a year

## !ب5: وتت اربرا


-
ططا
 ـ Analog Clock



 ابتراگُ مرگُق

 ب冖与


## Days of the week

There are seven days
There are seven days
There are seven days in a week
Sunday, Monday, Tuesday
Wednesday, Thursday, Friday
and Saturday
Months of the year
January, February, March and April
May, June, July, and August
September, October, November and December
Twelve months in a year

## Main lesson

- The teacher should bring different types of clocks and watches. She should introduce the concept of analogue and digital clock. She should also introduce how to observe O'clock time in the above-mentioned clocks.
- Students should have a calendar activity in which they should change the date and day daily. They should also put flashcard of the name of different kinds of weather and their symbols on the board.
- The teacher should put the names of the months on the soft board. Students should put the birth dates, important events / celebrations that happen in each month.


## Practise session

The class can be divided into groups in which they make analogue clocks using junk material that is old boxes, paper plates etc. Show them how to make movable hands attached with a pin turned from the back side. They should talk about what are the activities they do at different times of the day.

## Individual work

Exercises on pages 109 to 117 of the textbook should be given.

## Homework

Students should make a record of the activities they do at various times of the day.

## Recapitulation

The teacher should provide children with ruled papers to make a weekly diary and record the day's happenings along with the correct date, day, and month.

سبق عـموضوع كَ تربي


 -

 الغّن وكماي جا


انزاوك كم


اعار0

گريكريّ-

## Unit 6 Geometry

## Topic: Introduction of basic shapes

## Objectives:

To enable students to:

- recognize and match objects of similar shape, from daily life.
- identify the following basic shapes:
rectangle, square, circle, oval, and triangle
- identify the basic shapes in real-life objects.
- match similar basic shapes.


## Starter activities

- The teacher should provide students with four basic shape cut-outs and should sing this shape song (to the tune of: 'Frere Jacques'). Students have to learn and follow.
This is a square. This is a square.
How can you tell? How can you tell?
It has four sides,
All the same size.
It's a square. It's a square.
This is a circle. This is a circle.
How can you tell? How can you tell?
It goes round and round,
No end can be found.
It's a circle. It's a circle.
This is a triangle. This is a triangle.
How can you tell? How can you tell?
It only has three sides,
That join to make three points.
It's a triangle. It's a triangle.
This is a rectangle. This is a rectangle.
How can you tell? How can you tell?
It has two short sides, And it has two long sides.
It's a rectangle. It's a rectangle.

> بقاصم
> طلا آ قابل بول

$$
\begin{aligned}
& \text { ابتراكَ رگرميال }
\end{aligned}
$$

 : ات゙

This is a square. This is a square.
How can you tell? How can you tell?
It has four sides,
All the same size.
It's a square. It's a square.
This is a circle. This is a circle.
How can you tell? How can you tell?
It goes round and round,
No end can be found.
It's a circle. It's a circle.
This is a triangle. This is a triangle.
How can you tell? How can you tell?
It only has three sides,
That join to make three points.
It's a triangle. It's a triangle.
This is a rectangle. This is a rectangle.
How can you tell? How can you tell?
It has two short sides,
And it has two long sides.
It's a rectangle. It's a rectangle.

Explain to the children that an oval is a variation of a circle and that its not round but elliptical.

## Main lesson:

The teacher should provide students with 3D shapes like a cylinder.

## Practise session

The teacher should make huge shapes in the form of a path on the floor with a chalk. She should play music and students have to walk on them. When the music stops they have to identify the name of the 2D shape they are standing on.

## Individual work

Exercises on pages 118 to 122 from the textbook should be given.

## Homework

Students should be given pictures to make from 2D shapes. They have to count and write how many shapes they have used.

## Recapitulation

- Students should use plastic 2D shapes (wooden, plastic, paper) to make things for example a man, a flower, etc. They should identify the shapes used along with the numbers used.
- Children should be given play dough, laces / rope / ribbon to make 2D shapes and then describe them.


## Starter activities

Organize a party and ask students to bring juice packs and different items for the party. After the party bring solid shapes and introduce the names of these shapes i.e. cubes, cuboids, or cylinders. Ask students to match the shapes with the things used in the party for example cone with a birthday cap, gift box with cuboid or cube.

## Main lesson

The teacher should make 3D shape puppets, reinforce their names as cubes, cuboids, or cylinders and describe their properties for example it rolls, can be stacked. Students should use the puppets and identify the things from real-life having the corresponding shapes.
 سبق ع موضوع كى ترديل 1 التا
 -

انزاروى 6م
 566范


 ابتزاكَ رگى




بّق ع عوضوع كَ تر ريل
 ¢-

## Practise session

## Shape shopping

Collect empty cartons, boxes, cans, or bottles, items that are related to grocery store and ask students to build up a grocery store by arranging them. Encourage children to do a role play of shopkeeper and customer. After the shopping, each customer should count and record the different number of solid shapes they have purchased.

## Individual work

Exercise on pages 118 to 122 o the textbook should be given.

## Homework

Students should reuse and decorate old boxes, jars, bottles and make purposeful things like money boxes, jewelry boxes with them.

## Recapitulation

- The teacher should ask students to bring old boxes, tin cans, etc. and make models. They should write which 3D shapes they have used along with the number used of each shape.
- Children should be given wet sand and moulds of 3D shapes to play and make the given shapes.


## Topic: Patterns

## Objectives:

To enable students to:

- identify and describe patterns with 2 or 3 elements
- extend a given pattern of 2 to 3 elements.


## Starter activities

- Bring real-life objects for example shirts, purses, gift papers etc. with a definite pattern in them, encourage students to identify the pattern in i.e. red stripe, blue stripe, red stripe, and so on.
- The teacher should divide a soft board into four sections, one for each season. Provide pictures related to these seasons and let children sort and decorate the board. Talk about how the four seasons come in an order and make a pattern. Have a brainstorming session and talk about what other things around us has a pattern, for example days of week, lines in a poem etc.

ا*




انزاروى 6م

م668



.
موضوع:نون
مقاصم



ابتراكَ رگّى
 أزالَّ ك با
希


## Main lesson

- The teacher should use objects related to the four seasons for example, buttons, bottle caps, plastic wooden shapes and make a pattern using them. The students should identify the single unit of that pattern for example, a red triangle, a green triangle (initially change only one category, for example the colour, then gradually two or more categories can be changed including the shape, size, type of the object).
- The teacher should design a pattern and students should follow it.


## Practise session

Students should make their own pattern and describe it.

## Individual work

Exercises on pages 123 to 125 of the textbook should be given.

## Homework

Students should find objects from home that have a pattern, and describe them in the class.

## Recapitulation

The teacher should provide students with small cut-outs of old shirts orduppatas etc. They should make patterns with these.

## Topic: Position

## Objectives

To enable students to:

- identify whether an object is placed:
inside or outside, above or below, over or under, far or near, before or after, right or left of a given picture.


## Starter activities

The teacher should arrange objects at different positions and describe their positions and then ask the children to do the same.

## Main lesson

- Play hide and seek. After the game ask the children their position where they were hidden.
- The teacher should give instructions and ask children to place different objects or to move themselves at positions.

سبت كـ موضوع كَ تّربی



- گ.

انزاوك كم


اعار0

موضوع : مقام
مقاصم
طبا ان قابل rول كـ:
 سيمّع، الثّمن

ابنزاكَ رگرى





## Practise session

The teacher should draw a scene on the board. Students should be asked to draw objects at different positions according to instructions or let them work on their own. They should then describe the position of the drawn objects.

## Individual work

Exercises on pages 126 to 133 from the textbook should be given.

## Homework

Students should find objects from home that have a pattern, and show and describe them in the class.

## Recapitulation

The teacher should ask students to use Lego blocks, plastic animals, etc. and make a model of city / farm / zoo etc. They should be asked to describe the position of the placed objects.

اعاره


## Answers

## Unit 1

## Page 17

circle the crows; circle the parrots

## Page 30

| increasing order | decreasing order |
| :--- | :--- |
| $234 ; 8910$ | $1098 ; 654$ |
| $789 ; 456$ | $321 ; 876$ |
| $567 ; 123$ | $654 ; 432$ |

## Page 31

| 7 | $8 ;$ | 6 | $7 ;$ | 1 | $2 ;$ | 4 | $5 ;$ | 5 | 6 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | $1 ;$ | 8 | $9 ;$ | 7 | $8 ;$ | 6 | $7 ;$ | 5 | $6 ; 4$ | 5 |
| 5 | 6 | $7 ;$ | 1 | 2 | 3 |  |  |  |  |  |

## Page 39

$$
\begin{array}{llllllllllll}
10 & 11 & 12 ; & 12 & 11 & 10 & 14 & 15 & 16 ; & 12 & 13 & 14 \\
19 & 18 & 17 ; & 18 & 11 & 16 & & 13 & 14 & 15 ; & 10 & 11
\end{array} 12
$$

## Page 40

$17 \quad 14$
$15 \quad 20$

## Page 41

12 13; 15 16; 17 18; 11 12; 1819
14 15; 9 10; 16 17; 10 11; 1314
14 15; 11 12; 13 14; 12 13; 910
15 16; 17 18; 16 17; 10 11; 1819
1718 19; 1617 18; 111213

## Page 46

32; 35; 33; 39

## Page 63

$$
\begin{array}{llllll}
18 & 19 & 20 ; & 34 & 35 & 36 \\
55 & 56 & 57 ; & 83 & 84 & 85 \\
77 & 78 & 79 ; & 21 & 22 & 23
\end{array}
$$

2021 22; 575859
4546 47; 9899100
7374 75; 626364

## Page 64

42 76; 66 56; 5559
27 25; 91 89; 3941
22 26; 48 40; 8776
80 87; 96 89; 3545
9676 89; 5567 99; 467678
3849 24; 4448 50; 909467

## Page 65

| 15 | 16 | 17 | 18 | $19 ;$ | 76 | 77 | 78 | 79 | 80 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 22 | 23 | 24 | 25 | $26 ;$ | 87 | 88 | 89 | 90 | 91 |
| 37 | 36 | 35 | 34 | $33 ;$ | 66 | 65 | 64 | 63 | 62 |
| 71 | 70 | 69 | 68 | $67 ;$ | 17 | 16 | 15 | 14 | 13 |

## Unit 2

## Page 69

## Asad's animals

$4 ; 4$ and 2 make 6; 2 and 2 make 4; 6 and 4 make 10

## Page 71

1. 4
2. $3+0=3$
3. $2+0=2$
4. $5+1=6$
5. $0+7=7$
6. $4+4=8$

## Page 72

1. 10
2. 8
3. 9
4. 6

## Page 73

1. $6+3=9$
2. $6+4=10$
3. $5+3=8$
4. $5+5=10$
5. $4+3=7$
6. $2+4=6$
7. $1+7=8$
8. $3+3=6$

## Page 74

1. 10
2. 5
3. 9
4. 6
5. 9
6. 8
7. 7
8. 6
9. 10
10. 10
11. 2
12. 10
13. 6 14. 4
14. 10
15. 6 17. 9 18. 6
16. 9
17. 5
18. 9
19. 8
20. 17
21. 8
22. 4
23. 7 27. 6

## Page 77

1. 8
2. 5
3. 1
4. 3
5. 7
6. 3 7. 7
7. 5
8. 8
9. 9

Page 78

1. 9
2. 3
3. 8
4. 6
5. 4
6. 2
7. 6
8. 1
9. 0 10. 4 Page 79
10. 19
11. 18
12. 14
13. 17
14. 16
15. 19
16. 19
17. 19
18. 18
19. 19

Fun with addition

| 1 | 7 | 8 |
| :---: | :---: | :---: |
| 8 | 0 | 8 |
| 9 | 7 | 16 |


| 2 | 6 | 8 |
| :---: | :---: | :---: |
| 2 | 1 | 3 |
| 4 | 7 | $\mathbf{1 1}$ |

Page 80
$\begin{array}{lllll}\text { 1. } & 107 & \text { 2. } 68 & 3 . & 87 \\ \text { 4. } 58\end{array}$
Page 81
2. 8 3. 12 4. 7

Page 83

1. 2 2. 5
2. 4
3. 4

Page 84

1. 3
2. 3
3. 8
4. 2

Page 85

1. 3
2. 5
3. 3
4. 2
5. 6
6. 1

## Page 88

1. 3 2. 1
2. 4
3. 1
4. 2
5. 6 7. 5
6. 1
7. 2 crab

## Page 89

1. 61
2. 12
3. 41
4. 13

## Page 105

1. Rs 45
2. Rs 15
3. Rs 60
4. Rs 29

Page 106

1. Rs 49
2. Rs 14
3. Rs 34
4. Rs 53
5. Rs 22
6. Rs 9

## Page 107

Option B: doll, car, teddy bear, bus, and ball (Rs $35+$ Rs $15+$ Rs $25+$ Rs $20+R s$ 5 = Rs 100)
Option C: skate board, car, and teddy bear (Rs $60+$ Rs $15+$ Rs $25=$ Rs 100) Option D: skate board, doll, and ball (Rs $60+$ Rs $35+$ Rs $5=$ Rs 100)

Notes
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Notes
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

