Vision Empower & XRCVC

Teacher Instruction KIT

Time

Syllabus: Karnataka State Board
Subject: Mathematics
Grade: 4
Textbook Name: Mathematics Text cum Workbook
Chapter Number & Name: 14, Time

1. OVERVIEW

1.1 OBJECTIVE & PREREQUISITES

Objective

Students will be able to:

- calculate the number of days and weeks in a year.
- mention the reason for a leap year.
- read the time in a clock to the nearest hour and minute.
- express the time in am and pm.
- tell the time in the 24-hour clock and convert it back to 12 hours.
- approximate the period of familiar events.
- calculate the time taken to complete a work or an event.

Prerequisite Concept

- Days in a week, month in a year and the number of days in every month.

TIK_MATH_G3_CH10_Measurement, Weight-Time

Content Index

*Kindly Note: Activities marked with * are mandatory*

2. LEARN

2.1 KEY POINTS

- Time is the sequence of events taking place. They are the past, present and future.
- We can know the time by using the clock and calendar.

2.2 LEARN MORE

3. ENGAGE

3.1 INTEREST GENERATION ACTIVITY

Activity 1: Time
Materials Required: Model analogue clock.
Prerequisites: None

Activity Flow

- *Ask the following questions and discuss the answers with them.*
    1. *What does morning mean?*
    2. *What will you do in the morning?*
    3. *What does evening mean?*
    4. *What will you do in the evening?*
    5. *What is meant by night?*
    6. *What will you do at night?*
- *Ask children if they ever have been on a train. Discuss that a train can carry lots of things (people, cargo, animals). Discuss that trains depart from a train station at different times. A train schedule displays the times a train leaves the station.*

- *Show children an analogue clock (without the glass cover) and ask them why it is used. Ask them to touch the hands of the clock and tell them that the hands move around in a clockwise direction all the time. Let the children move the longer hand around one time.*
- *Explain that the longer hand is the minute hand and the shorter hand shows the hour.*
- *Explain that the minute hand needs to go all round the clock for 60 minutes until the little hand points to a different number. Point and name the different numbers on the clock in order.*

Model analogue clock:

- *Stick braille numbers (1-12) around the paper plate.*
- *Stick the small paper strips or ice-cream sticks at the centre as a hand.*

Activity 2: Recall -Days of the week

Materials Required: None

Prerequisites: None

Activity Flow

- *Discuss the following questions:*
- *Today is Monday.*
    - *What day is tomorrow?*
    - *What day was yesterday?*
- *Today is Thursday.*
    - *What day is tomorrow?*
    - *What day was yesterday?*
- *Explain there are 7 days in a week and name the days.*
    - *Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday.*
- *Ask the month of their birthdays.*
- *Explain that there are 12 months in a year and name the months.*
    - *January, February, March, April, May, June, July, August, September, October, November and December.*
- *Tell the first letter of a month and ask the students to guess the name of that month.*

3.2 CONCEPT INTRODUCTION ACTIVITIES

Activity 3: Easy way to know the number of days in a month

Materials Required: None

Prerequisites: None

Activity Flow

- *Ask the following questions as a revision exercise then do the following activity.*
    - *The number of days in a week and to name all the days.*
    - *The number of days in a month.*
    - *The number of days in a year.*

- *Explain how to find the number of days in each month using the below activity.*
- *Make a fist, the raised part of your knuckles represents months having 31 days. The lowered part between the knuckles represents a month having 30 days. Start from the little finger, the knuckle of the little finger is January having 31 days then the next lower part is February having 29 days then the raised part of the ring finger is March with 31 days then the lower part is April having 30 days then the next raised part of the middle finger is May having 31 days then the lowered part is June having 30 days then raised part of forefinger is July having 31 days. Once you reach your forefinger again start with the same finger as August having 31 days then continue in the same way. So now the lowered part next to the thumb is September, which is 30 days. Then the raised part of the middle finger is October having 31 days then the lower part next to it is November with 30 days. Then the next raised part of the ring finger is December with 31 days.*

Activity 4: To know the number of weeks in a year

Materials Required: Braille calendar

Prerequisites: Days, weeks and months in a year (refer to activity 2).

Activity Flow

- *First, show them the Braille calendar given in the book or if there is any Braille calendar in the school. Then ask them to count the number of weeks in each month.*
- *Explain that 7 days together is called a week. So there will be 4 such complete weeks in every month with 2 or 3 extra days because, except February, all other months have 30 or 31 days. Hence 7 times 4 will be 28 days and a month having 30 days will have 4 weeks and 2 days. Similarly, months having 31 days will have 4 weeks and 3 days.*
- *Ask the children to list the month having 30 days (4 weeks and 2 days) and 31 days (4 weeks and 3 days).*
- *To find the number of weeks in a year, that every month will have 4 weeks in common and there are 12 months in a year and each month has 4 weeks. Then the number of weeks in 12 months will be 4 times 12 = 48 and we should also include the remaining days of all months together which will give us 4 weeks.*

- *Hence, the number of weeks in 12 months or one year =* $48+4=52$ *weeks.*

Activity 5: Leap year

Materials Required: 4 sets of Braille cards from 0 to 9 and *Braille cards from 1 to 31, 1 to 12 and 2020.*

Prerequisites: None

Activity Flow

- *Tell the number of days there were in the month of February in the last five years.*
- *Ask them how many days are there in February.*
- *Explain to them that once in four years, there will be 29 days in the month of February. So, that the year in which February month has 29 days is called the leap year. The leap year repeats once every four years.*
- *Explain the condition to check whether the year is a leap year or not:*
    - *If the last two digits of a year get divided completely by 4, it is a leap year.*

  Examples:
    - *In 1912, the last two digits were 12. And 12 is divisible by 4.*
    - *In 1906, the last two digits were 06. And 6 is not divisible by 4.*
    - *If the century year (the last two digits of a year are zero) is completely divided by 400 then only it is called a leap year.*

  Example:
    - *The 2000th year is a leap year but the 1900th year is not a leap year, because it is divisible by 4 but not divisible by 400.*
- *Do the following activity.*
- *Make 4 groups, and give one set of Braille cards to each group and ask them to make some random 4 digit number thinking that 4 digit number is a year and let them list the 5 leap years and non-leap years using the above two conditions.*
- *Ask them the reason for leap year.*
- *Let them give their reasoning and explain the reason for the leap year.*
    - *Answer: There are 365 days in a year. To say accurately one year has 365 days 6 hours. That means 365* $1/4$ *days. 1 year is considered to be 365 days. But if we add that* $\frac{1}{4}$ *four times then you will get 1 day, i.e.* $1/4+1/4+1/4+1/4=1$ *day.*
- *This one day is added every four years. In that year there will be 366 days. In that year February month has 29 days. This is called a leap year.*
- *Help the children to make Braille cards of 1 to 31 for days, 1 to 12 for months and 2020 for a year. Then make a board having 3 places for a date, month and year, so every day they have to change the date.*

Activity 6: Calculation of time

Materials Required: Braille working model of a clock, Braille cards from 1 to 12 and Braille cards of 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55 and 60, thermocol, kg cardboard, paper strip or ice cream sticks for hands of a clock.

Prerequisites: None

Activity Flow

- *As an introduction to the topic ask the following questions.*
    - *How many equal parts are there in the dial of a clock?*
    - *What does the smaller needle in a clock indicate?*
    - *How many minutes make an hour?*
    - *How many seconds make a minute?*
- *Make use of the model clock to learn to read the time. Change the time in the model of the clock and ask the student to tell the time.*

To create a model of a learning clock

- *Let the teacher help the students in making a clock using thermocol, cardboard sheet, ice cream sticks and number braille cards.*
- *Sing the time song along with the students.*

Time Song:

I am a smaller hour hand short and stout
I tell the hour and give a shout
I am a longer minute hand big and tall
I tell the minute and that's all.

Activity 7: To express the time in ante-meridian(am) and post-meridian(pm)

Materials Required: None

Prerequisites: None

Activity Flow

- *Ask them to write a few activities they do before and after coming to school.*
- *What is ante meridiem?*
- *What is post meridian?*
- *Read the following conversation and discuss.*
  Rama's father Sundar got an invitation from two close friends and since Sundar was not at home Rama received those cards and looked into the date and time. He found that both of their weddings are on the same date and time, it was on 30th January 2020

at 6 o'clock. As soon as his father arrived Rama told his father this and showed the invitation cards. He explained his worries about whose function to attend because both of them are close friends. Sundar looked into both the invitation and understood his son's confusion regarding the time then explained to him that both the functions are at different timings one is at 6 am and another is at 6 pm.

- *AM is the time between midnight 12 o'clock to midday (afternoon) 12 'o clock is called antemeridian.*
- *PM is the time between midday 12 o'clock to midnight at 12 o'clock is called post meridian.*
- *Rama was quite sharp and said that then we can attend both because one is in the morning and the other is in the evening.*
- *Let students categorize the activities listed in the beginning as activities in AM and PM.*

Activity 8: To tell the time in a 24-hour clock and converting it back to 12 hour

Materials Required: None

Prerequisites: Concept of time (refer to activity 1).

Activity Flow

- *Explain, if the time is more than 12, subtract it from 12 and write the remaining time as post meridian (p.m). Then if the time is less than 12 hour, write the time as it is and write it as am.*
  Example:
  - *In the bus time table, the departure time is written as* $17:30$*. Write this as per a 12 hour clock time.*
  - *Answer: 5 hours 30 minutes. I.e.* $17:30-12:00=5:30$ *pm.*
- *In the railway station, the time will be displayed at the 24-hour clock.*
- *Ask the students to solve the following question.*
- *In the railway time table, the departure time of the train is written as 18 hours. What is the departure time of the train at a 12-hour clock?*

Activity 9: To approximate the period of familiar events

Materials Required: None

Prerequisites: None

Activity Flow

- *Ask the students to tell some of the activities which can be done in seconds, minutes, hours, days and months.*
  Examples:

- *Activities are done in seconds*
    - *Breathing*
- *Activities are done in minutes*
    - *Washing hands*
- *Activities are done in hours*
    - *Travel from Bangalore to Mysore*
- *Activities require days*
    - *Sprouting of seeds*
- *Activities require months*
    - *Change of one season to another season.*

Activity 10: To calculate the time taken to complete a work or an event

Materials Required: None

Prerequisites: None

Activity Flow

- *Consider the following example,*
- *An exhibition was arranged from 7-9-19 to 13-9-19. How many days was the exhibition arranged?*
- *The exhibition started on 7-9-19*
- *The exhibition ended on 13-9-19*
- *Since the month and year are the same and only the days are different, if we subtract 7 from 13 we get 6. Therefore the exhibition was arranged for 6 days.*
- *Let the students solve the given question.*
    - *Rahul leaves his house at* $7:30$ *am and reaches his school at* $9:00$ *am. So what is the time taken by him to reach the school?*

3.3 LET'S DISCUSS: RELATE TO DAILY LIFE*

- Ask the following questions and discuss the answers:
    1. Why do we need a clock?
    2. Why do we need to know the time?

In our daily life, we are involved in many activities. All activities are related to time.
For example:

- What are the school timings? Get the students' replies. Explain that they all would come to the school between 8 to 9.00 am and they will plan their day based on the school timings.
  For example, if the school finishes at 3.00 pm then you plan your playtime after 3.00 pm.

- If you want to visit a zoo, you have to check the opening and closing time of the zoo. If the zoo closes at 6.00 pm then you can't visit the zoo after 6.00 pm.

4. EXERCISES & REINFORCEMENT

4.1 PRACTICE EXERCISES

Activity 10: Recall and practice

Materials Required: None

Prerequisites: None

Activity Flow

I. *If 365 days are there in a year which is not a leap year, how many days are there in a leap year?*
II. *Examine whether the following years are leap years and which are not.*
    a. *1908*
    b. *2003*
    c. *1972*
    d. *1990*
    e. *2013*
III. *How many leap years are there from 2013 to 2025?*
IV. *How many days are there in 2014?*
V. *How many years once in can the birthday be celebrated for those who are born on the February 29th date in the leap year?*
VI. *Write the following time in ante-meridiem or post-meridien*
    a. *evening 4:50*
    b. *morning 7:00*
    c. *13:00*
    d. *17:30*
VII. *Lakshmi's daily activity is given. Write in ante-meridiem/ post-meridian. Convert the time to the 24-hour clock.*
    a. *Lakshmi gets up in the morning at 6 O' clock.*
    b. *Takes bath in the morning at* $6:30$
    c. *She helps her mother to do the household work from* $7:00$ *to* $8:30$
    d. *She goes to school in the morning at* $8:30$
    e. *She takes lunch at* $12:30$
    f. *She goes to play at* $5:30$
    g. *She sleeps at 9 O' clock in the night.*
VIII. *Solve:*

a. *In the railway timetable the departure time is written as* $19:30$ *hour. Write this as per a 12 hour clock time.*
b. *The arrival time of an aero plane is written as* $20:00$ *hour. Write this as per a 12 hour clock time.*

IX. *Ask the students to guess the approximation for the following events.*
a. *The time is taken by you to play with your friends.*
b. *The time is taken to say the prayer.*
c. *The time required to have breakfast in the morning.*
d. *The time required to build a house.*

X. *Write any 4 Activities that you do daily and the time required completing them.*

XI. *Make a list of any 2 activities for which the time can be said accurately.*

XII. *Solve:*

a) An exhibition was arranged from 07-9-12 to 10-9-12. How many days was the exhibition arranged?

b) For Ahmed's school, the holidays were announced for 14 days from 2-10-12. After the vacation on which date did the school reopen?

c) Suresh went on a trip from his school from 3-10-11 to 7-10-11. For how many days was he away from the school?

d) Malathi attended the preparatory examination in her school from 20-02-12 for 6 days. On which date did she complete her examination?

e) Ramu did not attend the school from 01-3-12 to 3-3-12. How many days was he absent?

4.1 IMPORTANT GUIDELINES*

Exercise Reading

It is very important that the children practice their learnings as well as their reading. Hence have the children read out the newly learned concepts from their textbooks or other available resources.

Perform Textbook Activity

It is good practice to have the children perform the textbook activities. Your textbook activities might not be accessible hence go through this resource to learn how to make textbook content accessible

Provide Homework

To evaluate their understanding and to help the student revise and implement the new learnt concept ensure to provide them with homework. Students should perform one or two of the questions mentioned above or from the textbook exercises with the teacher in

Class and the remaining may be given for homework. Also, ensure that the student knows their special skills linked to independently using their accessible books as it will be critical to doing homework independently

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