Vision Empower & XRCVC

Teacher Instruction KIT

Time

Syllabus: Karnataka State Board
Subject: Math
Grade: 5
Textbook Name: Karnataka State Board
Chapter Number & Name: 17.Time

1. OVERVIEW

1.1 OBJECTIVE AND PREREQUISITES

Objective

- Convert 24 hour clock time into 12 hour clock time,
- Solve the problems related to time,
- Calculate the time required to complete a work or an event.

Prerequisite Concept

- Time

TIK_MATH_G4 _CH14_Time

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*Kindly Note: Activities marked with * are mandatory*

2. LEARN

2.1 KEY POINTS

Time: In math, time can be defined as the ongoing and continuous sequence of events that occur in succession, from the past through the present to the future.

2.2 LEARN MORE

3. ENGAGE

3.1 INTEREST GENERATION ACTIVITY

TREASURE HUNT

Activity 1: Treasure hunt

Materials required: None
Prerequisites: Reading comprehension, basic operations of mathematics

Activity Flow

General Information
Play arena: A familiar place with less obstructions.
Number of players: 6 to 8

Game overview and basic rules for play:

The objective of the game is to solve all the clues/questions and be the first to solve the last clue to get the treasure. The game starts by giving them their first clue/question, after solving each clue they would get their next clue. Whoever solves the last clue first would get the treasure and is the winner of the game.

Play session plans:

Session 1

- *Form 3 or 4 groups, 2 students in each group.*
- *Explain to them that they have to read and solve each clue/question and after solving that clue they will get their next clue which would take them close to the treasure.*
- *After solving their final clue they would get the treasure.*
- *Make sure the clues are simple and include calculations/concepts with which the children are familiar.*
- *Also after each clue, mention the navigation part and description of where the next clue is. For example: enter the main door, turn to your left and walk 5 to 6 steps and you will find a table, your next clue will be inside the box which is on the table.*
- *Some children might be comfortable in moving around or in solving the clues, while some others may need some help to move or to comprehend the clues. Help those who are not being able to do so.*
- *The game ends when the last clue is being solved, whoever solves the last clue first, would get the treasure and is the winner of the game.*

Session 2:

- *Ask the children if they remember the game.*
- *If there are any students who were absent from the previous session, ask the children to explain to him/her what the game is all about. Also fix the time for the game. Like whoever finishes the game within the fixed time will be the winner.*
- *When you think the children are clear about the rules, start playing. This time sit back and only help where absolutely necessary. Let the children figure out on their own.*
- *Make sure the children are solving the clues correctly. You can change the clues for each game and include questions related to concepts which are already being introduced to the children.*

3.2 CONCEPT INTRODUCTION ACTIVITIES

TIME

Activity 2: Recap of time

Materials required: None

Prerequisites: To read time

Activity Flow

1. *Give them the model of clock and ask them to show the time 5:00, 2:30, 12:00, 9:15 and 7:45 o'clock.*
2. *Ask them to list 5 examples for am and pm.*
3. *Ask the students choose the correct answer for the following:*

- *The time taken by you to play with your friends*
  45 minutes / 8 hour
- *The time taken to wash your hands.*
  5 minutes / 1 hour
- *The time required to have breakfast in the morning*
  20 minutes/2 hours
- *The time required to build a house*
  days / months

4. *Write in ante meridian / post meridian. Convert the time to a 24 hour clock.*
   1. *Lakshmi gets up in the morning at 6 o' clock.*
   2. *She has a bath in the morning at 6:30*
   3. *She helps her mother in the house from 7:00 to 8:30*
   4. *She goes to school in the morning at 8:30*
   5. *She has lunch at 12:30*
   6. *She goes to play at 5:30*
   7. *She sleeps at 9 o' clock at night.*
5. *The arrival time of an aeroplane is written as 20: 00 hour. Write this as per a 12 hour clock time.*
6. *List as many activities as possible that require more than one day for you to complete.*
7. *Malathi attended the preparatory examination in her school from 20-02-12 for 6 days. On which date did she complete her examination?*
8. *Ramu did not attend the school from 1-3-12 to 3-3-12. How many days was he absent?*

- *Wherever, they are asking to draw a model of clock, use a stylus, compass, tactile ruler and protractor and draw it on a parchment sheet of paper.*

To draw a model of clock:

- *First show them the model of clock and ask them to observe it carefully.*

- *Construct a circle by measuring the radius on a parchment paper. Mark the centre point.*
- *Mark at every 30 degrees on the circumference of the circle using a protractor. That is, divide 360 by 12 then we get 30 as quotient. Here we are dividing the circle into 12 parts which represents the 12 hour clock.*
- *Then using scale draw minute and hour hand in the circle.*

- *Show them the tactile diagram of a 24 hour clock. Before starting the concept of converting 24 hour clock time to 12 hour clock time and vice versa.*

Converting 24 hour clock time into 12 hour clock time

Activity 3: To convert 24 hour clock time into 12 hour clock time

Materials required: None
Prerequisites: To read time

Activity Flow

The time interval between 00 hour in the midnight to 12 hour in the afternoon is called 'ante meridian'. This is represented as a.m. The time interval from afternoon 12 hour to midnight 00 (24) hour is called 'post meridian'. This is represented as p.m.

To convert 24 hour clock time to 12 hour clock time:
Example 1: In the railway time table, the departure time of the train is denoted as 22 : 05 hour. What will be the departure time of this train in 12 hour clock?
Solution: (night 10:05)

Note: Departure time of the train = 22 hours 5 minutes minus 12 hours = 10 hours 5 minutes pm (night 10:05)

Departure time of the train $= 22:05 - 12:00 = 10:05$ p.m.(night 10:05)

Example 2 : The arrival time of an aeroplane is 13:50 hours. Convert this into 12 hour clock time.
Solution:
Note: Arrival time of the aeroplane – 13 hours 50 minutes minus 12 hours = 1 hour 50 minutes pm.
Arrival time of the aeroplane $= 13:50 - 12:00 = 1:50$ p.m.(afternoon 1:50)

ADDITION

Activity 4: Problems on time involving addition

Materials required: None

Prerequisites: Addition, Concept of time

Activity Flow

Example 1 : Add 2 hour 20 minutes to 3 hour 30 minutes.

Solution:

Hours represented by hr, minutes represented by min, seconds represented by s.

$2\,\text{hr}\ 20\ \text{min} + 3\ \text{hr}\ 30\,\text{min}\ = 5\ \text{hr}\ 50\ \text{min}$

Example 2 : Add 3 hour 50 minutes 30 seconds to 2 hour 15 minutes 50 seconds.

Solution:

$3\ \text{hr}\ 50\ \text{min}\ 30\,\text{s} + 2\ \text{hr}\ 15\ \text{min}\ 50\,\text{s} = 6\ \text{hr}\ 06\ \text{min}\ 20\,\text{s}$

[Note: $30\ \text{s} + 50\ \text{s} = 80\ \text{s} - 60\ \text{s}\ = 20\ \text{s}$*. 20 seconds is written in a second's place.* $60s = 1\text{min}$*. This 1 minute is added to minutes. So* $1\ \text{min} + 50\ \text{min} + 15\ \text{min}\ = 66\ \text{min}$*.* $66\text{min} - 60\text{min} = 6\text{min}$*. This 6 minutes is written in a minute's place.* $60\,\text{min}\ = 1\,\text{hr}$*. This 1 hour is added to hours. So,* $1\,\text{hr} + 3\ \text{hr} + 2\ \text{hr} = 6\ \text{hours}$

SUBTRACTION

Activity 5: Problems on time involving subtraction

Materials Required: None

Prerequisites: Subtraction, concept of time

Activity Flow

Example 1 : Subtract 2hr 20min from 5hr 30min.

Solution:

$5\text{hr}\ 30\text{min} - 2\text{hr}20\text{min} = 3\text{hr}\ 10\text{min}$

Example 2 : Subtract 3hr 45min from 6hr 15min.

Solution:

$6\text{hr}15\text{min} - 3\text{hr}45\text{min} = 2\text{hr}30\text{min}$

[Note : It is not possible to subtract 45 min from 15min. So we barrow 1hr from 6hr. Now $1\,\text{hour} = 60\ \text{minutes}$*. Therefore,* $60 + 15 = 75\ \text{min}, 75 - 45 = 30\ \text{min}$*. In the place of hours,* $5\text{hr} - 3\text{hr} = 2\text{hr}$ *]*

3.3 LET'S DISCUSS: RELATE TO DAILY LIFE*

Time is important everywhere, from being on time for school, office, meetings, gatherings.

Time helps us in organising and structuring our daily activities. No one can escape the passage of time. We are all subjected to aging and mortality.
All the activities/competitions are judged based on the performance on time.

4. EXERCISES & REINFORCEMENT

4.1 PRACTICE EXERCISES

HOMEWORK PROBLEMS

Activity 6: Homework problems

Materials required: None

Prerequisites: Concept of time

Activity Flow

1. *From Monday to Saturday everyday you have a period of 40 minutes of mathematics subject. For how many periods is mathematics taught in a week ? Express this in hours.*
2. *Find out the number of periods and hours of teaching for different subjects.*
3. *How many seconds make 1 minute ?*
4. *How many minutes make 1 hour ?*
5. *How many hours are there in a day ?*
6. *Add 4hr 40min and 6hr 10min*
7. *Add 3hr 30min and 2hr 20min*
8. *Add 2hr 50min and 3hr 40min*
9. *Subtract 5hr 10min from 7hr 30min*
10. *Subtract 3hr 20min 25s from 4hr 40min 50s*
11. *Subtract 2hr 50min from 5hr 30min*
12. *Shyam comes to his office at 9 : 00 a.m. He works 8 hours in his office. What time does he leave his office in the evening?*
13. *Fathima studies for 5hr. 10min in her school. At home, she studies 2hr . 50min. What is the total number of hours she studied on that day ?*
14. *Mahesh spends his 15 days holidays in his uncle's place from 3 - 10 - 2011. On which date does he leave his uncle's place ?*
15. *Note the starting and closing time of your school. Find out the time interval. From this subtract the time for lunch break and find how many hours your school works.*

4.2 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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