Understanding the Passage of Time in Our Daily Lives

Time can be spread over a minute, an hour, a day, a month, a year and over longer or shorter time spans. It can be measured by watching the movement of shadows, or the flow of sand or the movement of the hands of a clock. The design ideas in this section offer exciting ways of helping children understand something as abstract as time, through the built environment!

07 Wall Clock
08 Calendars on Walls
09 Cycles Around Us
Introduction

Understanding and measuring time is a concept that takes a long time to learn. Children first understand time, by the passage and cycle of the day from morning to evening and night.

If mother says that they are going to Mama-ji's marriage in one month, children immediately want to go. The concept of a month cannot be understood. They then ask, "If I go to sleep and wake up tomorrow will we go then?" Perhaps mother will explain that they will have to go to sleep and wake up 30 times before they go to the marriage. Even then a five year old cannot understand.

In villages even today, time is measured by the movement of the sun, the moon and seasons of harvesting and planting. There are times for marriage and festivals, times for fasting and time to remember ancestors who have passed on (Shraadh, Shubh-e-raat). Many Indians still do not give importance to time in the sense that office-going Indians do.

Train timings and school timings may have given us a refined sense of time. We wear watches and many homes have calendars. Mobile phones tell us time.

The wall clock in the built environment at your school can give concrete experiences to children as they learn to understand the passage of minutes and hours. They can touch and move the minute hand and the hour hand. The markings are very clearly painted, with a writing surface around it.

Teaching-Learning Activities

Activity 1: Timings According to the School Bell

Classes I, II, III

From class I onwards, the teacher asks children to show the correct time when the first bell rings.
Teacher’s Role

The teacher needs to daily spend a few minutes, using the calendars and the clock. Do not feel that an exam is to be taken because children do not learn at the same pace. They simply need continuous exposure in small doses. Some children finally understand a clock in Class III and IV.

Objectives

1. To experience and identify different ways of measuring time.
2. To experience different units of time such as one hour, one minute, ten minutes, ten seconds and so on.
3. To understand that 60 is the base number for time: 60 seconds in a minute and 60 minutes in an hour.
4. To learn informally with other children while playing.

Suggested Activities

1. Timings According to the School Bell
2. Understanding the Length of a Minute
3. Counting seconds; Understanding 60 as the base for Minutes and Hours
4. Counting Minutes
5. Informal Play

When the second bell rings, the teacher can look at her watch and say, “Now it is 8:40, Teresa, please put the hands of the wall clock at 8:40.” Use the writable surface along the clock dial to write or draw the time and the activity since children understand it better this way.

This activity can be done throughout the day, once a week.
Activity 2: Understanding the Length of a Minute
Classes I, II, III
In a formal lesson, the teacher will use a watch and watch the second hand as it makes one revolution. She says “start” as it starts a revolution and “stop” as it completes a minute. A child will then move the big hand, one minute, as shown on the dial of the wall clock.

This activity needs to be repeated from time to time to help children understand the duration of a minute.

Activity 3: Counting Seconds Understanding 60 as the Base for Minutes and Hours
Classes II, III
The teacher uses her watch and along with the children, she slowly counts to 60.

Children will come to understand both the duration of a second and the length of a minute. They will also understand that hours and minutes are measured with 60 as the base.

First variation: They can also keep the beat of each second with their fingers on the desk, as they count 60 seconds.

Second variation: To understand the duration of half a minute, the teacher and children will count to 30.

Space for Notes:
Activity 4: Counting Minutes

Classes II, III

It takes a while for children to understand that there are 5 minutes between each number on the clock.

Occasionally the teacher and children together can count each minute. That is, they will count to 60, five times.

Activity 5: Informal Play

Classes I, II, III

Because the hands of the wall clock are movable, children should be allowed to informally manipulate the wall clock.

The writable surface along the clock dial should be used by the teachers and the children to connect the time being shown in the clock with an activity or a drawing.

This makes the abstraction of time "real" for the children to understand and connect it with activities in their life.
The teacher must continually, almost daily, draw the children’s attention to the calendars on the wall for at least 2 to 3 minutes each day. At first she will fill in the date, month, the year and the day, using the wall calendar and the painted calendar. As children begin to understand the pattern, they can fill in the dates themselves. They should notice the seven day cycle.

**Suggested Activities**

1. Recording Date, Day, Month and Year
2. Recording Weather and Learning Weather Vocabulary
3. Recording and Charting Temperature
4. Important Events
5. Mental Math

**Teaching-Learning Activities**

**Activity 1: Recording Date, Day, Month and Year**

**Classes I, II, III**

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Teacher's Role

The teacher must create a physical environment in the class to assist in development of time concepts.

Fill in the dates on the Wall Calendar:

- Hang a real calendar with large numbers close to the chalkboard
- Hang a chart with list of "Days of the Week" starting from Monday as the first day
- Hang a chart with a list of "Months of the Year" along with the number of the month

Example:

- January
- February
- March
- Use the physical environment when required, such as writing dates marking holidays, birthdays, exams, special visits and so on.

Objectives

1. To understand time concepts and the passage of days to months and months to years.
2. To understand the cyclic nature of the year.
3. To develop time management skills.
4. To understand the seasons and weather.
5. To understand language such as yesterday, tomorrow, day, night.
6. To understand the phases of the moon.
7. To understand patterns in a calendar.

Up to Class II write the complete name of the month. Then in class III and IV, children can write the numeral instead of the name of the month. However, you must help them to make the connections between the numeral and the month by pointing to the chart from time to time.

Let children observe and talk about the passage of seasons, the passage of the moon and occasions related to the moon such as *Buddh Purima*, *Holi*, *Id* and *Deepavali*, etc.

In early primary classes, mother tongue language can be used but English days and months should be written when children start to learn English as this topic is relevant and easily learned.
08 Calendars on Walls

Activity 2: Recording Weather and Learning Weather Vocabulary

All Classes

A weather chart is helpful to understand the change of seasons.

Children must learn weather vocabulary - rainy weather, sunny weather, foggy weather, cloudy weather, cool weather, drizzle, damp, scorching heat, dusty, windy and so on.

This chart is especially appropriate when there is a noticeable change in seasons.

In higher classes use English to describe weather.

Activity 3: Recording and Charting Temperature

Classes III, IV, V, VI, VII

The teacher will arrange to have a thermometer either in a corridor or in the principal’s office. In this way all classes can use the thermometer.

Each day for one week, two children will check the temperature twice a day at the same time every day. They will enter the daily temperature on the wall calendar on the proper date.

These daily recordings can then be compared with the previous month. Children will learn to estimate the degree and comfort level of temperature. In classes IV and V graphing can be done. In classes VI and VII averages can be worked out.

Activity 4: Important Events

All Classes

The calendar should be used for the many important occasions that happen throughout the year. Children can use it to mark the phases of the moon, birth dates, festivals, holidays, special visits and excursions. Keeping track of engagements helps children with time management.
Activity 5: Mental Math

All Classes

Examples of mental math questions are given below

Class II

Your mother gives you ₹ 1 every day in the month of January. How much money did she give you in January?

Class II, III

Every day, in February, you spend ₹ 2 to buy a fruit. How much money did you spend in February?

Class II, III, IV

Today is Monday, the 3rd of March. What will be the date on next Monday?

Class VI, VII, VIII

a) Your Mother has taken 1.25 liters of milk everyday in the month of September. She gives ₹ 20 for a litre. How much does she pay for milk in the month?

b) If a school remains closed for 1/5 of a month, then for how many days is it open?

Space for Notes:
09 Cycles Around Us

The moon is very, very old. The “why?” is clear... He gets a birthday once a month. Instead of once a year.

Introduction

This poem is about the cycle of the moon. Children have a natural tendency to enjoy cycles. It may be running around the flagpole or around columns or around trees. As a teacher, you may find it enjoyable to teach about cycles in nature using the columns or planetary disc to illustrate cycles such as seasons, passage of years, food cycles, metamorphosis, or the water cycle.

There are two kinds of cycles:

1. Continuous cycles with a beginning and an end (e.g. life cycle of a butterfly).
2. Continuous cycles without a beginning and end (e.g. planetary rotation).

Objectives

1. To understand cyclic patterns in nature.
2. To promote an understanding that some cycles are continuous while others have a beginning and an end.

Teaching-Learning Activities

Activity 1: Phases of Moon

Classes III, IV, V

The phases of the moon is a cyclic phenomenon without an end that reoccurs. It can be painted on the circular surface of a column and illustrated using the calendar as a guide. A special project can focus on festivals that are dependant on phases of the moon. What stories do children know where the moon plays an important role? Are there poems about the moon that children can gather from parents or grandparents?
Teacher’s Role

You need to encourage observation of cycles, by showing the visuals that have been painted in the environment. Then encourage children to find other cycles in nature. They can then illustrate these cycles.

You will need to decide if you want to permanently paint some cycles on columns in the hallways. The phases of the moon or the life cycle of a frog or a food chain could be permanent visual exhibits.

Perhaps you can ask children to draw the cycles of whichever topic you are studying. These drawings can then be temporarily attached to columns in an upward spiral to show the cycle.

Suggested Activities

1. Phases of Moon
2. Food Chains
3. Mosquito Life Cycle
4. Crop Life Cycle
5. Projects on the Yearly Cycle of Trees

Activity 2: Food Chains

Class III, IV

The food chain is a cycle with an end. The food chains are taught in these classes. However, instead of a chart, illustrate these chains on the circular surface of a column, where the whole school can appreciate them.
Activity 3: Life Cycle of Mosquito
Classes III, IV, V, VI
Instead of using a text, explore the life cycles of plants and animals; you can have real projects happen at school.
Gather mosquito larva from a pool of stagnated water. Keep in a transparent jar and put a cotton cloth on top of the jar. Watch the development and make drawing of the cycle. Post it on the pin up boards for all students to enjoy.

Activity 4: Crop Life Cycle
Classes V, VI
Go to nearby fields, observe and document the cycle of local crops such as mustard, wheat, potatoes and peas. Document the cycle of crops of various seasons.

Space for Notes:
Activity 5: Project on Yearly Cycle of Trees
Classes V, VI

An extensive project would be to choose three or four local trees in the school ground or on the road. Children can be divided into groups of four each. Discussion will need to happen about topics to be documented such as the timing of flowering, fruiting and loss of leaves. Keep a record for a whole year of the changes in these trees. *Mahua*, Silk Cotton, *Bahunia* and *Shisham* are lovely trees to study.