
UNIT 2 UNIT AND LESSON PLANNING

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2.1 INTRODUCTION

You would agree that success of any activity depends largely upon its planning. Proper planning of activities leads to fruitful results. The same is true with teaching as well. As a teacher you are given charge of a certain class to teach mathematics. So you have to cover the given course in the available time span and also ensure effective learning amongst children. Now the challenge is to do it successfully. This very idea may generate thinking with regard to sequencing, ordering, arranging and grouping the items of the curriculum, matching these with the available time slot and identifying suitable activities to be performed with children etc. This is nothing but planning for teaching.

You may plan teaching in various ways. Firstly you may develop a rough layout for the whole year in which you may decide before and how much time you would devote to various topics or units in the curriculum. Secondly you may like to develop a detailed planning of the separate units of work where in you may decide the number of lessons for each segment of work along with the method or approach to deal with them. Thirdly you may like to go into details of activities pertaining to each lesson. So the planning for teaching involves the process of making decisions about why, how and what to teach which may range from one lesson to the whole curriculum for the year. In this unit we will discuss the various aspects of unit and lesson planning in mathematics.

2.2 OBJECTIVES

After going through this unit, you will be able to :

- recognize the need and Importance of unit and lesson planning;
- list various steps involved in unit planning;

- develop a unit plan for teaching of a given unit;
- enlist various steps of lesson planning; and
- develop lesson plans for teaching lessons in mathematics.

2.3 UNIT PLANNING

The curriculum of mathematics may be available to you in terms of either content/ concepts or competencies. Your target would, therefore, be to ensure acquisition of certain understanding and skills among children with regard to dealing with mathematical content and processes. In other words you may intend to develop mathematical competencies amongst children under your charge. You may recall that in the document titled, “Minimum Levels of Learning at Primary Stage” (Ministry of Human Resource Development report published by the NCERT, 1991) the necessary competencies have been listed under five major areas of mathematical learning. Further classwise arrangement of competencies is also available within each area. Since there would be a long list of competencies/ prescribed for each class unit planning may be of great help to you in guiding your actions leading to success. The following sub-sections cover the meaning of unit planning, need and importance of unit planning and the process of developing the unit plans.

2.3.1 Meaning of Unit Planning

Let us first understand what do we mean by a unit in mathematics. A unit in mathematics comprises of a chunk of interlinked competencies/concepts/content which have some common basis or characteristics. So, within any area of mathematical learning several units can be formed. It is the nature of competencies content and the experience of the teacher about teaching mathematics and his/ her perception of learning styles of children which will enable him/her to decide about formulating the units.

Now you will appreciate that teacher has to organize the given set of competencies/ content prescribed for the given class in a meaningful manner which will make his/her teaching and evaluation systematic and convenient. A unit in mathematics may be covered in one day, several days or even several weeks. You will have to decide the number of lessons to be delivered under one unit.

Having arranged the mathematical competencies in a graded manner and divided them into units for purposes of classroom transaction, you would like to think of the ways of communicating the same to the children. This will obviously make you think of the sequence of lessons within a unit, the method of teaching instructional aids, students’ activities and the evaluation procedures. This decision if presented in an organized manner, would result into a unit plan.

2.3.2 Need and Importance of Unit Planning

You may like to ask why we need a unit plan or can’t we do without a unit plan? The answer is simple that unit planning may bring about significant changes in the quality of teaching-learning. The following points highlight the advantages of unit planning and thus clarify how unit planning makes teachers talk easier and effective:

- It helps teachers to have a holistic view of teaching-learning, which may help in organizing time and resources available at his/her disposal.
- It helps in designing a systematic, sequential and graded arrangement of course content which may give insight to develop teaching activities in the best possible manner.

- It helps in giving a balanced emphasis to various aspects of course content or competency under reference.
- It provides an opportunity to correlate textual content with the competencies to be dealt with in the class.
- It may help thinking about alternative approaches to teaching-learning and adapt to individual differences.
- It may help unit-wise evaluation of children and in organizing remedial teaching and undertaking enrichment measures as per the requirements.

2.3.3 Steps Involved in Unit Planning

Unit planning involves two major processes, namely, sequencing and selection. The main focus of unit planning should be to ensure effective learning on the part of children. After arranging the given set of competencies/content into a teaching-learning sequence, a unit can be formed on the basis of identification of meaningful segments of competencies/content which may also be viewed in terms of time available for teaching-learning. Some people divide the course content to be covered month-wise and call them 'units'. Still more important is the nature of course content or competencies and, as such, some units may be small and some big in terms of time taken for teaching them. So a teacher has to apply judgment. Since we can not leave the whole thing on intuitive ways of formulating units, some steps to be followed are suggested below:

- a) Estimate the whole course content/set of competencies for the class during the year.
- b) Estimate the teaching time available to the teachers.
- c) Arrange the given course content /set of competencies in a teaching-learning sequence.
- d) Identify inter-linked aspects of course content /competencies.
- e) Distribute the whole course content/competencies into units. Hence you may like to consider the following:
 - i) A unit should not be too small or too lengthy.
 - ii) It should have some element of commonness within its components.
 - iii) It should be such that it should not require more than a month in any case to complete in the class, and
 - iv) It should be such that its completion develops a sense of accomplishment to both the teacher and the students.
- f) For each listed unit, further breaking up of teaching lessons would be required.
- g) For each lesson within the unit, decide about the appropriate teaching methods, teaching aids, students activities and the evaluation procedure.
- h) Present these decisions and the break-up in a tabular form which may be considered to be unit plan.

2.3.4 Development of Unit Plan

Development of unit plan may be attempted differently by different people. But the development of competency among children should be the main point to be kept in mind while developing a unit plan. One way of looking at unit planning could be to do it area wise the number of competencies listed in each area for a class which are to be taught in about ten months duration. So theoretically speaking,

there should be at least five units, each concentrating on one of the areas. But it will not be a practical way of doing things since there may be a large number of competencies in an area. So further break-up would be necessary. Although it should not be taken as the norm but for practical reasons there should not be more than 10 competencies in an area and it should not be planned to be taught in more than 20 working days. The similarity in the nature of content involved in competencies identified for a unit should also be given due consideration. Now various lessons may be planned within a unit and points related to organization of teaching-learning may be drawn as suggested. The following example of a unit plan may give you an idea of the format and particulars of a unit plan :

UNIT PLAN

Unit Plan No..... Name of the Teacher.....

Subject - Mathematics

Area - 1 (understanding whole numbers and numerals)

Competencies Covered: 1.3.1 (Recognition and writing of numerals from 100 to 1000.)

1.3.2 (Writing of number names from 1 to 100.)

S. No.	Competency	Lesson No.	Method of Teaching	Teaching aids	Students Activities	Evaluation
1.	1.3.1. (a) Recognizes numerals from 100 to 999	1 to 3	Play way method and demonstration	Flash cards	Various games and group work	Oral testing
	(b) Recognizes numeral 1000	3	-do-	-do-	-do-	-do-
	(c) Writes numerals from 100 to 1000	4	-do-	-do-	Individual and group activities	Oral as well as written
2.	1.3.2 Writing of number names from 1 to 1000	5 and 6	-do-	-do-	-do-	Oral and written test

2.3.5 Limitations of Unit Planning

While unit planning is of much value to teachers it may suffer from the limitations mentioned below:

- It is sometimes difficult to clearly anticipate the teaching-learning approach in advance.
- The division of content / competencies is artificial.
- It gives a piecemeal view of the competencies developed during a year.
- It requires a conscious effort on the part of a teacher. A less experienced teacher sometimes find it difficult to plan units.
- It puts a check to the flexibility of the teacher when followed rigidly.

Check Your Progress

Notes: a) Write your answers in the space given below.

b) Compare your answer with the one given at the end of this unit.

1. What is a Unit Plan?
.....
.....
.....
2. State briefly how unit planning is helpful to teachers.
.....
.....
.....
3. Mention two limitations of unit planning.
.....
.....

2.4 LESSON PLANNING

According to G.H. Green, the teacher who has planned his/her lesson wisely, related to his/her topic and to his classroom without any anxiety is ready to embark with confidence upon a job s/he understands and is prepared to carry it to a workable conclusion. S/he has foreseen the difficulties that are likely to arise and prepared her/himself to deal with them. S/he knows the aims that her/his lesson is intended to fulfill and s/he has identified her/his own resources for the purpose. And because s/he is free of anxiety, s/he will be able to estimate the value of her/his work as the lesson proceeds, equally aware of failure and success and prepared to learn from both. The following paragraphs have been devoted to the meaning, need and importance of lesson planning and the process of developing lesson plans.

A proper planning of the lesson is the key to effective teaching. The teacher must know in advance the subject matter and the mode of its delivery in the classroom. This gives the teacher an idea of how to develop the key concepts and how to correlate them to real-life situations and how to conclude the lesson. Lesson planning is also essential because effective learning takes place only if the subject matter is presented in an integrated and correlated manner and is related to the pupil's environment. Though lesson planning requires hard work it is rewarding too. It conceives a lesson as 'Plan of Action' implemented by the teacher in the classroom.

2.4.1 Meaning of Lesson Planning

A lesson plan outlines in detail the various steps which the teacher proposes to undertake in his/ her class. As such, a lesson plan concerns itself with the teaching of one period. Planning for a lesson means identification of the sequence and style of presentation and evaluation procedure to be adopted for classroom teaching of a lesson. Hence it is a proposition in advance which establishes a linkage between the why, what and how of teaching in one period. While attempting to do this the teacher may foresee likely problems in classroom communication and may arrange certain materials and decide about techniques to be adopted to ensure a smooth and effective teaching-learning situation. Thus a lesson plan is a means of taking advance decisions about the selection, sequencing and execution of various activities to be performed in a classroom with a view to ensuring learning of children.

2.4.2 Need and Importance of Lesson Planning

When you go for teaching a lesson in the classroom, usually you get prepared for it, though informally. But sometimes you find that you are not able to teach the entire content which you prepared or on the other hand, the content to be covered is not sufficient for full period. Sometime, you may get stuck-up while teaching and so get nervous. May be that you are not aware of the objectives of teaching a lesson and so did not bother about its attainment. How to overcome all such problems? This can be done through systematic lesson planning. You get a chance of thinking about all these problems in advance while planning your lesson and deciding about taking corrective steps for possible hurdles. The process of developing a lesson plan is such that these problems get tackled automatically.

Lesson planning helps the teacher in the following ways:

- It makes teaching systematic and well organized.
- It helps teachers in identifying adequate content and its proper sequencing for teaching a lesson.
- It helps teachers to learn to foresee and tackle learning difficulties of children.
- It enables teachers to utilize the available time properly.
- It helps in developing insights about learning needs and abilities of children.
- It helps teachers to develop the habit of undertaking immediate corrective measures.
- It gives confidence to teachers during teaching.

2.4.3 Steps of Lesson Planning

While developing a lesson plan, first of all you have to decide about the objectives of teaching that particular lesson. The objectives will be both general as well as specific. In order to achieve the objectives, some subject matter or content is required. This content is to be selected as per the competence with reference to the specific objectives of the lesson as well as the previous knowledge of the learner. So the content has to be local specific, interesting and related to the previous knowledge of the learner. Another important aspect of lesson planning is to detail out the method to be used for transacting the required material to the learners. The choice of method will depend on the nature of the content, the class/grade as well as the ability of the learners. While specifying the method of delivery, the teachers' activities as well as the learners' activities are to be specified along with the evaluation exercises/questions. The evaluation has to be based on the material transacted in the classroom and the competency aimed to be developed. At the primary stage, the evaluation questions have to be very simple, keeping in view the learners' physical and mental growth.

The following issues need to be decided for developing a lesson plan.

1. **Objectives:** The objectives of teaching a particular lesson should be stated as per the competency to be developed amongst children. Generally teachers state only general and specific objectives of the lesson.
2. **Content:** The subject matter that is intended to be covered should be limited to the prescribed time. The matter must be interesting and it should be related to the pupils' previous knowledge. It should also be related to daily life situations.
3. **Methods:** The most appropriate method be chosen by the teacher. The method selected, should be suitable to the subject matter to be taught. Suitable teaching aids must also be identified by the teacher. The teacher may also use supplementary aids to make his/her lesson more effective.

4. **Evaluation:** A teacher must evaluate his/her lesson to find the extent to which he/she has achieved the objectives of his/her lesson. Evaluation can be done even by recapitulation of subject matter through suitable questions.

2.4.4 Methods of Lesson Planning

A lesson may be planned in various ways. Several methods have, therefore, been evolved. The most commonly used method is the Herbertian method. The steps followed in Herbertian method of lesson planning are:

1. Introduction
2. Presentation
3. Association (or comparison)
4. Generalization
5. Application
6. Recapitulation, and
7. Home assignment / home work

1. Introduction

It pertains to preparing and motivating children to the lesson content by linking it to the previous knowledge of the student, by arousing the curiosity of the children and by making an appeal to their senses. This prepares the child's mind to receive new knowledge. This step, though so important, must be brief. It may involve testing of previous knowledge of the child. Sometimes the curiosity of pupil can be aroused by some experiment, chart, model study or even by some useful discussion.

2. Presentation

It involves stating the object of the lesson and exposure of students to new information. The actual lesson begins and both teacher and students participate. A teacher should make use of different teaching aids to make this lesson effective. She/He should draw as much as is possible from the students making use of judicious questions. In mathematics lessons It is desirable that a heuristic atmosphere prevails in the class.

3. Association

It is always desirable that new ideas or knowledge be associated to the daily life situations by citing suitable examples and by drawing comparisons with the related concepts. This step is all the more important when we are establishing principles or generalizing definitions.

4. Generalization

In mathematics lessons generally the learning material problem leads to certain generalizations which then lead to the establishment of certain formulac, solving problems, principles and laws. An effort should be made that the students draw the conclusions themselves. A teacher should guide the students only if their generalization is either incomplete or irrelevant.

5. Application

In this step of a lesson plan the knowledge gained is applied to certain situations. This step is in conformity with the general desire of the students to make use of generalization in order to see for themselves if the generalizations are valid in certain situations or not. This is used for assessing the effectiveness of the lesson by asking students questions on the contents of the lesson.

6. Recapitulation

Recapitulation can be done by giving a short objective type test/problem solving method to the class.

One important point to remember is that the steps given above for lesson planning are formal Herbertian steps and teacher should not try to follow these very rigidly. These are only guide-lines and in many lessons it is not possible to follow all these steps. So this method should be followed to the extent possible.

2.4.5 Features of a Good Lesson Plan

1. Through lesson planning the teacher will be able to pinpoint for himself the objectives of teaching that particular lesson. The objectives should be such that they are : (a) attainable during a span of one period only. (b) in sequence with the objectives already attained by the learners.
2. The teacher will discover whether the subject matter is adequate enough to be transacted during the period.
3. He will identify, in advance, the activities to be carried out by the learners.
4. He will be able to anticipate the expected answers of the learners.
5. A good lesson plan should present good linkage between the objectives, teacher and student activities, on the one hand and the method, the teaching aid and the evaluation items on the other.
6. The plan should neither be too short nor too long.
7. It should focus on specific piece of content so as to attain the competency in hand.
8. The activities planned should be quite interesting to the young learners.
9. It should focus on the development of a clear understanding among children instead of rote memorization.

2.4.6 Development of a Lesson Plan

Keeping in view the steps of lesson planning and the methods discussed in the preceding sections, lesson plans may be developed. The following examples will demonstrate some approaches to lesson planning. You may learn to develop lesson plans by adapting these to the competency in hand and the anticipated teaching-learning situation.

LESSON PLAN - 1

Name of School : XYZ	Date: 10/8/2002
Class : III	
Subject : Mathematics	Period: II
Topic : Place value of 3 digit numbers	Competency: Students state the place value of the digits within a 3 digit numeral.
General objectives of the lesson :	To develop understanding of the place value of the digits in numerals.
Specific objectives of the lesson :	Students will be able to state place value of the digits within a 3 digit numeral.
Teaching/Instructional material :	• ordinary classroom material.

- spike abacus.
- a chart showing 3 digit numbers marked as units, tens and hundreds.
- flash card containing 3 digit numbers.

Previous knowledge

- i) Students recognize and write numbers 1 to 1000
- ii) Students state the place value of digits in a 2 digit number.
- iii) Students write number names of 3 digit numbers.

Introduction

Teacher will put some questions to the students:
(Writing a few two digit numbers on the blackboard.)

1. What are the numbers written on the blackboard?

24, 40, 39

2. In 24, which number represents units?
3. In 24, which number represents tens?
4. What is the place value of numeral 4 in 24.
5. What is the place value of numeral 2 in 24?
(Teacher may ask similar questions for the numerals 40 and 39.)
6. What is the place value of 2 in 246.
(Writing number 246 on the blackboard.) (No answer)

Statement of aim: Children, today we will study the place value of numerals in a 3 digit numbers.

Teacher-Pupil Activity

(Showing the flash card containing 3 digit numbers.)

1. What numeral is shown on the flash card ?
2. Write the number name for this number (246)
(Two Hundred Forty Six)

(Covering the numeral 2)

3. What is the numeral left now?
(Forty Six)

(Showing the flash card again)

4. What numeral is there on the third place from right side?
(2)

(Asking to compare the numerals by reading their number names 246 and 46.)

5. What additional you had to say for 246 as compared to 46?

(So you have to say two hundred because of the numerals 2's placement at 3rd place from the right. Hence the place value of 2 in 246 is 200.)

Teacher will now take 3-4 examples of 3 digit numbers and get the place value chart filled in with the involvement of students.

3 digit Numerals	Place values					
	Hundreds		Tens		Units	
	Numeral	Place Value	Numeral	Place Value	Numeral	Place Value
246	2	200	4	40	6	6
759	7	700	5	50	9	9
483	4	400	8	80	3	3
908	9	900	0	00	8	8

The chart will be further discussed using flash cards if children find it difficult. Another explanatory chart can be developed through students involvement as under:

3 digit Numerals	Place value								
	3rd place from right			2nd place from right			1st place from right		
	Nu-meral	Place	Place value	Nu-meral	Place	Place value	Nu-meral	Place	Place value
785	7	Hundred	$7 \times 100 = 700$	8	Tens	$8 \times 10 = 80$	5	Unit	$5 \times 1 = 5$
462	4	Hundred	$4 \times 100 = 400$	6	Tens	$6 \times 10 = 60$	2	Unit	$2 \times 1 = 2$
407	4	Hundred	$4 \times 100 = 400$	0	Tens	$0 \times 10 = 00$	7	Unit	$7 \times 1 = 7$
370	3	Hundred	$3 \times 100 = 300$	7	Tens	$7 \times 10 = 70$	0	Unit	$0 \times 1 = 0$

Generalization

Teacher to assist children in generalizing, on the basis of above examples, the following:

- i) Place value of the digit in 1st place from right side is the number represented by the digit itself.
- ii) Place value of the digit in 2nd place from right side is the digit multiplied by 10.
- iii) Place value of the digit in 3rd place from right side is the digit multiplied by 100.
- iv) The place value of the digit in a numeral increases ten times as we move from right to left.

Place value of 2 in 12 is 2 · 1

in 24 is 2 · 10

in 247 is 2 · 100

Recapitulation

1. What is the place value of 3 in 138?
(30)
2. What is the place value of 3 in 13?
(3)
3. What is the place value of 3 in 347?
(300)
4. State the place values of numerals in 754.

N numeral	Place value
7	700
5	50
4	4

Home Work

State the place values of the digits in the following 3 digit numerals 393, 408, 790, 456.

LESSON PLAN – 2

Name of School: XYZ

Date: 10/1/98

Class: V

Duration: 40 Minutes

Subject: Mathematics

Period: Third

Topic: Volume of cuboid

Competency: Students compute the volume of a cuboid.

General objective of the lesson: To develop the thinking and reasoning powers of the students.

- Specific objectives:
- i) Students understand the concept of volume.
 - ii) Students find the formula of the volume of cuboid.
 - iii) Students apply the formula of the volume of cuboid to relevant problems.

Teaching/Instructional Material

1. Ordinary classroom materials
2. One dm cube of wood or any solid material
3. A chart showing diagrams of square and rectangle
4. Two cuboids with different dimensions
5. A tin of cuboidal shape
6. A graduated cylinder
7. One centimeter cube piece of some solid

Previous Knowledge

The students know the concept of areas of square and rectangle.

Introduction

To test their previous knowledge and to prepare them for the new lessons, the following questions will be put to them:

1. (By showing the diagram of a square in the chart)
How do you calculate the area of this diagram?
2. (By showing the diagram of a rectangle)
How will you calculate the area of this diagram?
3. (By showing the tin)
If you have to say that this tin can contain so much oil, how can you express?
4. Similarly, if you want to say that a tank can contain so much of water, how can you express?
5. What is the space of a tin or a tank?
6. (By showing the cuboid)
How would you name this solid?
7. How will you find out the space or volume of this cuboid?

Statement of the Aim

The student will not be able to answer the last question and the teacher will announce. "Today we shall find out the method of calculating the volume of a cuboid". The aim will be simultaneously written on the blackboard.

Presentation

Teacher - Pupil Activity

- | | |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. By showing the 1 cm. cube.
(Long, broad and thick) | <ol style="list-style-type: none"> 1. What are the dimensions of the solid? 2. What is its shape? 3. What is the difference between a cube and a cuboid ? <p>Pupil- Teacher Statements:</p> <p>"It is known as a cube. The cube has all the three dimensions uniform, whereas in the cuboid these may be different."</p> |
| By showing the 1 cm. cube | <ol style="list-style-type: none"> 4. What is the volume of this cube?
Pupil-Teacher Statement:
"Let us measure it with the help of a graduated cylinder" The initial reading of the water level will be taken and then the solid will be immersed. The water will rise by one cubic centimetre. 5. What are the dimensions of this cube?
Ans.: Length = 1 cm
Breadth = 1 cm
Thickness or Height = 1 cm 6. What is the volume of this cube?
Ans. : It is one cubic centimetre (One cubic centimeter is taken as the units of volume). |

By showing the cuboid of soap

7. What are the dimensions of this cuboid?

Ans: Length = 5 cm
Breadth = 3 cm
Thickness or Height = 2 cm

8. In how many parts have its length, breadth and thickness respectively been divided?

Ans.: i) The length is divided into 5 parts.
ii) The breadth is divided into 3 parts.
iii) The thickness is divided into 2 parts.

(The teacher will promptly cut this cuboid along with lines of division. It will result into 30 parts.).....(i)

9. What is the shape of each small part?

Ans.: It is cube.

10. What are the dimensions of this small cube?

Ans.: Length = 1 cm
Breadth = 1 cm
Thickness = 1 cm

11. What is the volume of this small cube?

Ans.: It is one cubic cm
This cube will be compared with the cuboid already shown to the students.

12. What is the volume of the whole cuboid?

Ans. : The volume of the cuboid = 30 cubic cm.....(ii)

By showing the second cuboid of soap

13. What are the dimensions of the cuboid?

Ans.: Length = 6 cm
Breadth = 4cm
Thickness or Height = 2 cm

(Similarly it will result in 48 small parts)..... (iii)

14. What is the volume of one small cube?

Ans.: It is one cubic cm.

15. How many such cubes are there in all?

Ans.: There are 48 such cubes.

16. What is the volume of the whole cuboid?

Ans.: The volume of the cuboid is 48 cubic cm (iv)

Generalization

For the purpose of generalization, the teacher will draw the student's attention to the parts (i), (ii), (iii) and (iv) and will ask them to observe these to find out some relationship between the dimensions and the volumes of cuboids.

1. What are the dimensions in the first case? Length = 5 cm
Breadth = 3 cm
Height or thickness = 2 cm
2. What is the volume in this case? Volume = 30 cubic cm.
3. What are the dimensions in the second case? Length = 6 cm
Breadth = 4 cm
Height or Thickness = 2 cm
4. What is the volume in this case? Volume = 48 cubic cm.
5. What is the relation between the volume and dimensions? Volume is the product of these three dimensions.

Dimension of Cuboid			Volume of Cuboid
Length	Breadth	Height	
5 cm	3 cm	2 cm	$5 \times 3 \times 2 = 30 \text{ cu.cm}$
6 cm	4 cm	2 cm	$6 \times 4 \times 2 = 48 \text{ cu.cm}$
L	B	H	$L \times B \times H$

There Volume of Cuboid = Length \times Breadth \times Height or Thickness or $L \times B \times H$ or T.

Blackboard Summary

1. The cuboid has all the three dimensions:
 - a) Length
 - b) Breadth
 - c) Height or Thickness
2. Volume of a cuboid
= Length \times Length \times Height or Thickness

Relation

1. What is the use of finding out the volume of air in a room?

Ans : While sitting in a room the person should get a regular supply of fresh air. The minimum essential volume of air should be available to everybody. With the help of total volume of air in a room, a classroom or a hall, we can fix its comfortable seating capacity. If we try to accommodate more than this fixed number, this will be uncomfortable and suffocating for every body.

Recapitulation

1. What do you mean by volume?
2. What is the difference between a cube and a cuboid?
3. What is the formula for the volume of a cuboid?
4. What is the need of finding out volume in different cases?

Home Work

1. What is the volume of air in your classroom, if its dimensions are as follows:
 - a) Length = 5 Metres
 - b) Breadth = 4 Metres
 - c) Height = 3.5 Metres

2. Find the volume of water in a tank if its dimensions are as follows:

- a) Length = 350 cm.
- b) Breadth = 200 cm.
- c) Depth = 100 cm.

The examples given above will help you develop insights into the process and procedure of lesson planning. You may plan your activities in a variety of ways wherein children should be able to learn things in an interesting manner.

2.4.7 Limitations of Lesson Planning

You would have seen that lesson planning provides an opportunity to the teacher to think in advance about the sequence of likely classroom events and anticipate the possible problems and sort them out before the actual delivery of the lesson. Yet lesson planning has its own limitations. A few are mentioned below:

- It makes teaching organized but rigid.
- If followed strictly, it leaves no room for innovativeness on the part of the teacher.
- Too much of emphasis on it may make things routinized.
- It is good for beginner teachers. Experienced teachers usually have little faith in structured classroom behaviours.
- It is difficult to anticipate all possible kinds of classroom situations in advance and therefore lesson plans lack relevance.

The above mentioned limitations however, do not suggest that lesson planning is of no value. The only caution reflected through the above statements is that it should be developed carefully and experience counts for much. It may be noted that detailed lesson planning may be practiced in the beginning and brief lesson planning should serve as an indispensable tool in the hands of a teacher throughout his/her career as a teacher.

Check Your Progress

Notes: a) Write your answers in the space given below.

b) Compare your answer with the one given at the end of this unit.

4. What is a Lesson Plan?

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.....
.....

5. Mention three ways in which lesson planning helps the teachers.

.....
.....
.....

6. Mention two limitations of lesson planning.

.....
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2.5 LET US SUM UP

After going through the preceding sections you would be able to appreciate the need and importance of unit and lesson planning and also the methodology of developing unit and lesson plans. Unit and Lesson Plans do help teachers in organizing their actions in advance and help them undertake teaching in an interesting and efficient manner. If planned properly, unit and lesson plans may lead to better quality of learning amongst children. It is, therefore, important for every teacher to develop a habit of unit and lesson planning and keep doing it throughout his/her teaching career. Greater details may be required in the beginning while brief plans may be followed there after.

2.6 UNIT-END EXERCISES

1. Explain the difference between a unit and a lesson plan.
2. List the important steps of unit planning.
3. List the important steps of lesson planning.
4. Discuss the advantage and limitations of lesson planning.

ANSWERS TO CHECK YOUR PROGRESS

1. A unit plan is the statement of proposed decisions taken about teaching-learning and evaluation of a segment of inter-linked content/competencies.
2.
 - systematic and balanced way of teaching various concepts,
 - evaluating pupils progress, and
 - the proper management of time and resources.
3.
 - i) The division of content /competencies is artificial.
 - ii) It may put a check on flexibility of teachers if followed rigidly.
4. Lesson plan is a detailed statement of proposed actions with regard to classroom activity particularly the selection, sequencing and execution of activities to be performed during a period to ensure learning amongst children.
5.
 - i) It helps teachers to identify the relevant content and its sequencing.
 - ii) It helps teachers to foresee the learning difficulties of children.
 - iii) It helps to develop confidence amongst teachers.
6.
 - i) It brings rigidity in teaching-learning.
 - ii) It leaves no room for teacher's innovativeness