

**RESEARCH REPORT**

**IMPACT OF INTERVENTIONAL STRATEGIES  
ON ATTAINMENT OF MLL COMPETENCIES IN  
MULTIGRADE SCHOOLS**

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**PREFACE**

The classroom transaction in a multigrade context continues to be a major concern before educational planners and teachers. The quality of education can be improved through the well planned teaching and learning process in multigrade situation. It can only become ineffective due to the inadequate mastery of content as well as due to irrelevant methodology followed for teaching. This inadequacy increases more in multigrade teaching as the teachers become doubly handicapped as they do not have enough orientation and practice in multigrade teaching. Besides they do not have enough support of readymade teaching and learning materials needed for effective multigrade teaching. As the observations reveal that teachers in multigrade schools invariably use conventional pedagogy and they do not lay emphasis on students' participation for raising teaching and learning effectiveness, there is need for formulating teaching and learning strategies more systematically for multigrade teaching. And the teachers need to be given orientation to develop mastery over these strategies to overcome the problem of nonachievers as well as of under-achievers studying in multigrade schools. The inadequate teacher training programmes leads to high rate of dropouts and stagnation.

For a highly populated country like ours it is not only difficult but also impossible to establish single grade teaching primary schools in remote areas where the total school strength is very less. Multigrade schools are more economical and viable to achieve universalisation of elementary education. The multigrade teaching can also raise quality instruction if the teachers are trained using skills and strategies identified by systematic researches in multigrade teaching.

This research study attempted to explore the impact of interventional programme for improving teaching and learning in multigrade schools.

The teachers were given material on skills and strategies and were oriented on how to use the skills in multigrade classroom. There are four chapters in this report. First and second chapters provide the base and rationale for study. Third chapter gives description of tests and research methodology and last chapter gives details of results obtained through pre- and post-tests designed on MLL competencies in Kannada, Mathematics, EVS-I and II at primary level. The results of this experimentation are given in details in fourth chapter of the report.

The finding of this study would help in designing teaching and learning activities for multigrade situations more effectively and also would facilitate in achieving the targets of education for all by understanding the importance of preparation of teachers in multigrade teaching.

The comments of the readers are welcomed for understanding the problem of multigrade teaching in India.

**Dr. (Mrs.) PREMLATA SHARMA**

## CHAPTER I

### INTRODUCTION

**Context:** Teaching becomes effective and rewarding if the teachers are able to face the intellectual and social challenges of the classrooms more appropriately by devising relevant methods of teaching. It is no longer sufficient for effective teachers to be warm and loving towards students, nor it is sufficient for them to employ teaching practices based solely on intuition, personal preference or conventional wisdom. Contemporary teachers would be held accountable for using teaching practices that have been shown to be effective just as members of other professions such as medicine, law and architecture. Teaching thus has always been a complex task and it has become more complex in a single teacher schools. The classroom transaction in a multigrade context continues to be a major concern before educational planners and teachers. The quality of education can be improved through the well planned teaching and learning process in multigrade situation. It can only become ineffective due to the inadequate mastery of content as well as due to irrelevant methodology followed for teaching. This inadequacy increases more in multigrade teaching as the teacher becomes doubly handicapped. They do not have enough orientation and practice in multigrade teaching. Besides

they do not have enough support of readymade teaching and learning material needed for effective multigrade teaching. On the basis of observations of multigrade teaching it can be stated that the teachers in multigrade schools invariably use conventional pedagogy and they do not lay emphasis on students' participation. For raising teaching and learning effectiveness, there is need for formulating teaching and learning strategies more systematically for multigrade teaching. The teachers need to be given orientation to develop mastery over these strategies to overcome the problem of nonachievers as well as of underachievers studying in multigrade schools. The inappropriate teacher training results into higher rate of dropouts and stagnation. For a over populated country like ours it is not only difficult but also impossible to establish more number of single grade teaching primary schools in remote areas where the total school strength may not be more than 30 to 35 students and in each grade there may be 6 to 7 students. It is not economical and viable to appoint more teachers for such schools. Moreover multigrade teaching appears to be highly economical as well as viable solutions to provide education for all. The multigrade teaching can also raise quality instruction if the teachers are trained in skills and strategies needed to teach in multigrade schools. According to David (1996) multigrade teaching when done

correctly offers many advantages. For example, the previously developed material for higher grade can be used for meeting the educational needs of gifted children who need higher level of teaching and learning material and the introductory material can be used for slow learners to make them attain atleast minimum levels of learning. This way all the children would be learning according to their pace, interest and intelligence. The instructional materials planned to meet with individual differences always have positive impact on learning and also for motivation. The multigrade teaching also promotes peer tutoring and self learning which further provides opportunity to each student to develop their specific talents. In India multigrade teaching is not done properly because most of the teachers working are not:

- \* willing to work in multigrade schools because these schools are located in remote areas.

- \* oriented in teaching and learning strategies needed for multigrade teaching.

- \* appreciating the use of local resources for making teaching and learning more effective. For example, making use of sand slates for developing writing skills, visits to fields for teaching environmental studies-II and kharia, etc. locally available material for drawing and painting purposes.

\* making use of natural environment for teaching and learning activities.

\* relating teaching and learning to practice situations.

\* making teaching and learning activities more child centred and joyful activities.

The multigrade teaching is unsystematic and ineffective in our country which leads to problem like dropout, stagnation and also raising number of learning disabled in primary section. The recent World Bank study identified three principal challenges for improving multigrade teaching.

I. Planning Science and Social Sciences curricula without content redundancy from year to year;

II. Finding, hiring and placing teachers qualified to teach in multigrade settings and

III. Convincing policy makers curriculum developers and parents that multigrade teaching can be more effective than single grade teaching.

Miguel and Eligio Barsaga (1996) from Philippines found out that multigrade classes not only found to be an important strategy for alleviating enrolment but also raised

instructional quality. Thus both access and quality of teaching improved through proper multigrade teaching. The multigrade teaching though is not a new concept for Indian teachers as this was prevailing in Madrashes and Gurukuls also, it needs systematic rethinking on developing specific training programmes for multigrade teachers both at inservice and preservice. The specially designed teacher training programmes would help them to shoulder the responsibility of effective multigrade teaching. The well trained teachers would be in position to develop teaching and learning materials suiting to the needs of learners with varieties.

This study attempted to explore the impact of five days orientation on skills and strategies needed for multigrade teaching. The handbook material developed on multigrade teaching was used for planning classroom teaching and learning strategies.

The tests developed on MLL competencies based in Kannada, Maths, EVS-I and II were used for pre- and post-testing to assess the impact on attainment of MLL competencies. The teachers were asked to use only direct teaching, monitorial assistance, peer tutoring and self learning teaching and learning strategies. They were given demonstration on these teaching strategies and were also

asked to demonstrate during orientation programme. After the orientation with the help of junior project fellow pre-tests were conducted on the selected students from selected schools from Kolar and Mandya districts of Karnataka. Teacher used these selected teaching strategies and time and space planning for about four months for developing MLL competencies in Kannada, Maths, EVS-I and II. After a gap of four months post-tests were conducted to find out the level of attainments on MLL competencies. The detailed information about method, sample, schools and research method have been given in the third chapter.

The general observations about these schools on the basis of visits made are as follows:

\* Most of the teachers are not in position to manage multigrade teaching in single rooms.

\* Noise pollution is too much with the result most of the children do not follow what the teacher or the tuitor says.

\* The children sitting behind either play or sleep in multigrade classes.

\* The teaching level in multigrade school in comparison to single grade teaching is lower.

\* Most of the teachers employed in multigrade schools belong to nearby towns and cities and do not come in time.

\* Due to lack of proper transportation facility these teachers tend to leave school earlier and do not devote school hours for teaching and learning.

\* Due to DPEP and other department activities most of them remain absent from teaching.

\* The female teachers face more problems than male teachers who are working in multigrade schools. They have been reported to be absent for longer period than the male teachers. But they have been observed more sincere and devoted towards planning teaching and learning activities.

Main objectives of the present study were as follows:

#### **Objectives**

\* To find out the impact of interventional material for improving teaching and learning in multigrade schools.

\* To find out the difference on the basis of sex and grade on attaining MLL competencies through the use of selected teaching and learning strategies.

## CHAPTER II

### REVIEW OF RELATED LITERATURE AND STUDIES

The review of related literature and studies indicate that the various aspects of multigrade teaching have been explored by researchers. The brief review of these studies is given below:

Single teacher schools have been recognised as a solid institution for imparting elementary education to the masses specially in rural areas not only in India but even in advanced countries such as USA, Australia, Sweden and U.K. (1)

(8) Dr. A.S. Altekar in his book on 'Education in Ancient India' has stated the existence of such institutions at Varanasi, Takshashila and at other places even in ancient time. The references of single teacher school even are found in the Muslim period under the name 'Maktab' where a single teacher with the help of senior students or 'Monitors' did the task of teaching.

During the British rule some attempts were made to liquidate the age old institution. In 1924 the Royal Commission on agriculture spoke in disparaging terms about such institutions. Later the Hartog Committee vehemently

criticised the institution of single-teacher schools and advocated their complete abolition. Acting on his advice many such institutions were closed down in the various parts of the country between the period 1924-30.

This step sadly resulted in reducing the facilities for primary education. However, soon after there was a turn in the tide as the British left there still existed quite a large number of such schools in rural India. Since the number of children attending school in general and particularly girls was very less so single teachers in such situation only were justified. Some years back the single-teacher primary school suddenly came into prominence as a result of the Government of India scheme to open 80,000 such schools all over the country as the first step towards providing employment to the educated unemployed. In Punjab also such schools were opened as a part of this scheme. It is recognised as all hands that in many small villages and far off areas conditions are such that only the institution of single teacher or two teacher or three teacher schools can be economically justified.

7 Mathur, V.S. (1967) has written a chapter on 'Multiple Class Teaching' in his book 'Some Issues in Indian Education'. The author has highlighted the problems faced by the teacher in teaching multigrade schools. He has given the

following suggestions for the teachers, so that they will be able to take the classes without facing problems:

\* The first two classes may be kept in the schools only for about three hours and half of this time be devoted to games and other educational activities.

\* The rigid classification of syllabus into subjects should be done away with to a certain extent so that some integration and co-ordination may be possible.

\* The time table be so arranged that one period of classwork is followed by one period of activity including hand-writing practice, map drawing, model making, puppet work and gardening.

\* The time table could be so arranged that the various classes or groups of classes have their mid-day break at different hours of the day.

6 Mandanlal (1977) in the article 'Single Teacher School' has differentiated the working situations between the single teacher schools and a multi-teacher school. He has highlighted the specific needs and responsibilities of a teacher, who has to teach more than one class simultaneously. According to him planning is very important for multigrade schools in terms of discrete use of time and

resources in accordance with the particular needs of the school.

② Srivastava (1994) in his article 'Complexity in Small Schools - Multi-grade Teaching' writes that in India multi-grade teaching is being practised in about 3,27,000 primary schools, most of these schools are in rural and tribal areas where population is scanty. The author has given the opinion that the effective methodology for class room management, group work, operational time table and self-teaching material can improve the quality of multigrade situations.

Khichi, K.S. (1986) has discussed about the single teacher school. According to him the policy decision to provide access to primary education to every child within walking distance from his/her home, has resulted in increase in number of enrolment of children in small schools. Since the number of enrolled children being very small in these schools, only one teacher has appointed to teach five classes simultaneously. The author feels that the single teacher schools provides opportunities to children for self-learning, learning from each other, co-operative learning in groups, developing confidence and qualities of leadership and other values.

The author has suggested that teachers of multigrade schools should adopt variety of strategies as per require-

ments of the situations and develop innovative plans for organisation and management of classes. The author has also given suggestions for space management for different classes and placement of teaching aids including blackboard and designing the time table which should provide for flexibility and readjustment from time to time.

Muralidharan, R. and Goyal, B.R. (1993) has conducted a study on the development of teacher competencies in multigrade teaching schools. The objectives of the study were to identify the level of competencies of children studying in classes I to V in the selected multigrade teaching schools; teaching skills of practising teachers; status and use of materials available in the school; teaching aids; gaps in the teacher competencies to deal efficiently in the such situations and to develop an orientation programme for the school teachers.

A total number of 188 children from 10 schools located in Mirzapur district of Uttar Pradesh were selected for this study. Out of these 115 were boys and 73 were girl students. Data was collected by the use of tools specially developed for this study. Field survey was the modus for conducting the study. Pupils' Achievement Tests were administered either individual or in small groups. Interview method was adopted to collect the information about

classroom interaction, availability of resources in the school, problems of teachers and children, etc. The school records were also studied to find out the enrolment and attendance of children.

The major findings of the study were:

\* The incidence of multigrade teaching is as high as 75% in the primary schools in India.

\* The average picture is two teachers five grades teaching situations.

\* The present elementary teacher educator system does not include multi-grade teaching in the practice teaching

\* Special attention is needed in this direction to motivate and develop practical teaching skills in teachers.

④ Sujatha, K. (1995) conducted a study on effectiveness of tribal teachers in Andhra Pradesh. The report of this study gives information about the origin of single teacher schools in tribal areas in Andhra Pradesh; the process of teacher recruitment, orientation, their school and educational profile and in-service training. Sample comprised 325 single teacher schools in East Godavari District and 160 single teacher schools in Khammam district.

Results obtained indicates that the standard of teaching learning is poor because of the lack of pedagogical

training and inadequate subject knowledge. Relaxation of educational qualifications and training for tribal teachers affects the quality of teaching-learning process.

A close observation of the classroom teaching in selected schools, however, shows that the tribal teachers having higher educational level with the pre-service and inservice training are better in terms of transacting the curriculum.

③ Nagaraju, C.S. (1995) conducted a study on 'Minimum Levels of Learning in Multigrade Context', in Karnataka State. The study addresses the issues related to the introduction of Minimum Level of Learnings in rural schools. It reviews the curricular structure implied in the syllabus as presently practised and redefines the curricular structure and processes in terms of MLLs in rural contexts adopting action research strategy.

The experiment was carried out in three phases; in the first phase during 1991-92, the initial achievement survey was conducted, the second phase was devoted to the development of teachers hand book and their tryout and third phase concentrated on the intervention and post-testing in 1994-95.

A representative sample of 184 rural schools from Tumkur District of Karnataka was selected to administer a

MLL based criteria test, ninety-four schools categorised as poor on the basis of above tests were chosen for intervention.

Out of these 94 schools 62 had four standards and were taught by single teacher and the remaining 32 had I to VII standards which were taught by four or less than four teachers. During the intervention stage 43 single teacher schools had acquired a second teacher under operational blackboard (OB) scheme. The MLL criterion tests were administered in 79 of these 94 schools and these formed the pre-test sample.

The intervention programme touched all aspects of schools including class structure and procedures in two teacher schools. A set of teacher's guide were prepared and teachers of selected schools were oriented.

One day training programmes were conducted with a gap of two months between each training using both expert demonstration and peer demonstration techniques. At the end of the academic year post tests were carried out. The results indicated a positive impact of the intervention on the school performance.

The article 'Bahu Shreni Shikshan' (multigrade teaching)(1995) explains, the concept and need of multigrade

teaching. This article focusses on three important features of this process

- seating arrangement
- time schedule and
- teaching processes

According to the author the seating arrangement in multigrade setting should be conducive for concentration of students on studies. In a multigrade situation a teacher can utilize his time optimally alternating teaching time for each class with peer leader supervision and self-study sessions.

This article also emphasises on the identification of suitable content and examples for multigrade teaching keeping in mind the socio-economic background, psychological and educational needs of children to meet educational objectives and social expectations.

The author suggests that skill of observation social co-operation should be encouraged amongst children at primary level.

Raghavendra K. Kulkarni (1996) has conducted a study on 'Classroom Practises and Problems Faced in Multigrade Teaching by Primary School Teachers of DPEP Districts in Karnataka'.

The main objectives of the study were

- \* To study the location, physical and material facilities available in the schools with multigrade teaching in DPEP districts of Karnataka.

- \* To study the teachers working in the schools with multigrade teaching in relation to (i) gender, (ii) domicile, (iii) qualifications, (iv) experience, (v) training received in multigrade teaching, (vi) willingness to continue in multigrade context.

- \* To study the instructional practices in the followed schools with multigrade teaching.

- \* To identify the instructional and classroom organisational problems faced by teachers in multigrade context.

- \* To identify the type of help received from community in terms of administrative, instructional material and finance contribution.

This study was conducted in three DPEP districts of Karnataka, Raichur, Belgaum and Mandya. 43 schools with multigrade teaching covering 66 teachers constituted the sample for this study.

Data was collected through the use of a questionnaire, a checklist and diary maintained by the investigator.

The following are the major findings of the study:

\* Most of the schools with multigrade teaching are located in remote areas.

\* There is a lack of physical and material resources in schools.

\* Almost all the teachers in schools with multigrade setting are males.

\* Majority of the teachers possesses a minimum qualification of having passed SSLC TCH examination.

\* There is no definite pattern of class combination practised by teachers.

\* Most of the teacher prefer Direct Teaching and Supplimentary Material.

\* Most of the teacher explicated that, prescribed syllabus cannot be completed within time.

\* Teaching suffer heavily in a two teacher school when either of the teacher proceeds on leave.

\* Individual attention is not given to weak children.

\* Teachers feels that it is difficult to maintain discipline in multigrade teaching context.

All these studies provide information about the problems faced by single teachers in handling multigrade teaching at primary level but this study attempts to explore the possibilities of improving the quality of teaching and learning in multigrade setting by developing handbook on multigrade teaching. This handbook provides details on how to organise teaching and learning activities by using given time and space adequately. Sharma, Premalata et al. (1996) found out that the orientation of primary school teachers on how to plan teaching and learning strategies along with the use of handbook on multigrade teaching helped single teachers in raising academic achievement of the students in Kannada, Maths, EVS-I and II of classes II to IV studying in the single teacher schools. Details about sample and research methodology are given in Chapter III of this report.

### CHAPTER III

#### METHODOLOGY

The sample selected was taken from different multigrade schools located in Mandya and Kolar districts. Initially II multigrade schools were selected but due to some technical reasons only five multigrade schools were finally selected for the study. The list of these schools are as follows:

1. Mudalakoppal, Mandya district
2. Jayanthi Nagar, Mandya district
3. Besagarahalli, Mandya district
4. Alsoor Dhinne, Kolar district
5. Guntipalli, Kolar district

**Sample size:** The sample comprised of 130 students from classes II to IV drawn from five different multigrade schools selected from Mandya and Kolar districts. Out of 130 students, 72 students were male and remaining 58 were female students. The details of the male and female students of classes II, III and IV has given in Table 1.

**Table 1**

Class	Male	Female
II	30	22
III	22	22
IV	20	14
Total	72	58

The details of the total number of students taken from each school are as follows:

**1. Mudalakoppal, Mandya district**

Class	Male	Female
II	7	6
III	4	6
IV	3	4
Total	14	16

**2. Jayanthi Nagar, Mandya district**

Class	Male	Female
II	4	4
III	5	1
IV	2	2
Total	11	7

**3. Beerappanahalli, Kolar district**

Class	Male	Female
II	3	2
III	3	2
IV	2	2
Total	8	6

**4. Alsoor Dhinne, Kolar district**

Class	Male	Female
II	6	3
III	5	5
IV	3	1
Total	14	9

**5. Guntipalli, Kolar district**

Class	Male	Female
II	10	7
III	5	8
IV	10	5
Total	25	20

**Tests and Methods**

Minimum level competency based achievement tests were prepared for first Language, that is, Kannada, Maths, EVS-I and II for classes II, III and IV to assess MLL competencies attainment levels before and after interventional programme. These tests of MLL competencies were developed, translated in Kannada and tried out by the help of DMS teachers.

Each test includes multiple choice questions, true or false, matching the following type, one word answers; identifying the figures, labelling the parts of a given diagram, etc. (Cf. Appendices 2, 3 and 4 of the report for more details on these tests).

For IInd standard the test papers were developed in Kannada, Maths and EVS I and II integrated and for class III and IV test papers were on Kannada, Maths, EVS I and II separately.

These tests were used as pretest to assess the attainment of minimum levels of learning in each subject. After the pretest the experimental material (interventional programme) prepared on skills and strategies for teaching various subjects in multigrade schools were used with the help of multigrade teachers. These teachers were given orientation on using the handbook on multigrade teaching. The teachers were asked to use direct teaching, peer tutoring, monitorial assistance, self study activities for helping the students to achieve minimum levels of learning in each content area. The junior project fellow monitored and provided necessary support for using the selected strategies. After the gap of four months, these tests were again used as post-test to see the impact of the experimental materials on attainment of minimum level of learning by these students selected for this study.

### **Test Administration**

The pre-tests were administered in a group for all the classes simultaneously with the help of multigrade teachers. The children were given instructions on how to perform itemwise on each test. The question papers distributed were having sufficient space for writing answers.

Before starting the test, the children were instructed or about how to answer the tests. Doubts raised were cleared. The instructional material was prepared for the teachers and was given to them during the administration of pre-test. The teachers were given guidance on how to use the instructional material in their regular curriculum. After a gap of four months, to see the impact of the interventional programme these tests were administered as post-test following same procedures as mentioned earlier to know the impact of interventional strategies used on multigrade teaching.

The description of the tests used subject and class wise is given below:

### **Description of Tests**

MLL competencies based tests were developed for first language, Maths, Environmental Studies-I and II for

classes II to IV to assess the level of attainments of MLL competencies by students studying single, two and three teachers schools of Kolar and Mandya districts of Karnataka. The details of these tests are as follows.

**1. Class II: Kannada Test:** MLL competency based Kannada test was developed for IInd standard. Total scores for right responses are 25 and the maximum time allotted was 45 minutes

There were total 12 main questions, each main question comprised of sub-questions within. Questions framed were of different types. The students were asked to answer in the question paper itself. For this space was provided.

**2. Class II: Maths Test:** MLL competency based maths test was framed for 25 marks and the time duration given was for an hour to the IInd standard students.

The test comprised of 11 questions, and each question had subquestions within. The children were asked to answer in the question paper itself.

**3. Class II: EVS I and II:** MLL competency based EVS-I and II was developed for 50 marks for class second and the time allotted was for two hours. This test comprised of 17 items which involves both EVS I and II. The test items were

based on MLL competencies of EVS-I and II. These 17 items had subquestions within. The students were asked to write their answers on the question paper itself.

For the IIIrd standard students also MLL competencies based tests were administered.

**1. Class III - Kannada Test -** MLL competency based Kannada test was prepared to assess the pre-requisites of the students and to know the impact of interventional programme provided to them through selected teaching and learning strategies. There were 16 items in this test.

**2. Class III - Maths Test:** MLL competency based Maths test for IIIrd standard was framed for 50 marks and the time duration was for an hour.

The paper comprised of 25 questions and had subquestions within, variety of questions were framed. The children were asked to answer in the question paper itself.

**3. Class III - EVS-I:** MLL competency based EVS-I test for class III was framed for 50 marks and the time duration was given for two hours.

This paper had two sections: Part-A and Part-B, Part-A comprised of 10 main questions with subquestions. Part-B comprised of 11 main questions within subquestions

within. Variety of questions were framed. Students were asked to answer in the same paper itself.

**4. Class III - EVS-II Test:** MLL competency based EVS-II test for class III was prepared for 50 marks and the time duration given was for two hours.

This test comprised of 20 questions which are competency based test items. These 20 questions had subquestions within. Students were asked to answer in the same question paper itself.

**1. Class IV - Kannada Test:** MLL competency based Kannada test for IVth standard was developed for 25 marks and time duration given was for 45 minutes.

There were about 13 questions which comprised of subquestions. The students were made to answer in the question paper itself.

**2. Class IV - Maths Test:** MLL competency based Maths test was designed for IVth standard for 100 marks and time duration given was for three hours.

There were about 100 questions, which comprised of subquestions. Space was provided for the answering the questions in the question paper itself.

**3. Class IV - EVS-I:** MLL competency based EVS-I test for VIth standard was developed for 25 marks and the time duration given was for 45 minutes.

This paper comprised of eight main questions which has subquestions. The students were asked to answer in the question paper itself.

**4. Class IV - EVS-II Test:** MLL competency based EVS-II test for IVth standard was prepared for 50 marks and the maximum time given was for two hours.

This test comprised of 25 questions which has subquestions. The students were asked to answer in the question paper itself.

The test items were framed on the basis of MLL competencies covered by teachers in each content area. These tests were tried out on DMS students for knowing the difficulty levels. The revised version of the tests were translated and used for this study.

CHAPTER IV  
RESULTS AND DISCUSSION

The results obtained from data collected from five multigrade schools selected for study are discussed in this chapter. The data related to pre- and post-testing subject, sex and classwise are given in the tables listed below. The 't' values for boys and girls classwise and subjectwise are calculated to know the performance of students on pre-and post-tests.

I. RESULTS OF MULTIGRADE SCHOOLS SUBJECT AND CLASSWISE

The table 1 given below gives details of mean scores and SD and 't' values of pre- and post-tests in Kannada of boys and girls studying in II, III and IVth standards in the five selected multigrade schools of Kolar and Mandya districts of Karnataka.

Table 1

Mean, SD and 't' values on Kannada pre and post tests of boys and girls of II, III and IV standards

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	63.03	76.87	60.59	70.14	8.86	10.78	9.96	11.78	5.43	2.59
III	69.72	76.50	69.24	75.88	10.32	8.74	13.19	13.13	2.35	1.47
IV	70.00	77.70	64.50	73.93	11.55	8.86	16.59	15.10	0.42	1.57

The details given in table 1 show that there is significant difference in mean scores of pre- and post-tests of boys and girls studying in II, III and IV standards in the five multigrade schools as the mean score for boys of II<sup>nd</sup> class for pre- and post-tests are 63.03 and 76.87 respectively where as for girls it is 60.59 and 70.14. This shows that the teaching and learning strategies used have helped in raising their performance on post-testing. For III<sup>rd</sup> standard boys mean scores are 69.72 and 76.50 and for girls 69.24 and 75.88. For IV<sup>th</sup> standard the mean scores on pre-and post-test are 70.00 and 77.70 for boys and 64.50 and 73.93 for girls (cf table 1 for more details). The 't' values indicate that the interventional programme and use of handbook by the multigrade teachers was very useful and effective for II<sup>nd</sup> class students for learning first language in multigrade setting. The 't' value is significant at 0.01 level. For III<sup>rd</sup> standard students, the 't' value for boys is higher than 't' value for girls that is 2.35 for boys and 1.47 for girls. This means the interventional material was more effective for boys than girls. The studies show that the language learning is faster and better among girls than boys (Srivastava, 1967; Sharma, 1983). The finding of this study is not in the agreement of these studies. This may be due to the absence of girls from schools as they are retained at home for domestic work. The

't' values for student of IVth standard studying in multigrade schools indicate that the performance of girls on post-test is better than the boys and the 't' value for both girls and boys are not significant at 0.01 level. This finding is in agreement with the findings of those studies which found out that the academic performance of both boys and girls in multigrade teaching is poor. This may be due to the absence of teachers from schools for attending academic and personal work. In remote areas there are not proper transportation as well as medical facilities due to this the single teacher finds difficult to attend school duties regularly. There is also a feeling among teachers that the students are good in their home language and would perform better on their mother tongue than other subjects therefore they do not take teaching of first language seriously. However it can be concluded that performance of both boys and girls on post-test is better than pre-test. Hence it can be stated that the use of selected skills and strategies has helped these students to do better.

The table 2 gives details about pre- and post-tests performance of boys and girls on Mathematics test class and sex wise from five multigrade schools. The mean scores, standard deviation and 't' values have been listed in this table.

**Table 2**  
**Mean, SD and 't' values on Mathematics pre and post-tests of**  
**boys and girls of II, III and IV standards**

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	49.43	60.57	48.27	59.04	13.19	12.85	12.93	14.57	4.12	2.59
III	54.68	62.91	54.59	58.24	8.77	7.30	9.95	9.78	3.39	1.08
IV	54.25	61.75	49.14	58.43	13.13	12.23	11.24	13.31	1.87	1.99

The table-2 shows that the overall performance of both boys and girls from classes II, III and IV are better on post-test in Mathematics. This means the use of selected skills and strategies by multigrade teachers have helped them to raise their MLL competencies attainment levels in Mathematics. In comparison to girls, boys have performed better on post-test (cf Table-2 for more details).

't' value for IInd standard boys on pre- and post-tests is significant at 0.01 whereas for IInd standard girls it is not significant. This means boys were benefitted more with the use of interventional programme than the girls. Similarly the t value for IIIrd standard boys is significant at 0.05 level and for girls it is not significant. This

indicates that the girls from IInd and IIIrd standards inspite of better post-test performance could not attain MLL competencies equivalent to boys of their grades. But the 't' values for IVth standard boys and girls are not significant which means the performance of both boys and girls on post-test is not good. This may be due to the teacher's inability to use appropriately the content and methodology as most of the teachers working in multigrade schools are SSLC with two years training programme. Some of them do not have sufficient mastery of the subjects such as Maths and Science. They are also not much aware of the latest developments in the content areas. Moreover there is feeling that the girls are generally poor in learning abstract concepts than boys (Sharma, 1983).

The pre- and post-tests were administered in EVS-I and the results are listed in table-3.

**Table 3**

**Mean, SD and 't' value on pre- and post-test of EVS-I of boys and girls from classes II-IV**

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	58.03	71.93	55.41	72.59	11.71	7.62	12.26	12.70	4.66	4.57
III	54.60	67.09	56.29	68.24	11.04	9.13	8.66	7.33	4.10	1.58
IV	54.00	62.60	48.93	61.00	13.94	12.12	19.13	17.79	2.08	1.73

From the table-3, it appears that the performance of both boys and girls from classes II, III and IV is better than pre-test. This means the experimental treatment helped them to attain better MLL competencies in EVS-I but the t values for classes II and III for boys only are significant at 0.01 level and the rest of the 't' values both for boys and girls are not significant (cf table 3 for more details). This means the use of selected teaching skills and strategies did not help the girls of III and IVth standards significantly and boys of IVth standard studying in multigrade schools. This may be due to long absence of IIIrd and IVth standard boys and girls from school as the older children are retained at home for domestic work or may be these students might have been used for teaching lower grades in multigrade schools.

Below table-4 gives details of mean, SD and 't' value of pre- and post-tests in EVS-II of boys and girls from multigrade schools.

Table 4

Mean, SD and 't' value on pre- and post-test of EVS-II from classes II, III and IV of multigrade schools

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
III	61.86	72.68	58.41	71.24	8.82	7.09	9.35	7.66	4.49	4.38
IV	60.90	67.35	58.21	65.99	9.9	7.69	16.65	13.79	2.30	1.34

Environment studies II is taught as a separate subject from class III and it is part of EVS-I upto class II so the results of pre- and post-tests in EVS-II for classes III and IV are discussed here.

The mean values for pre- and post-tests for boys on EVS-II of IIIrd standard are 61.86, 72.68 and for IVth standard 60.9, 67.35. The mean scores of boys are higher on post-test of both standards. The mean values of pre- and post-tests for girls for class IIIrd and IVth are 58.41, 71.24 and 58.21, 65.93. The performance of girls on post-test are better which shows that the teaching and learning strategies used for developing MLL competencies are effective. The t values for IIIrd standard boys and girls are significant at 0.01 level, where as 't' values for IVth standard both boys and girls are not significant (cf table-4 for more details).

Hence the comparison of pre- and post-tests results given above in tables 1, 2, 3 and 4 on Kannada, Mathematics, EVS-I and EVS-II of students of classes II, III and IV from multigrade schools indicate that the performance of lower classes students in general are better than the students from higher classes. And the performance of the girls on post-tests are better on Kannada and EVS-I than the boys. And the performance of boys are better on Mathematics and EVS-II than girls of II, III and IVth standard from multigrade schools of Kolar and Mandya districts. The 't' values on pre- and post-tests scores of both boys and girls on Kannada are significant only for IInd standard at 0.01 level. The 't' values on Mathematics are significant for boys of IInd and IIIrd standards.

The 't' value for boys of IInd standard is significant at 0.01 level and for IIIrd standard boys at 0.05 level, whereas no 't' value for girls for Mathematics are significant. This shows that girls are poorer in Mathematics learning than boys. The 't' value of IInd standard for both boys and girls on EVS-I are significant at 0.01 and for IIIrd standard 't' value on pre-and post-tests is significant only for boys at 0.01 level and for girls it is not significant which shows that the teaching and learning strategies used were more effective for boys than girls. This may be due to the fact that most of the time girls are retained at home for domestic work and have limited time to do their study work.

We have discussed so far pre- and post-tests performance subjectwise and classwise, now we shall discuss schoolwise.

## II. RESULTS OF MULTIGRADE SCHOOLS, SCHOOLWISE

The results obtained from the selected school are discussed here. The table 5 gives details about the mean scores, SD and 't' values of pre- and post-tests in Kannada of boys and girls of II, III and IVth standards of multigrade school no. I. The identity of the schools is kept confidential and these schools would be numbered 1 to 5. School wise results are discussed below.

### 1. School No. 1

Table 5

Mean, SD and 't' values of pre- and post-tests in Kannada of boys and girls of school no. I

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	60.71	76.00	55.00	64.00	9.21	15.00	10.20	11.87	6.74	4.83
III	61.00	61.20	62.00	63.50	20.82	2.58	20.96	15.83	0.00	0.23
IV	65.33	70.67	54.00	60.25	16.17	11.02	25.61	22.31	1.60	2.87

The table shows that there is no significant difference between means of pre- and post-tests scores of boys and girls of classes III and IV of this school. There

is a significant difference between means of pre- and post-tests scores of boys and girls of class II. The second standard students both boys and girls improved in their performance on post-test in Kannada as the 't' values are significant at 0.01 level where 't' values for IIIrd and IVth standard boys and girls are not significant from school no. 1. This means only IInd standard students' learning could be improved by using interventional material in this school.

Table 6

Mean, SD and 't' values of pre- and post-tests in Mathematics of boys and girls of school no. I

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	42.86	53.57	39.33	48.67	1.57	4.43	2.16	3.01	5.96	9.78
III	63.00	66.25	58.00	63.83	14.47	11.18	15.60	15.51	1.16	4.17
IV	34.00	38.00	39.50	43.25	24.33	24.43	7.72	7.00	6.93	4.39

From the table-6 it can be stated that there is no significant difference between means of pre- and post-tests of boys and girls from class III. There is a significant difference between means of pre- and post-tests scores of boys and girls of IInd and IVth standards. The 't' values are significant both for boys and girls at 0.01.

**Table 7**

**Mean, SD and 't' values of pre- and post-tests in EVS-I of boys and girls of school no. I**

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	62.14	74.00	62.00	84.00	6.94	5.16	2.10	2.90	7.37	9.19
III	53.75	62.00	60.16	66.61	5.56	5.16	1.21	1.63	5.75	9.14
IV	30.00	41.33	23.50	36.75	11.14	7.78	5.75	3.50	3.83	6.86

It appears from table-7 that there is no significant difference between means of pre- and post-test of boys from class IV. There is a significant difference between the means of pre-test and post-tests of boys and girls of class II and of girls of classes III and IV at 95% and 99% level of significance. There is a significant difference between means of pre- and post-tests of boys of class III at 95% level only.

**Table 8**

**Mean, SD and 't' values of pre- and post-tests in EVS-II of boys and girls of school no. I**

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
III	65.00	76.50	59.33	69.00	7.02	5.75	7.90	9.45	9.14	11.46
IV	65.33	68.67	51.50	47.00	0.94	0.94	23.17	19.61	4.34	3.00

Table-8 indicates that there is no significant difference between means of pre- and post-tests of boys and girls in class-IV. There is a significant difference between means of pre- and post-test in class III. In comparison to pre- and post-tests performance on Kannada, Mathematics the performance of both boys and girls on EVS-I and II in general is better.

2. SCHOOL NO. 2

Table 9

Mean, SD and 't' values of pre- and post-tests in Kannada of boys and girls of school no. 2

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	61.00	79.50	65.75	74.75	1.16	5.26	1.71	3.40	6.19	5.06
III	71.20	83.60	72.00	86.00	4.60	2.60	0.00	0.00	4.23	14.00
IV	66.00	80.00	58.00	70.00	8.49	5.66	5.66	8.49	7.00	6.00

Table-9 reveals that there is significant difference between means of pre- and post-test of boys and girls of class IV. There is a significant difference between means of pre- and post-tests of boys and girls of class III and class II. The 't' values are significant for all classes at 0.01 level for both boys and girls of this school.

Table 10

Mean, SD and 't' values of pre- and post-tests in Mathematics of boys and girls of school no. 2

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	43.00	54.00	40.00	51.25	4.16	3.74	2.83	2.50	26.94	15.00
III	47.00	60.00	47.00	54.00	1.87	4.47	0.00	0.00	4.95	7.00
IV	48.00	56.00	46.00	61.00	0.00	2.00	1.00	1.00	5.66	15.00

Table-10 shows that there is significant difference between means of pre-test and post-test of the girls of IInd, IIIrd and IVth standards of this school. The girls performance from classes II, III and IV in comparison to boys of this school is better as the 't' values are very significant (cf. table 10 for more details).

Table 11

Mean, SD and 't' values of pre- and post-tests in EVS-I of boys and girls of school no. 2

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	43.25	60.50	38.00	49.50	1.71	5.26	1.83	6.03	8.90	4.54
III	51.60	63.00	58.00	66.00	5.68	2.55	0.00	0.00	4.97	8.00
IV	43.00	63.00	44.50	64.00	2.00	2.00	0.50	0.00	10.00	7.98

From table-11 it can be stated that there is a significant difference between means of pre- and post-tests of boys and girls of classes II and IV. The boys performance is better than girls (cf. table 11 for more details).

Table 12

Mean, SD and 't' values of pre- and post-tests in EVS-II of boys and girls of school no. 2

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
III	54.60	63.20	49.60	60.00	7.73	4.15	0.00	0.00	4.18	11.00
IV	62.50	67.50	68.00	71.50	7.78	3.54	1.41	0.71	1.67	7.00

Table-12 suggests that there is significant difference between means of pre- and post-tests of girls and boys of class-III as the 't' values are significant at 0.01 level, the 't' value for boys of IVth standard are not. The performance of girls in general is better than boys on EVS-II from this school.

### 3. SCHOOL NO. 3

Table 13

Mean, SD and 't' values of pre- and post-tests in Kannada of boys and girls of school no. 3

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	53.33	69.33	52.00	62.00	6.11	6.11	5.66	2.83	2.62	5.00
III	78.67	82.67	68.00	84.00	4.62	6.11	5.66	5.66	1.73	0.50
IV	56.00	70.00	66.00	82.00	5.66	8.49	2.83	2.83	7.00	2.00

From table-13 it can be stated that there is no significant difference between means of pre- and post-tests of boys and girls of classes III and girls from class IV. There is a significant difference between means of pre-and post-tests of girls of class II at 0.01 level and for boys of class-IV at 0.01 level.

**Table 14**

**Mean, SD and 't' values of pre- and post-tests in Mathematics of boys and girls of school no. 3**

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	41.33	56.00	48.00	58.00	12.22	14.42	0.00	2.83	11.00	5.00
III	54.67	68.00	48.50	54.00	6.11	8.00	0.71	2.83	10.00	4.66
IV	40.00	43.50	40.50	50.00	2.83	0.71	0.71	0.41	2.33	6.33

Table-14 reveals that there is no significant difference between means of pre-test and post-tests of boys of class IV and girls from class III. There is a significant difference between means of pre-and post-tests of boys and girls of classes II and III at 0.01 and 0.05 level.

Table 15

Mean, SD and 't' values of pre- and post-tests in EVS-I of boys and girls of school no. 3

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	44.00	76.00	44.00	72.00	2.00	2.00	2.83	8.49	16.00	7.00
III	40.00	56.67	47.00	55.00	14.42	7.02	4.24	1.41	2.81	2.00
IV	72.00	82.00	68.00	80.00	5.66	2.83	5.66	11.31	5.00	5.00

From table-15 it can be concluded that there is a significant difference between the means of pre- and post-tests of boys and girls of classes II and IV as the 't' values are significant but the 't' value for girls of IVth standard is significant at 0.05 level. And the 't' values for both boys and girls of IIIrd standard are not significant.

Table 16

Mean, SD and 't' values of pre- and post-tests in EVS-II of boys and girls of school no. 3

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
III	68.00	80.00	59.00	66.00	16.00	16.00	2.00	8.00	0.00	1.00
IV	38.50	56.50	37.00	55.50	4.95	7.78	1.41	2.12	9.00	37.00

The table-16 indicates that there is no significant difference between means of pre- and post-test of boys and girls from class III. There is a significant difference between means of pre- and post-tests of girls of class IV as the 't' values are significant at 0.01 level.

4. SCHOOL NO. 4

Table 17

Mean, SD and 't' values of pre- and post-tests in Kannada of boys and girls of school no. 4

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	57.33	70.67	53.33	60.00	6.53	11.78	4.62	4.00	5.26	5.00
III	68.80	77.60	-	-	6.57	4.56	-	-	5.88	-
IV	64.00	73.33	52.00	72.00	14.42	12.22	0.00	0.00	7.00	20.00

Table-17 shows that there is a significant difference between means of pre- and post-tests of boys of classes II, III and IV as the 't' values are significant at 0.01. There is a significant difference between means of pre-and post-tests of girls of classes II and IV as the 't' values are significant at 0.01 level.

Table 18

Mean, SD and 't' values of pre- and post-tests in Mathematics of boys and girls of school no. 4

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	37.17	47.00	36.00	44.33	2.14	2.53	1.00	3.21	9.13	4.11
III	56.40	64.80	-	-	6.12	7.05	-	-	16.47	-
IV	39.33	51.33	45.00	58.00	3.05	3.79	0.00	0.00	20.78	13.00

From table-18 there is a significant difference between means of pre- and post-tests of boys of classes II, III and IV at 0.01. There is a significant difference between means of pre- and post-tests of girls of class IV as the 't' values are significant at 0.01 level and for class II it is at 0.05 level.

Table 19

Mean, SD and 't' values of pre- and post-tests in EVS-I of boys and girls of school no. 4

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	72.33	80.33	74.67	78.67	10.07	4.80	4.62	3.06	3.45	1.25
III	67.20	74.20	-	-	7.56	8.61	-	-	5.53	-
IV	61.33	68.00	72.00	80.00	4.62	4.00	0.00	0.00	5.00	8.00

It appears from table-19 that there is no significant difference between means of pre- and post-tests of girls of classes II and III. There is a significant difference between means of pre- and post-tests of boys of classes II at 0.05 level. There is a significant difference between means of pre- and post-tests of boys of classes III and IV at 0.01 and 0.05 levels. The 't' value for girls of IVth standard is also significant at 0.01 level.

Table 20

Mean, SD and 't' values of pre- and post-tests in EVS-II of boys and girls of school no. 4

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
III	66.40	75.00	-	-	3.56	3.87	0.00	0.00	3.66	0.00
IV	54.67	62.67	51.00	65.00	3.06	5.69	0.00	0.00	3.84	3.84

Table-20 gives indication that there is a significant difference between means of pre- and post-tests of boys of classes III and IV as the 't' values are significant. There is significant difference between means of pre- and post-tests of girls of class-IV as the 't' value is significant at 0.05 level.

5. SCHOOL NO. 5

Table 21

Mean, SD and 't' values of pre- and post-tests in Kannada of boys and girls of school no. 5

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	70.80	77.40	74.38	81.88	4.21	4.88	2.56	2.17	5.66	10.61
III	76.80	82.20	77.40	83.60	6.94	5.85	3.58	1.67	4.67	3.97
IV	57.33	70.67	53.33	60.00	6.53	11.78	4.62	4.00	9.32	8.30

Table-21 shows that there is a significant difference between means of pre- and post-test of boys and 't' values are significant at 0.01. And for girls 't' values for IIInd and IVth standards are significant at 0.01 level and for class III it is significant at 0.05 level.

Table 22

Mean, SD and 't' values of pre- and post-tests in Mathematics of boys and girls of school no. 5

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	55.00	58.20	54.50	56.88	3.87	3.27	4.87	4.76	5.49	12.98
III	65.90	72.80	62.40	73.00	5.95	4.49	2.51	1.87	5.64	20.79
IV	37.17	47.00	36.00	44.33	2.14	2.53	1.00	3.22	12.13	9.09

significant difference between means of pre- and post-tests of girls of classes II, III and IV as 't' values are significant at 0.01 level. Similarly all 't' values for boys of classes II, III and IV are significant at 0.01 level which means both boys and girls from this school got maximum benefit of the interventional programme.

Table-22 indicates that there is a significant

difference between means of pre- and post-tests of girls of classes II, III and IV as 't' values are significant at 0.01 level. Similarly all 't' values for boys of classes II, III and IV are significant at 0.01 level which means both boys and girls from this school got maximum benefit of the interventional programme.

Table-23 indicates that there is a significant difference between means of pre- and post-tests of boys and girls of school no. 5

Mean, SD and 't' values of pre- and post-tests in EVS-I of boys and girls of school no. 5

Class	Mean				Standard deviation				Boys	Girls
	Boys		Girls		Boys		Girls			
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
II	56.70	60.80	54.71	73.57	6.13	5.43	6.10	4.35	6.45	16.50
III	55.00	76.00	55.13	73.00	7.45	1.00	11.17	6.46	6.61	3.12
IV	57.60	63.40	69.60	75.20	7.07	6.82	2.07	3.35	5.51	6.89

From table-23 it can be stated that there is a significant difference between means of pre- and post-tests of boys of classes II, III and all as 't' values are significant at 0.01 level. There is a significant difference between means of pre- and post-tests of girls of classes II, and IV at 0.01 level and for class III at 0.05 level.

Table 24

Mean, SD and 't' values of pre- and post-tests in EVS-II of boys and girls of school no. 5

Class	Mean				Standard deviation				't' values	
	Boys		Girls		Boys		Girls		Boys	Girls
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-		
III	57.20	72.00	61.50	73.13	12.80	6.04	10.45	4.05	2.31	3.77
IV	71.80	82.20	69.60	75.20	4.42	5.85	2.07	3.35	2.14	6.89

From table-24 it can be stated that there is no significant difference between means of pre- and post-test of boys of classes III and IV. There is a significant difference between means of pre- and post-test of girls of classes IV at 0.01 level and for class III at 0.05 level.

### III. COMPARISON OF RESULTS OF FIVE MULTIGRADE SCHOOLS SUBJECTWISE

#### A. KANNADA

The 't' values of pre- and post-tests on Kannada, Mathematics, EVS-I and II of boys and girls from the five selected multigrade schools gives results in details, subjectwise:

Table 25

't' values on pre- and post-tests in Kannada of students from five multigrade schools

	School 1		School 2		School 3		School 4		School 5	
	Boys	Girls								
II	6.74	4.83	6.19	5.06	2.62	5.00	3.26	5.00	5.66	10.60
III	0.00	0.23	4.23	14.00	1.73	0.50	5.88	0.00	4.67	3.97
IV	1.60	2.87	7.00	6.00	7.00	2.00	7.00	20.00	9.32	8.30

The persual of the table-25 indicates that the 't' values are higher on post-test of boys of IVth standard of school no. 2, 3, 4 and 5 in comparison of boys from school no. 1. And the performance of boys of IVth standard from school no. 5 on post-test in Kannada is the highest that is 9.32. All the 't' values for class-IV from school no. 2, 3, 4 and 5 for boys are significant at 0.01 level, but the 't' values for boys for classes III and IV from school no. 1 are not significant which means there is no significant difference between pre-and post-test of boys in Kannada from this school. The 't' values for girls of IVth standard of school no. 4 is highest that is 20. The 't' values for girls for class IV from school no. 2, 4 and 5 are significant at 0.01 level whereas 't' values from school nos. 1 and 3 are not significant.

For class IIIrd the 't' values are significant for boys from school nos. 2, 4 and 5 at 0.01 level and 't'

values for boys from school nos. 1 and 3 are not significant which means the boys of IIIrd standard from school nos. 1 and 3 could not be benefitted through the interventional programme in Kannada. The 't' values for girls from IIIrd standard from school no. 2 is highest and significant at 0.01 level whereas 't' values for IIIrd standard girls in Kannada are not significant from school nos. 1, 3, 4 and 5.

The boys of IInd standard from school nos. 1, 2 and 5 did better on post-test as the 't' values for schools nos. 1, 2 and 5 are significant for boys at 0.01 level. This means the interventional programme could help them to attain MLL competencies better.

The 't' values from school nos. 3 and 4 for IInd standard boys are not significant. The 't' values of girls from IInd standard are significant at 0.01 level from school nos. 1, 2, 3, 4 and 5. This means the interventional programme was more effective for Kannada learning for IInd standard students and particularly of girls.

The overall performance of boys and girls from school nos. 2 and 5 is better than school nos. 4, 3 and 1. It appears that the teachers of school nos. 2 and 5 took lots of care in using interventional programme and the students also may be more motivated in comparison to other

schools. The performance of students from multigrade schools from Kolar district is better on post-test of Kannada than the students from multigrade schools from Mandya district of Karnataka.

This comparison can help language planner to suggest better instructional strategies in the light of specific language difficulties faced by students studying Mandya district.

#### B. MATHEMATICS

The 't' values on pre- and post-tests in Mathematics of students from five multigrade schools selected for this study are given in table-26.

Table 26

't' values on pre- and post-test of Mathematics of students from five multigrade schools

	School 1		School 2		School 3		School 4		School 5	
	Boys	Girls								
II	4.12	2.59	5.96	9.78	26.94	15.00	11.00	5.00	9.13	4.11
III	3.39	1.08	1.16	4.17	4.95	7.00	10.00	3.66	16.47	0.00
IV	1.87	1.99	6.93	4.39	5.66	15.00	2.33	6.33	20.78	13.00

From the table-26 it can be stated that the performance of IIInd standard boys from the selected schools

on post-test in Mathematics is better than the girls of IInd standard. The girls from school no. 2 could not so well as the 't' value is not significant.

The 't' values on pre- and post-test in Mathematics for boys and girls show that the boys and girls from school no. 3 performed better as the 't' value for boys is 26.94 and for girls it is 15.00. And the next highest 't' value for boys and girls for IInd standard is from school no. 4, then school no. 5 and school no. 2. The performance of both boys and girls from school no. 1 is the lowest as the 't' value for boys is 4.12 and for girls it is 2.59. The 't' values for boys and girls from all other schools except school no. 1 are significant at 0.01 level. Only 't' value for girls from school no. 1 is not significant. This means the interventional programme organised in Mathematics was very effective for IInd standard students of these schools.

The 't' value for IIIrd standard students in comparison to IInd standard students are lower as most of the 't' values are not significant (cf table 26 for more details).

't' values for both boys and girls from school no. 1 are not significant at 0.01 level. From school no. 2 the 't' values for boys is not significant whereas for girls it is

significant. The performance of both boys and girls from school nos. 3 and 4 are better as the 't' values for both boys and girls are significant at 0.01 level. From school no. 5 the boys have improved in their MLL attainment in Mathematics as the 't' value shown is 16.47 which is the highest and also highly significant. This confirms the general feeling that boys are better in Mathematics than girls.

The performance of IVth standard students from these multigrade schools on post-test of Mathematics is not significant from school no. 1 both for boys and girls. It is significant for both from school nos. 2, 3 and 5 (cf table 26). The 't' values for IVth standard boys from school no. 4 is not significant whereas for of classes II and III the values are significant at 0.01 level. The performance of IVth standard students from school no. 5 is the best as 't' value shown for boys is 20.78 and for girls 13.00 which are very high. In general we can state that the performance of students from school no. 1 is poorest in comparison to other schools.

#### **C. ENVIRONMENTAL STUDIES-I**

The 't' values of pre- and post-tests in EVS-I of boys and girls are given in table-27.

Table 27

't' values on pre- and post-test in EVS-1 of students from five multigrade schools

	School 1		School 2		School 3		School 4		School 5	
	Boys	Girls								
II	7.37	9.19	8.90	4.54	16.00	7.00	3.45	1.25	6.45	16.50
III	5.75	9.14	4.97	8.00	2.81	2.00	5.53	0.00	6.61	3.12
IV	3.83	6.86	10.00	57.98	5.00	3.00	5.00	8.00	5.51	6.89

The 't' values on pre- and post-tests in EVS-I of boys and girls of IIInd standard of all these schools except from school no. 4 are significant at 0.01 level. The 't' values shown for boys and girls from school no. 4 are not significant which means there is no significant difference between the pre- and post-test performance of both boys and girls on EVS-I. The highest 't' value for girls is from school no. 5 that is 16.5 significant at 0.01 level and for boys it is 16.00 from school no. 3. This value also is significant at 0.01 level.

For IIIrd standard students 't' values are significant for both boys and girls at 0.01 level from school nos. 1 and 2. The 't' value for boys from school nos. 4 and 5 are also significant at 0.01 level. The interventional programme in EVS-I was more useful for both

boys and girls from school nos. 1 and 2 and was most ineffective for students from school no. 3. This may be due the less emphasis given for learning of EVS-I by teachers as well as students.

The significant 't' values for boys of IIIrd standard from school nos. 4 and 5 indicate that boys from these schools took more interest in learning EVS-I than girls. This may be the girls remain more absence from school and also get less time for their studies.

In the end it can be concluded that the performance of IIIrd standard students from school no. 1 is the best among these schools on EVS-I.

#### D. ENVIRONMENTAL STUDIES-II

The performance of boys and girls from these schools on EVS-II from classes III and IV are given in table 28 mentioned below.

Table 28

't' values on pre- and post-test of EVS-II of students from five multigrade schools

	School 1		School 2		School 3		School 4		School 5	
	Boys	Girls								
III	4.49	4.38	9.14	11.46	5.18	11.00	0.00	1.00	0.00	0.00
IV	2.30	1.34	4.34	3.00	1.67	7.00	9.00	37.00	3.66	3.84

The table-28 indicates that the 't' values for pre- and post-test of IIIrd standard boys and girls from school nos. 1, 2 and 3 are significant at 0.01 level. The 't' values for pre- and post-tests of boys and girls from school no. 2 are highest. This means the interventional programme in EVS-II could help both boys and girls in attaining MLL competencies better than other schools (cf table for more details).

The pre- and post-tests performance in EVS-II of IIIrd standard boys and girls are better in comparison to IVth standard students from school nos. 1, 2 and 3 and the performance of both boys and girls of IVth standard from school nos. 4 and 5 are better than IIIrd standard students of these schools. This may be due to more time devoted by teachers for IVth standard students than IIIrd standard students in these schools or may be the motivation level is higher of IVth standard students.

It may be concluded that the performance of girls in EVS-II is not less than boys. Thus the findings of this study on learning science by girls is not in agreement with studies which states that the girls are poorer in learning science than boys.

The comparison of result also leads to the following conclusions:

(i) Second standard students showed better performance on post-test on all the subjects from all schools selected for this study.

(ii) Third standard students in general showed lower performance on post-tests of all the subjects from all schools in comparison to IInd and IVth standard students.

(iii) The girl students also did well on post-tests of Mathematics and Science.

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**TEST OF KANNADA**  
**(WRITTEN TEST)**

II STANDARD

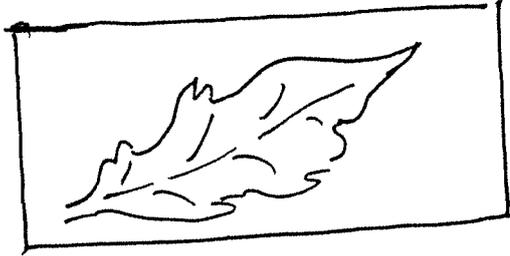
25 MARKS

45 MINUTES

(Based on the competencies of I standard)

(The instructions should be read out aloud to the students)

3.1.1 (1) Identify the object in the picture and write its name



(1)

4.1.1 (2) Identify the syllable to the left and underline it in the given words

Ba Balapa, Basava, Baraha, Bahala (2)

4.1.1 (3) Identify the sound of the letters given at the left and underline it in the given words

(2)

Vau - Gaavuda

Go - Gopura

Moo - Mooshika

Kaa - Kaage

4.1.2 (4) Pick out the emphatic letters from these words and write them in the given square.

Hannu Hanu Udda Uda (1)

4.1.1 (5) Write the specific emphatic letters for these words. (4)

Aj-a, Hig-u, Hal-a, Ak-a

4.1.3 (6) Read these sentences, copy them below without any mistake. (4)

- a. Kaayakave kailasa (work is worship)
- b. Vidyeye vinayave bhushana (humility is a jewel of education)
- c. Ninna nereyavarannuninnannteye preetisu (love thy neighbour as theyself)
- d. Nudidare mutthin haaradanthirabeku (your speech should be like a string of pearls)

4.1.3 (7) Choose the appropriate word and fill up the blanks (Male, Bhaavi, Negilu, Bele) (2)

- a. Besaayagaara \_\_\_\_\_ hoodidanu
- b. Eethada \_\_\_\_\_ neeraayithu
- c. Bhoomige \_\_\_\_\_, Naadige \_\_\_\_\_

6.1.1 (8) Identify the last syllable from these words and write it.

Ara, Sara, Mara, Hara \_\_\_\_\_ (1)

9.1.1 (9) Use Sa, Ra, Vi and Ga and compose two words (2)  
4.1.1

9.1.1 (10) Write the names of four objects ~~of~~ your home (2)

4.1.3 (11) Rearrange the words in these sentences properly.

Example: Kudidanu Haalannu Ravi (2)

Ravi haalannu kudidanu

(a) Haaaduthaale chennagi seetheyu

(b) Raamanu hodanu shaalege

4.1.3. (12) Use these words in sentences of your own (2)

Kogile \_\_\_\_\_

Geleya \_\_\_\_\_

**TEST OF KANNADA**  
**(WRITTEN TEST)**

III STANDARD

25 MARKS

45 MINUTES

(Based on the competencies of II standard. The instructions should be read out aloud to the students)

- 3.2.1 (1) Make new words combining the syllable from first compartment with the syllables given in the second compartment. (2)

	Nanda	_____
Aa	Kaara	_____
	Disu	_____
	Lisu	_____

- 3.2.1 (2) Write the emphatic letters in the given squares.

Bhaskara	Bhas	ara
Echchara	Ech	ara

- 3.2.1 (3) Pick the suitable syllable from the given ones and fill up the blanks.

(a) A\_\_\_\_\_ (ssa, kki, lli)

(b) pratya\_\_\_\_\_ (ksha, stha, tha)

- 6.2.1 (4) Read the words given below and copy them. (1)  
&9.2.1

Patapatane \_\_\_\_\_

Julujulane \_\_\_\_\_

- (5) Copy these sentences without a mistake. (2)

Ondu mangakke tumba hasivaayithu. Aache dadadinda hannina  
vaasane banditu. Nadi daatuvudu hegendu yochisitu. Upaaya  
holeyade ussendu kulithukonditu.

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(Once a monkey was very hungry. The smell of fruits came to it from across the river. It started thinking how to cross the river. It sat down sighing)

6.2.1 (6) Combine these words to make a new word.

Example - Nenedu + Nenedu - Nenenenedu

(a) Badidu + Badidu = \_\_\_\_\_

(b) Mellane + Mellane = \_\_\_\_\_

9.2.1 (7) Combine these syllables and write the words (2)

mate \_\_\_\_\_

(a) Ta

le \_\_\_\_\_

gi \_\_\_\_\_

(b) Raa

shi \_\_\_\_\_

6.2.1 (8) These syllables of a word are jumbled. Rewrite & 9.2.1 them in proper order to make a meaningful word (2)

Pa Kaa U ra

Maa hu ba na

7.2.1 (9) Pick the suitable synonyms from the given ones & 9.2.1 and fill up the blanks.

(a) Adavi (Kaitota, Kaadu, Hoodota) \_\_\_\_\_ (2)

(b) Oggattu (Jagala, Kopa, Ondangiru) \_\_\_\_\_

9.2.1 (10) Pick the correctly written word and write it in the blanks

Eg. Bhaashe/Bhaase Bhaashe

Maadu/Aalu

Saale/Shaale

6.2.1 (11) Write the antonyms of the given words.

Eg. Mele x Kelage (1)

Hinde x \_\_\_\_\_

Horage x \_\_\_\_\_

6.2.1 (2) Give the plurals of these words (1)

Kaalu - Kaalugalu

Jana - \_\_\_\_\_

Hoovu - \_\_\_\_\_

9.2.1 (13) Use 'vanta' as a prefix or a suffix for the given words and make meaningful new words - Hana, Dhairya, Guna. (1)

Eg. Hanavantha

\_\_\_\_\_  
\_\_\_\_\_

4.2.3 (14) Write the names of four flowers you know. (2)

\_\_\_\_\_ ' \_\_\_\_\_ ' \_\_\_\_\_ ' \_\_\_\_\_

4.2.3 (15) Use these words in sentences of your own. (2)

Segani: \_\_\_\_\_

Praani: \_\_\_\_\_

4.2.3 (16) Write three sentences in your own words about a 'dog'

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**TEST OF KANNADA**  
**(WRITTEN TEST)**

IV STANDARD

25 MARKS

45 MINUTES

(Based on the competencies of III standard. The instructions should be read out aloud to the students)

4.3.1 (1) Copy these sentences without any mistake (2)

Bharatada swatantra sangramadalli ibbaru raaniyara  
chirasmaraneeya. Obbalu jhansiya raani Lakshmibaayi,  
Innobbalu Kitturina raani Chennamma, Kitturu andu ondu  
Samsthanavaagithu.

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(Two queens are memorialbe in the freedom struggle of India. One is Jhansirani Lakshmibai. Other is Kittur Rani Chennamma. Those days Kitturu was a small province).

5.3.2 (2) Read this poem and answer the questions that follow. (2)

Hindondurali Iddalu Naari

Muugusiyonda saakidalu

Kodavanu hididu neeranu taralu

Nadiya teerake saagidalu

(a) Naariyu yaava praaniyannu saakiddalu ?  
(What did the women have as a pet ?)

---

(b) Naariyu nadiya teerakke eke hodalu ?  
(Why did the woman go to the river ?)

---

6.3.1 (3) Rewrite these sentences correcting the errors if any (1)

(a) Rama Kelasa Maaduttale

\_\_\_\_\_

(b) Rameshana bali ondu lekani iddave

\_\_\_\_\_

9.3.1 (4) The tana as a prefix or suffix for the given words and make meaningful new words (Kalla, Jaana, Bada)

Eg. Kallatana

\_\_\_\_\_

\_\_\_\_\_

6.3.1 (5) Write the antonyms of (1)

(Big) Dodda x \_\_\_\_\_

(High) Ettara x \_\_\_\_\_

6.3.1 (6) Rearrange the words to make meaningful sentences. (2)

(a) Kodagige naanu rajeyalli hogiddevu besige

\_\_\_\_\_

(b) Karnatakada Kaveri huttuthade jeevanadi  
Brahmagiriyalliye

\_\_\_\_\_

7.3.1 (7) Pick the correct synonym for the word from the given words. (2)

Irulu (Iruve, Hula, Raatri) =

Dhana (Dhaanya, Hana, Guna) =

Vrutti (Kasubu, Sabuku, Odu) =

Rahasya (Swarasya, Guttu, Virasa) =

9.3.1 (8) Write the synonyms for these words. (2)

Baanu = \_\_\_\_\_ Taare = \_\_\_\_\_

Soorya = \_\_\_\_\_ Taavare = \_\_\_\_\_

9.3.1 (9) Name these persons

Meenu hidiyuvavanu = \_\_\_\_\_  
(one who catches fish)

Hoovu maaruvavalu = \_\_\_\_\_  
(one who sells flowers)

Beleyannu beleyuvavanu = \_\_\_\_\_  
(one who grows crops)

Paandityaviruvavanu = \_\_\_\_\_  
(one who is learned)

6.3.1 (10) Combine the sentences as shown in the example.(2)

Example: Edannu Kothigalu Kandanu. Avu dukhisathodagithavu  
(The monkeys saw this. They started weeping)

Ednnu kondu kothigalu duhisatodagidavu  
(Seeing this the monkeys started weeping)

(a) Tannde holadinda hindurugidaru  
Avaru Kycheelavannu kelagittaru

---

(Father returned from the fields  
He placed the bag down)

(b) Bhaagavatharu sabhege bandaru  
Avaru janarige vandisidaru

---

(Bhagavathar entered the assembly  
He greeted the people)

6.3.1 (11) Write the forms of the words as shown in the example. (1)

Example: ooru + atta = oorinatta

neeru + atta = \_\_\_\_\_

hindu + atta = \_\_\_\_\_

4.3.1 (12) Use these words in sentences of your own. (2)  
&6.3.1

Aaryke \_\_\_\_\_

Dayavittu \_\_\_\_\_

4.3.3 (13) Use these words and write five sentences.

Railu nildana - saradiyalli nilluvudu -  
(Railway station) - (standing in a queue)

Ticketu padeyuvudu - saamaanu tegedukondu hoguvudu  
(buying the ticket) (carrying the luggage)

Railinalli prayaanisivudu  
(travelling in the train)

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**IIInd CLASS - COMPETENCY BASED MATHEMATICS TEST**

1.2.1

1.2.2 (1) Write the place value of each digit in the following number

(i) 9 8                      (ii) 7 0

(2) Write the corresponding number

$$90 + 8 =$$

8 tens + 3 ones

1.2.4 (2) Fill up the blanks

(i) 12, 14, ..., ..., 20

(ii) 23, 28, ..., ..., 43

(iii) 40, 50, ..., ..., 80

2.2.1 (3) Add

$$\begin{array}{r} \text{(i)} \quad 44 \quad 12 \\ + 33 \quad 27 \\ \quad \quad \quad + 33 \\ \quad \quad \quad \text{-----} \end{array}$$

(ii) Find the sum of

$$22 + 10 + 46 =$$

$$72 + 3 + 10 =$$

2.2.2 (4) Subtract:

$$\text{(i)} \quad 78 - 35 =$$

(ii) Find the difference between 46 and 87

(iii) Subtract 36 from 98

2.2.3 (5) (i) There are apples in three baskets. In the first basket 45 apples, in the second basket 23 apples and in the third there are 39 apples. Find the total number of apples.

- (ii) Sheela has 45 chocolates she gave 23 chocolates to her brother. How many chocolates are remaining ?

2.2.4

2.2.8 (6) Write the following as repeated addition

(a) (i)  $2 \times 3$                       (ii)  $4 \times 5$

(b) Write the following using the symbol 'X'.

(i)  $4+4 =$                       (ii)  $5+5+5+5+5 =$

2.2.9 (7) Answer the following

(i)  $2 \times 3 =$                       (ii)  $8 \times 4 =$                       (iii)  $4 \times 5 =$

(iv)  $7 \times 10 =$                       (v)  $4 \times 2 =$                       (vi)  $6 \times 3 =$

2.2.10 There are six benches in a room 5 children are sitting on each bench. How many are there in all the benches ?

3.2.1 Fill up the blanks

3.2.2 (9) (i)  $25+25+25+25 =$

(ii)  $50+50 =$

(iii) 1 rupee = How many 20 paise coins ?

(iv) How many 10 paise coins make 1 rupee ?

3.2.5 Fill up the blanks

days = 1 week

months = 1 year

3.2.6 Draw a

(i) Square

(ii) Rectangle

(iii) Triangle and

(iv) Circle using objects

IIIrd CLASS - COMPETENCY BASED MATHEMATICS TEST

1.3.1 Write the numerals from

(1) 491 to 501

(2) 982 to 992

1.3.2 Write the number names for the following

(1) 53 \_\_\_\_\_

(2) 86 \_\_\_\_\_

(3) 78 \_\_\_\_\_

(4) 63 \_\_\_\_\_

1.3.3 (a) Expand the following numbers

(1) 109

(2) 328

(b) Write the corresponding number

(1) 4 hundreds + 3 tens + 3 ones \_\_\_\_\_

(2)  $300 + 20 + 1$  \_\_\_\_\_

(3)  $400 + 10$  \_\_\_\_\_

(4)  $600 + 1$  \_\_\_\_\_

1.3.4 (4) Write the place value of each digit in the following

(1) 9 2 6

(2) 5 0 1

1.3.5 (5) (a) Arrange the following numbers in ascending order

689, 489, 301, 984, 100

(b) Arrange the following numbers in descending order 363, 946, 289, 476, 500

1.3.6 (6) (a) Write the numbers which come before and after the given number

(1) ... 699 ...

(2) ... 510 ...

(b) Write the numeral which comes between

(1) 489 ... 491

(2) 799 ... 801

1.3.7 (7) Put the correct symbol  $>$ ,  $<$ ,  $=$

(1) 389 \_\_\_\_\_ 370

(2) 704 \_\_\_\_\_ 846

(3) 986 \_\_\_\_\_ 986

(4) 28 \_\_\_\_\_ 138

1.3.8 (8) (a) Encircle the even numbers in the following  
46, 57, 78, 93, 41, 20

(b) Encircle the odd numbers in the following  
43, 31, 98, 100, 99, 27

2.3.1 Add (9) (a) 
$$\begin{array}{r} 231 \\ +609 \\ \hline \end{array}$$
      
$$\begin{array}{r} 341 \\ +729 \\ \hline \end{array}$$
      
$$\begin{array}{r} 341 \\ 729 \\ 100 \\ \hline \end{array}$$

(b) Find the sum

(1)  $149+311+200$  \_\_\_\_\_

(2)  $2 + 49 + 312$  \_\_\_\_\_

2.3.2 (a) Subtract (1) 
$$\begin{array}{r} 984 \\ -299 \\ \hline \end{array}$$
      (2) 
$$\begin{array}{r} 800 \\ -394 \\ \hline \end{array}$$

(b) Subtract 846 from 928

(c) Subtract 328 from 500

2.3.3 (10) (a) There are two coconut grooves. From one groove they plucked 342 coconuts and 202 from the other. Find the total number of coconuts plucked.

(b) Pavan is having 250 stamps. He gives 30 stamps to his friend. Find the number of stamps now Pavan is having.

2.3.7 (11) (a) Write the following as repeated addition.

(1)  $2 \times 3$

(2)  $5 \times 9$

(b) Write the following as multiplication facts.

(1)  $4+4+4+4$

(2)  $2+2+2+2+2$

2.3.8 (12) Find the product using the tables

(a)  $2 \times 8$

(b)  $3 \times 9$

(c)  $4 \times 5$

(d)  $6 \times 7$

(13) (a) Multiply  $23 \times 2$

(b) Multiply  $430 - 3$

2.3.10(14) Do the following division as repeated subtraction

$12 - 3$

2.3.11 (15) Divide

(i)  $264 - 2$

(ii)  $555 - 5$

2.3.12 (16) (a) Our school bus can take 42 persons in a trip. If it does four trips what is the total number of persons it can take altogether ?

(b) 48 children are divided into groups. If in a group there are four children, how many groups can be formed ?

2.3.(17) Fill up the blanks

(a) Add  
Rs. 55 paise 60  
+Rs. 20 paise 15  
-----  
-----

(b) Subtract  
Rs. 68 paise 95  
+Rs. 32 paise 30  
-----  
-----

3.3.6 (18) Add

$$\begin{array}{r} 20 \text{ m} \quad 55 \text{ cm} \\ +13 \text{ m} \quad 13 \text{ cm} \\ \hline \hline \end{array}$$

3.3.7 (19)

$$\begin{array}{r} 35 \text{ m} \quad 26 \text{ cm} \\ -15 \text{ m} \quad 13 \text{ cm} \\ \hline \hline \end{array}$$

3.3.11 (20)

$$\begin{array}{r} 2 \text{ kg} \quad 1.5 \text{ gm} \\ 3 \text{ kg} \quad 3.1 \text{ gm} \\ \hline \hline \end{array}$$

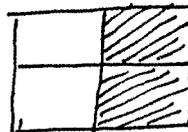
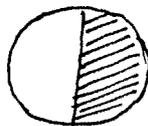
3.3.12 (21) Find the difference between 6 kg 75 gms and 3 kg 50 gms

3.3.15 (22) Find the difference between 31 190 ml and 21 200 ml

3.3.20 Add

Hours	Minutes
2	5
+3	30
-----	
-----	

3.3.21 (1) Write the fractional value of the shaded portion.



- 4.3.2 (25) Draw (a) Square (b) Rectangle  
(c) Circle (d) Triangle

IVTH CLASS - COMPETENCY BASED MATHEMATICS TEST

1.4.1 (1) Write the numbers from

(i) 2010 to 2020

(ii) 9049 to 9059

1.4.2 (2) Write the number names for the following.

(1) 323                      (2) 405

(3) 4348                    (4) 8009

1.4.3 (3) (a) Expand the following numbers

(i) 4243                      (ii) 3098

(b) Write the corresponding number

(i) 4 hundreds + 3 tens + 5 ones

(ii)  $4000 + 20 + 3$

(iii)  $7 \times 1000 + 3 \times 100 + 2 \times 10 + 4 \times 1$

(iv)  $9000 + 3$

1.4.4 (4) (a) Arrange the following number in ascending order

3843, 9003, 1248, 5086, 8896

(b) Arrange the following numbers in descending order 6874, 3948, 8999, 9489, 5079

1.4.5 (5) (a) Write the numbers which come before and after the given number

... 8000 ...

(b) Write the numeral which comes between

(1) 7899 ... 7901

(2) 4489 ... 4491

1.4.6 (6) Put the correct symbol  $>$ ,  $<$ ,  $=$

(1)  $8431$  \_\_\_\_\_  $311$

(2)  $7986$  \_\_\_\_\_  $8431$

(3)  $3439$  \_\_\_\_\_  $3439$

(4)  $9031$  \_\_\_\_\_  $9048$

1.4.7 (7) (a) Write first four multiples of 8 and 5

(b) Write all the factors of 3 and 2

1.4.8 (8) Write all the prime numbers between 1 and 20

2.4.1 (9) Add (i)  $4319$  (ii) Find the sum  
 $2905$   $3+843+7294$   
 $+1031$   
-----  
-----

2.4.2 (10) (i) Subtract  $8439$   
 $-6989$   
-----  
-----

(ii) Find the difference between

$7894$  and  $9879$

(iii) Subtract  $3431$  from  $4811$

2.4.3 (11) (a) The cost of a radio set is Rs. 1350  
The cost of a TV set is 5840. What is the  
total cost both the radio and the TV set.

(b) A man had Rs. 9800. He gave Rs. 3540 to his  
son and the rest to his daughter. How much  
money did he give to his daughter.

2.4.6 (12) (a) Multiply  $82 \times 13$  (b)  $303 \times 26$

2.4.8 (12) (a) Divide  $348 \div 8$  (b)  $436 \div 6$

2.4.9 (14) (a) A small factory produces 560 bulbs in a day.  
How many bulbs will be produced in 25 days.

(b) Eight bags of cement can be loaded in a  
bullock cart. If there are 968 bags, how many  
carts are needed.

- 2.4.10 (15) (a) Ravi purchased a plot of land for Rs. 6000. He plants some coconut trees in that. For that he spent Rs. 2560. If he sells the plot for Rs. 9500 what amount will he get more than what he spent.
- (b) A person bought some readymade garments. He bought 2 pants and 3 frocks. The one pant is Rs. 350 and the cost of one frock is Rs. 150. How much money has to be given to the shopkeeper ?
- 2.4.13 (16) There are 320 rubber bands in 3 packets. How many rubber bands are there in 8 packets ?
- 3.4.1 (17) Ramu went to the stationary stores to buy one instrument box and three note books. If the cost of one note book is Rs. 8/- and cost of the instrument box is Rs. 40, how much money he has to give to the shop keeper.
- 3.4.2 (18) (a) If Rani bought 6 sarees for Rs. 2490 what is the cost of each saree.
- 3.4.4 (19) (a) Raghu bought a piece of land for Rs. 85000. He sold it for Rs. 9750. What is the profit for him in selling the land.
- (b) A shop keeper bought a box of pens for Rs. 1550. He sold all the pens for Rs. 1500. What is the loss he incurred while selling the pens ?
- 3.4.6 (20) (i) convert 1 kilometer into meters
- (ii) convert 5 meters into centimeters
- (iii) 4055 meters = How many kilometers ?
- (iv) 843 cms = How many meters ?
- 3.4.7 (21) A motorist covered a distance of 50 km and 520 meters in the first hour and 42 kms and 250 meters in the second hour. What distance did he cover in two hours ?
- (22) (i) Convert 8 kgs into grams
- (ii) 3430 gms = kgs

3.4.12 (23) For distribution of sweets to the school Headmaster bought 10 kgs and 500 gms of sweets. He distributed 9 kgs and 250 gms of sweet to the children. How much is remaining ?

3.1.14 (24) (i) 2 liters = How many ml ?

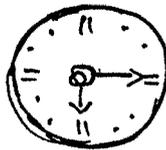
(ii) 4840 ml = litres

3.4.15 (25) In a school milk was supplied to the children. If each child gets 500 ml how much milk is needed for 15 children.

3.4.19 (26) Find the area of a rectangular field whose length and breadth are 18 m and 14 m.

3.4.22 (27) Recall and write the time in hours and minutes.

(i)



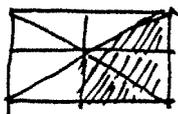
3.4.23 (28) Convert 8 hrs into minutes  
540 minutes into hours

(29) Add 
$$\begin{array}{r} 3\text{h} \quad 40\text{m} \\ +2\text{h} \quad 55\text{m} \\ \hline \hline \end{array}$$

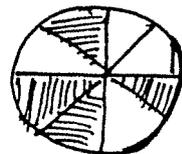
3.4.25 (30) Raghu started reading at 9.00 am in the morning. He took food at 1.00 pm. How many hours did he study ?

4.4.1 (31) Write the fractional value of the shaded portion.

(1)

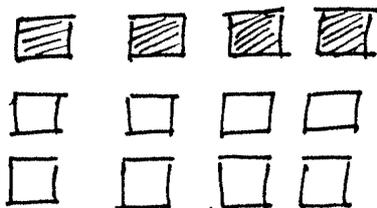


(2)

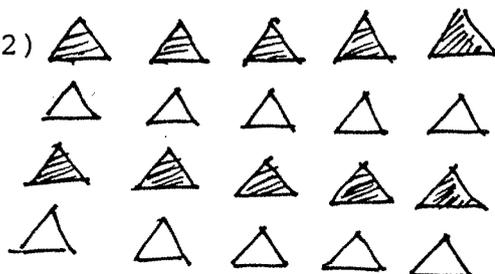


4.4.2 (32) Write the fractional value of the shaded portion.

(1)



(2)



4.4.3 (33) Fill up the blanks

(i)  $\frac{1}{2} = \frac{\quad}{4}$

(ii)  $\frac{3}{4} = \frac{6}{\quad}$

(iii)  $\frac{8}{16} = \frac{\quad}{2}$

(iv)  $\frac{12}{15} = \frac{4}{\quad}$

4.4.4 (34) (i) Arrange the following in ascending order  
 $\frac{2}{12}, \frac{5}{12}, \frac{7}{12}, \frac{1}{12}, \frac{11}{12}, \frac{4}{12}$

(ii) Arrange the following in descending order  
 $\frac{3}{11}, \frac{3}{17}, \frac{3}{4}, \frac{3}{5}, \frac{3}{10}, \frac{3}{8}$

4.4.5 (35) (i) Convert the following number into improper fraction.

(ii) Convert  $\frac{17}{3}$  into mixed number

4.4.6 (36) (i) Add  $\frac{2}{17} + \frac{8}{17} =$

(ii)  $\frac{5}{8} + \frac{1}{8} + \frac{1}{8} =$

Subtract (i)  $\frac{8}{11} - \frac{5}{11} =$

(ii)  $\frac{7}{9} - \frac{2}{9} =$

4.4.7 (37) (i) From 1 meter long wire  $\frac{1}{4}$  meter and  $\frac{2}{4}$  meter are cut. Find out which one is longer.

(ii) Rama finished  $\frac{2}{10}$  of his work on the first day. Second day he finished  $\frac{4}{10}$  of his work. How much did he finish in both the days together ?

(iii) Suresh has to paint a wall. After painting for 2 days he could finish only  $\frac{4}{5}$  of the wall. If he painted  $\frac{2}{5}$  on the first day how much did he paint on the second day ?

4.4.8 (38) (i) Write the following as decimals

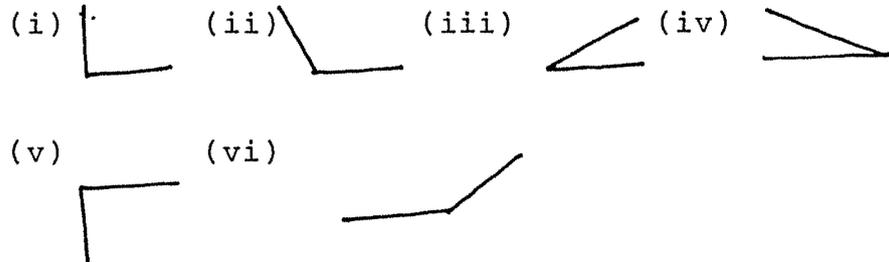
(a)  $\frac{7}{10}$  (b)  $\frac{17}{100}$  (c)  $\frac{1}{4}$  (d)  $3\frac{1}{4}$

(ii) Write the following as fraction

(i) 0.1 (ii) 0.07 (iii) 0.14 (iv) 4.13

5.4.1 (39) Using a ruler draw a line segment  $AB = 5$  cm.

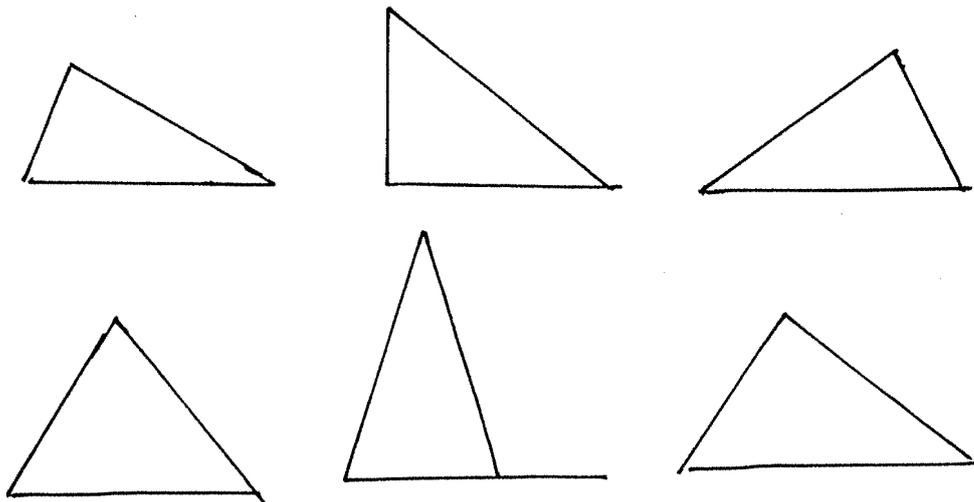
5.4.2 (40) Classify the following angles as right angle, obtuse angle or acute angle.



5.4.4 Draw an angle of

(i)  $90^\circ$  (ii)  $120^\circ$  (iii)  $55^\circ$  using a protractor

5.4.5 Classify the following triangles as isosceles, scalene or equilateral triangle.



IIIIRD STANDARD - COMPETENCY BASED ENVIRONMENTAL STUDY-I TEST

1. Fill in the blanks with the right direction when we stand facing a map hung up on the wall
  - a. At the top \_\_\_\_\_
  - b. At the bottom \_\_\_\_\_
  - c. To your right \_\_\_\_\_
  - d. To your left \_\_\_\_\_
2. Draw Karnataka in the line map of India and shade the same in colour.
3. Fill in the blanks with the right word given in brackets-
  - a. Mysore District is located towards \_\_\_\_\_ in Karnataka  
(East, West, South)
  - b. River which flows across Mysore District is \_\_\_\_\_  
(Krishna, Gowri, Thunga)
  - c. The hill situated in Mysore is \_\_\_\_\_  
(Gopalakrishna Hills, Chamundi Hills, Biligirirangana Hills)
4. Draw the outline map of Mysore District.
5. Some of the following sentences describe the life of early man. Mark them with / in the space
  - a. was using weapons of steel ( )
  - b. was eating raw meat ( )
  - c. was wearing woollen clothes ( )
  - d. was living on tree hollows ( )
  - e. was using stone weapons ( )
  - f. was leading wandering life ( )

6. Mention the differences in the way of life between ancient man and modern man by supplying the alternatives-

Ancient man

Modern man

Lived in the forest

\_\_\_\_\_

\_\_\_\_\_

Stone weapons

Good dress

\_\_\_\_\_

\_\_\_\_\_

By wealth from place  
to place

Cooked food

\_\_\_\_\_

\_\_\_\_\_

7. Fill in the blanks

a. The earliest Indian civilization was \_\_\_\_\_

b. Two uses of fire to ancient man are \_\_\_\_\_ and  
\_\_\_\_\_

8. Some sentences about the Indus valley people are given. Say if they are true or false by writing T or F in the space.

a. walking along zigzag roads ( )

b. were having underground drainage ( )

c. were wearing gold ornaments ( )

d. built houses of stone ( )

e. had public baths ( )

f. houses were built in rows on either  
side of the road ( )

9.(a) Which is called limited family ?

(b) Name two drawbacks of a large family ?

(i)

(ii)

10. While going to school can you cross the road easily?  
Why ?

11. Write briefly the experience of people who travelled by  
bus in the past.

12. What are the reasons assigned by elders for the soaring  
of prices of commodities ?

**IIIIRD STANDARD: COMPETENCY BASED ENVIRONMENTAL STUDY-I TEST**

1.3.1 (1) Mark whether the following statements are true or false in the block by writing T or F.

(a) If things are kept in their proper places in a house, it will be easy to reach them. ( )

(b) One must rush into the bus to hold a seat ( )

(c) One should not spit anywhere and everywhere ( )

(d) One should always gainsay to elders ( )

(e) To keep the classroom tidy, dust should be deposited in the dustbin ( )

1.3.2 (2)(a) Where do you find people forming the queue ?

(b) What are the advantages of standing in a queue ?

(c) While we cross the road, we come across lights of 3 columns, each standing for a signal. Match them properly

A	B
Green	Stop
Red	Sit down
Yellow	Start
	Get ready

3. In column A symbols are given and in column B the indications are given. Match them properly.

A	B
	School zone
	Hospital
	Culvert
	Road bump
	Pedestrian crossing

4. Fill in the blanks selecting the right words.

- Pedestrians should walk along the \_\_\_\_\_ side of the road.  
(middle, left, right)
  - If there is a board indicating 'School Zone', vehicles should be driven \_\_\_\_\_  
(nonstop, low speed, blowing the horn)
5. Which public Institution do we approach for help under the following circumstances? Fill in by selecting the right word.  
(Post Office, Bank, Hospital, Police Station, Municipality/ Corporation, School, Court of Law).

- For safe deposit of money and gold ornaments \_\_\_\_\_
- When theft has taken place in the house \_\_\_\_\_
- To teach the child reading and writing \_\_\_\_\_
- When water supply is not regular \_\_\_\_\_
- When suffering from fever \_\_\_\_\_

6. Below are given some important functions at district level. Names of offices are given within brackets. Write the name of the officer in the blank against each function properly.

A	B
Remedy for infectious diseases	_____
Catch hold of offenders	_____
Construction of roads	_____
Preservation of forests	_____
Improvement of agriculture	_____
Punishing the offenders	_____

(Conservator of Forests, Agricultural Officer, PWD Engineer, Health Officer, Inspector of Police, Mysore)

7. Two lists are given below. Match the occupation of each producer properly.

A	B
Goldsmith	Weaving
Weaver	Growing crops
Potter	Stitching clothes
Farmer	Manufacture of ornaments
Tailor	Making footwear
	Making pots

8. Below are given two pictures of persons engaged in food producing. Name them.



9. Name two of the functions of the farmer.

- (a)  
(b)

10. Draw a rough sketch of your school building and write the names of buildings laying to the right and left of the school in the blanks.

(a) Towards right of the school \_\_\_\_\_

(b) Towards left of the school \_\_\_\_\_

IVTH STANDARD - COMPETENCY BASED ENVIRONMENTAL STUDY-I TEST

1. Match the occupations associated with the persons in lists 1 and 2.

Farmer, Carpenter, Potter, Blacksmith

Pot, Foodgrains, Bullock cart, Axe

2. Match the type of soil in column B with the crops grown given in column A.

A	B
Coffee	Alluvial soil
Paddy/sugarcane	Black soil
Cotton	Ferrous soil
Wheat	Muddy soil
Jute	Red soil
Tea	

3. Fill in the blanks with the right word given in brackets.

- a. Aluminium is extracted from \_\_\_\_\_ ore (copper, zinc, bauxite).
- b. Petroleum is also called \_\_\_\_\_ (mineral oil, liquid, metal).
- c. Manganese is used in the manufacture of \_\_\_\_\_ (wires, steel, aeroplane).
- d. Mica is used in the manufacture of \_\_\_\_\_ (electrical goods, steel, fuel).

4. Match the places in column A with their interests in B.

A	B
Belur	Chalukya architecture
Udupi	Gomateswara
Badami	Hoysala temple
Sravanabelagola	Holy place

5. Fill in the blanks correctly

- a. We celebrate \_\_\_\_\_ on 15th August every year.
- b. Republic Day is celebrated every year on \_\_\_\_\_.
- c. We celebrate Gandhi Jayanthi on \_\_\_\_\_.
- d. Birth day of Jawarhalal Nehru is celebrated as \_\_\_\_\_.
- e. Birth day of Dr. Radhakrishnan is observed as \_\_\_\_\_.

6. Answer the following questions in one or two sentences.

- a. Name the states bordering Karnataka.
- b. In which part of Karnataka State is your District located ?
- c. Who was the first Prime Minister of India ?
- d. Name two newspapers of Karnataka.
- e. Name the trees used in the construction of houses and manufacture of furniture.
- f. What are the kinds of roads ? Name them.

7. Answer the following questions in 3-4 sentences.

- a. Name the columns in our National flag. What do they represent ?
- b. What do the wheel and lions in our National Emblem envisage ?

8. Draw a map of India and mark Arabian Sea, River Cauvery, Mangalore and Bangalore.

SECOND STANDARD ENVIRONMENTAL STUDIES-II

COMPETENCY BASED TEST

1. Strike out the wrong word:

1. Always eat \_\_\_\_\_ (dirty food/clean food).
2. Food makes us grow and become \_\_\_\_\_ (weak, strong).
3. We must eat good, clean and \_\_\_\_\_ food (fresh, stale).
4. We must always eat \_\_\_\_\_ food (uncovered, covered).
5. We should keep our house \_\_\_\_\_ (clean, dirty).

2. Fill in the blanks

garden, enjoy, thieves, animals, grains, bedroom, kitchen, house.

1. Houses keep us safe from \_\_\_\_\_ and \_\_\_\_\_.
2. We \_\_\_\_\_ ourselves in our house.
3. Some houses have a \_\_\_\_\_ in front of them.
4. We sleep in the \_\_\_\_\_.
5. We cook in the \_\_\_\_\_.
6. We cannot live well without a \_\_\_\_\_.
7. We store \_\_\_\_\_ in our house.

Draw the lines to join the animal to its home

Animal

Stable

Write the name of animal in front of its home

Anthill

Nest

Den

Draw the lines to join the animal to its home.

- |            |         |
|------------|---------|
| 1. Dog     | Hole    |
| 2. Snake   | Kennel  |
| 3. Cow     | Burrow  |
| 4. Bird    | Web     |
| 5. Spider  | Nest    |
| 6. Rabbit  | Den     |
| 7. Tiger   | Shed    |
| 8. Buffalo | Stable  |
| 9. Horse   | Cowshed |

Say 'Yes' or 'No'. Put a tick mark in the correct box.

- |                                      |        |
|--------------------------------------|--------|
| 1. Do you break school property ?    | Yes/No |
| 2. Do you share things with others ? | Yes/No |
| 4. Do you obey your teachers ?       | Yes/No |
| 5. Do you go to school in time ?     | Yes/No |

Select the right word and fill in the blanks, duck, sparrow, parrot.

1. \_\_\_\_\_ swims over water
2. This \_\_\_\_\_ has two wings
3. \_\_\_\_\_ is green in colour

Match the following

Republic Day	5th September
Independence Day	14th November
Gandhi Jayanti	15th August
Children's Day	26th January
Teacher's Day	2nd October

Write in the columns given below:

Holi, Good-Friday, Shabbe-Barat, Raksha Bandhan, Guru Govind Singh's Birthday, Janam Ashtami, Idul-Ul-Milad.

---

Hindus	Muslims	Christians	Sikhs
--------	---------	------------	-------

---

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Draw our National flag.

Match the following

The Hindus worship in a	Gurudwara
The Muslims worship in a	Church
The Sikhs worship in a	Mosque
The Christians in a	Temple

Draw lines to match the two columns.

Hair cutting	Mason
Woodwork	Farmer
Construction work	Barber
Farming	Carpenter
Teaching	Teacher

Match the following

1. Sunny day	The weather is wet
2. Cold day	Strong wind blows
3. Rainy day	It is very cold
4. Windy day	It is very hot
5. Cloudy day	Wind is calm or blows slowly
6. Hot day	The weather is dull
7. Calm day	The sun shines brightly

Arrange these into the column given below:

cotton clothes, raincoat, fire, fan, cool drinks, umbrella,  
ice cream, cooler, woolen clothes, boots.

---

Summer season	Rainy season	Winter season
---------------	--------------	---------------

---

---

Say right or wrong

1. The trees shed their leaves in summer.
2. Snails come out in rainy season.

3. Mosquitoes are seen more in the rainy season.
4. Earthworms are seen in the rainy season.
5. New leaves come out on trees in spring season.
6. The sun is highest in the sky at noon.
7. The day begins after sunset.
8. The sun comes up in the evening.

Name the following from the names given below  
dam, driver, well, pond, water tank, hills.

Match the following

- |               |                         |
|---------------|-------------------------|
| 1. Teacher    | sells things            |
| 2. Driver     | looks after the family  |
| 3. Shopkeeper | teaches students        |
| 4. Nurse      | drives the bus          |
| 5. Housewife  | looks after sick people |
| 6. Doctor     | helps the doctor        |

Fill in the blanks with given words:

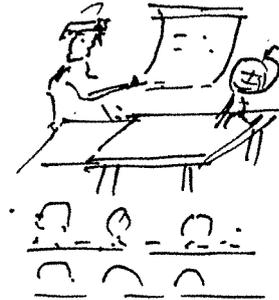
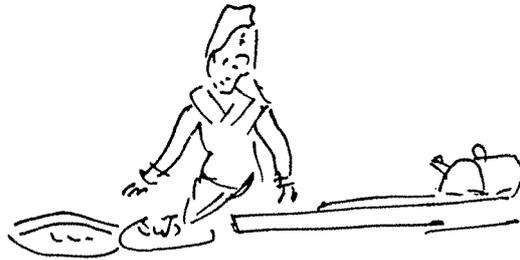
friends, home, read, parents, loving, kind, play new things,  
work, write, classrooms, staff room.

1. The school is like another \_\_\_\_\_ for us.
2. Teachers teach us how to \_\_\_\_\_ and \_\_\_\_\_.
3. At school we learn to \_\_\_\_\_ and \_\_\_\_\_ together.

4. Teachers is in the \_\_\_\_\_ in their free periods.
5. Every school has a number of \_\_\_\_\_.
6. Our teachers take the place of our \_\_\_\_\_ in the school.
7. We make \_\_\_\_\_ with other children in the school.
8. Our teachers are very \_\_\_\_\_ and \_\_\_\_\_ to us.

II. Select from the words given below and write in the blanks

driver, nurse,



**THIRD STANDARD - ENVIRONMENTAL STUDIES-II**

**COMPETENCY BASED TEST**

1. Which of the following explains the process of digestion ?
  - a. cutting food into smaller parts by the teeth.
  - b. breaking food into a simple and soluble form.
  - c. absorbing food into the body.
  - d. mixing food with digestive juices.
  
2. Write the following statements in a proper sequence which will explain the process of breathing.
  - a. air rich in oxygen enters the windpipe.
  - b. air rich in oxygen enters the lungs.
  - c. air rich in carbon dioxide is given out of the lungs.
  - d. air rich in oxygen enters the nostrils.
  
3. In which of the following cases the heart beat fastest ?
  - a. a boy who is running
  - b. a boy who is sleeping
  - c. a boy who is walking
  - d. a boy who is reading
  
4. Given below are some statements. Put a tick ( / ) mark against the correct statement and a cross (x) mark against the wrong statement.
  - a. the air you breathe in is rich in carbon dioxide
  - b. by counting the pulse you can know the rate of the beating of the heart
  - c. when you breathe in your chest expands
  - d. the heart pumps blood to all parts of the body

5. Write ( / ) or ( x ) against the sentences given below.

- a. we should clean our ears with a hair pin
- b. we should wash our eyes with cold water
- c. we should rub our eyes when dust gets into it
- d. we should brush our teeth three times a day
- e. we should wash our hands before eating our food
- f. we should wash our hair at least once a week

Group the following into natural things and manmade things.

Rose plant, fan, butterfly, boat, table, cupboard, mountain, chair, horse, snake.

---

Manmade things

Natural things

---

---

Group the following into living things and non-living things.

Piece of wood, empty bee-hive, mudhill, butterfly,  
cockroach, stream, plant

---

Living things

Non-living things

---

Given below are the names of some parts of a plant and an animal. Group them into parts of a plant and parts of an animal.

Neck, root, head, flower, stem, leg, chest, fruit

---

Parts of a plant

Parts of an animal

---

---

Given below is the picture of a plant.

Identify and label the parts given below

leaf, flower, stem, root, branch

a) Given below are the names of some common animals. Group them into the column given below.

dog, cow, lion, squerrel, deer, hawk

b) Given below are the names of some birds and insects. Write down what they eat against their names given as follows.

---

Name of birds	What they eat
Parrot	
Butterfly	
Grasshopper	
Sparrow	
Crow	
Vulture	
Hen	

---

Given above are certain materials.

Group the objects made of the same material as follows.

---

Objects made up of

---

Wood

Iron

Stone

---

Name three objects each made up of

plastic -

iron -

leather -

glass -

wood -

Fill in the blanks

1. The \_\_\_\_\_ of the earth causes day and night (rotation, revolution)
2. The earth completes one revolution around the sun in (12 months, 10 months, 6 months)
3. The period during when the weather remains warm is called \_\_\_\_\_ season (winter, summer).
4. The sun rises early and sets late in \_\_\_\_\_ season (summer, winter).
5. The nights are longer than days in \_\_\_\_\_ season (winter, summer).

Identify the seasons given in the picture.

Mention two uses of air

Identify the ways in which air is getting polluted in the above picture.

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Q1. Write three different uses of water.

Q2. Write three different sources of water.

Q3. Which is the safest source of drinking water

a. tubewell

b. pond

c. lake

d. river

Q4. In the picture given below identify ways in which water is getting polluted ?

---

---

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FOURTH CLASS ENVIRONMENTAL STUDIES-II

COMPETENCY BASED TEST

a) Given below are the names of some food items. Group them into energy giving food, body building food and protective food.

moong dal, rice, milk, fish, sugar, palak, orange, potato, meat.

b) Match the items in column I with items in column II

Column 1

Column 2

- |  |                               |
|--|-------------------------------|
| 1. Food rich in carbohydrates          | Fruits and vegetables         |
| 2. Foods rich in proteins              | Cereals, potatoes and jaggery |
| 3. Foods rich in vitamins and minerals | Pulses, milk and meat         |
| 4. Carrot                              | Provides energy               |
| 5. Butter                              | Builds the body               |
| 6. Meat                                | Provides protection           |

A day's menu for morning, noon and evening for two families is as given below.

Family 1

Family 2

Chapati, butter, milk  
chapati, meat  
rice dal curd

Sprouted gram, milk, guava  
chapati, dal, palak, salad  
rice, dal, beans, curd

Which family takes a better diet and why ?

---

---

---

---

---

Fill in the blanks

1. Milk and soyabean are rich in \_\_\_\_\_  
(carbohydrates, proteins)
2. Fermentation of certain foods \_\_\_\_\_ the nutritive  
value (increases, decreases)
3. A combination of different pulses \_\_\_\_\_ the  
nutritive value (increases, decreases).
4. Grains should be stored in \_\_\_\_\_ place (wet/dry).
5. Meat is rich in \_\_\_\_\_ (proteins, carbohydrates).
6. Diseases such as \_\_\_\_\_ is caused by contaminated  
food (Malaria, Cholera).

Which of the following is caused by unsafe water

- a. Malaria
- b. Smallpox
- c. Diarrhoea
- d. Measles

Which is the safest source of drinking water

- a. river
- b. tubewell
- c. pond
- d. lake

The germs present in water can be killed by a filtration

- a. filtration
- b. boiling
- c. decantation
- d. spraying

Put a tick mark ( / ) against the correct statement and a (x) mark against the wrong statement

- a. It is good to drink water from the river or pond directly
- b. Bathing animals and cleaning vessels in and around the water prevents pollution of water.
- c. Disease like Cholera and typhoid is caused by evil spirits.
- d. Stagnant water causes Malaria.
- e. To make water free from germs it should be filtered using a clean piece of cloth.
- f. Water is a natural resource. Therefore we can waste it.

List the purposes for which the following animals are used.

---

<u>Animal</u>	<u>Uses</u>
Hen	
Sheep	
Elephant	
Bullock	
Fish	

---

---

<u>Name of the plant/tree</u>	<u>Uses of the plant</u>
Neem	
Tulsi	
Sandalwood	
Rose plant	
Sogwani or teak	
Paddy	

---

Q1. Draw the sketch of the following.

Any two plant weeds seen in your locality

Q2. Mention names of two insects which are harmful.

Match the items in Column I with items in Column II.

- |                               |                             |
|-------------------------------|-----------------------------|
| 1. Trampling of plants        | proper sanitation           |
| 2. Plants kept in the dark    | is harmful to living things |
| 3. Domestic animals need      | do not grow well            |
| 4. Pollution of water and air | damages the plant           |

Q. We should protect plants and animals because

- a. they are beautiful to look at
- b. maintain balance in nature
- c. add beauty to the surrounds
- d. they are useful for our food

Q. Name two important ways of protecting our animals.

Q. Give two harmful effects of thoughtless cutting of our trees.

Fill in the blanks

1. Our National animals is
2. Peacock is our National
3. Our National flower is the
4. Vanamahotsava is celebrated to protect our \_\_\_\_\_
5. National parks and sanctuaries are places where wild animals are \_\_\_\_\_ (hunted, protected)

In which state of matter does each of the following usually exist ?

candle wax, iron, glass, milk, honey, aluminium, wire, petrol, soap, groundnut oil, common salt, coal, oxygen, paper, sponge, leather and rubber

Fill in the blanks

1. When water boils it turns into \_\_\_\_\_.
2. On cooling steam changes into \_\_\_\_\_.
3. \_\_\_\_\_ is the solid form of water.

The solar system has

- a. 6 planets
- b. 7 planets
- c. 8 planets
- d. 9 planets

A planet is a body which revolves round the

- a. Earth
- b. Moon
- c. Sun
- d. Constellation

Given below are some statements. Put a tick ( / ) mark against the correct statement and a cross (x) mark against the wrong statement.

- a. The moon is an artificial satellite.
- b. All planets revolve round the sun.
- c. The moon does not have its own light.
- d. The sun is a star which is farthest from the earth.
- e. The bodies which revolve round the sun are called constellations.

Fill in the blanks

1. A group of stars is called (Solar System, Constellation).
2. Stars appear small in size because they are (far away from the earth, small in size).

3. Spinning around an axis is called \_\_\_\_\_ (revolution, rotation).
4. The \_\_\_\_\_ of the earth causes day and night (rotation, revolution).
5. \_\_\_\_\_ is known as the morning star (Jupiter, Venus).
6. The earth completes one rotation on its axis in \_\_\_\_\_ hours (24, 28).
7. The earth completes one revolution around the sun in \_\_\_\_\_ months (6, 12).
8. The big dipper or Sapta Rishi is a \_\_\_\_\_ (group of stars, group of planets).

1. In causing the water cycle
  - a. only evaporation is involved
  - b. only condensation is involved
  - c. condensation and evaporation are both involved
  - d. neither is involved

Fill in the blanks:

1. Water \_\_\_\_\_ and changes to water vapour (cools, evaporates).
2. It is warmer when the sun's rays are \_\_\_\_\_ (overhead, slanting).
3. The \_\_\_\_\_ plays an important role in causing changes in weather (revolution of Earth/revolution of Sun).
4. The process of changing water vapour into water is called \_\_\_\_\_ (condensation, evaporation).
5. During the day the \_\_\_\_\_ gets warm more quickly than \_\_\_\_\_ (land, water).
6. Hailstones are \_\_\_\_\_ state of water (liquid, solid).
7. Water vapour in the atmosphere may condense into \_\_\_\_\_ or \_\_\_\_\_ (dust or smokes/dew drops or clouds).

8. When water vapour condenses on cold objects \_\_\_\_\_ is formed (dew drops/hailstones).
9. Clothes dry faster in \_\_\_\_\_ weather (hot, cold).
10. Water droplets condense on dust and smoke particles and come closer to each other to form a \_\_\_\_\_ (fog/cloud).
11. When water vapour freezes in the air it forms minute ice crystals and falls in the form of

hail

snow

sleet

rain

Fill in the blanks

1. \_\_\_\_\_ does not hold the water for a long time (sand, clay, loam).
2. \_\_\_\_\_ soil is good for plant growth (sandy, clayey, loamy).
3. When a lump of soil is dissolved in water and then the solution is stirred \_\_\_\_\_, the settles first (sand, humus, clay, loam).
4. When pure sand is stirred in a glass of water \_\_\_\_\_ floats on the surface (humus, nothing, something).

Given below are some statements. Put a tick (/) mark against the true statement and (x) cross mark against false statement.

1. Paddy grows better in clayey soil
2. Nothing is grown in sandy soil
3. Humus is not made up of bits of dead leaves, plants and small animals
4. Soil which contains humus is called loamy soil.
5. This type of soil is best for making pots and toys (clayey, sandy, loamy).

Complete the following sentences by filling words or word.

1. Manures make soil more \_\_\_\_\_
  2. Humus makes soil more \_\_\_\_\_
  3. Soil is formed by \_\_\_\_\_ of rocks
  4. Soil is our \_\_\_\_\_ resource
  5. Humus is made up of \_\_\_\_\_
- Q1. Why should be conserve soil.
- Q2. Name different kinds of soil.