

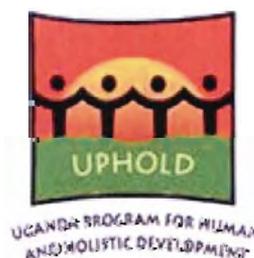


Ministry of Education and Sports

TOWARDS IMPROVED CLASSROOM INSTRUCTION: “COOPERATIVE LEARNING IN THE CLASSROOM”

—HANDOUTS FOR MODULE 1—

*This document serves as support to the training module 1. It provides additional information on the various content areas addressed in the training module. It is put together to enhance the teachers' knowledge especially of Cooperative Learning as a teaching approach and suggests a few selected tips on how to handle Cooperative Learning lessons.
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Session 2 Handout

Elements of Cooperative Learning

The primary attribute of cooperative learning is learners interacting with each other in groups. The characteristic types of interactions that teachers should promote are as follows.

1. **Positive interdependence** - "We sink or swim together." Success in good cooperative learning depends upon each learner doing some independent thinking and then contributing that thinking to the thought processes of the group.

example: On a football team that consistently wins, it is not good enough to have a star or be a star to win. The team and all individual players win or lose together.

2. **Face to Face Positive Interaction** - Success in a good a cooperative learning activity depends upon group members interacting face to face with one other, promoting learning and success by sharing, encouraging and helping each other, and checking and testing each other for understanding..

example: There is a lot of positive encouragement in a football match. The players and coaching staff improve the play of the team by talking to each other encouragingly and by sharing strategies as they play.

3. **Individual and Group Accountability** - Each learner must come to a certain level of understanding, and then build on that understanding to help the group.

example: In football, both the team and the individual players are evaluated by the overall win-loss record as well as statistics kept for individual players. Both types of information are used to judge the quality of the team

4. **Use of Interpersonal Skills** - Each learner must learn and practice the social skills required for teamwork: leadership, trust, patience, respect,

communication, listening to others, staying on task, and conflict management.

example: Winning football teams demonstrate good spirit and interpersonal skills. The players respect the coach and follow the leaders on the team. Players are patient when a colleague is having a tough day or is playing when injured. Players listen to one another and communicate on and off the field. Players also give each other feedback on their performance.

- 5. Evaluate Progress as a Group** - Learners should discuss among themselves how well they are working together and achieving their individual and team goals as well as ways to proceed most effectively.

example: A good football team analyzes their play to determine actions that went well, and things that they need to improve. After a win or loss, the coach and players discuss the most successful plays, the plays that did not work, and what needs to be done to improve technique and teamwork.

Session 2 Handout

Survival in Lake Victoria

You are part of the crew of a plane that crashed on a small island in a remote part of Lake Victoria at 10:00 a.m. on the 15th of July. All the life rafts were burned in the crash and all passengers were killed but your crew of four survived. You know from the last readings from your flight equipment that you are about 50km from the nearest shoreline and that the area where you crashed is very rarely passed by boats. The island has trees and shrubs but no fruits or vegetables. There don't seem to be any animals either. You have decided to stay together with your crew in an attempt to survive.

The Problem:

Before your plane burned, the crew members were able to salvage the objects below, but they are unable to carry all of the items. They also saved enough food and drinking water to survive for one day.

- The first task is to decide as individuals whether the group should stay where they are and try and signal for help, or try to make it to the nearest shoreline. Then, the group should come together to compare decisions and agree upon a single course of action.
- Next, each individual should prioritize the objects in terms of their importance for the group's survival (from most to least important), using the numbers 1 through 10. Everyone will need to give reasons for their choices. Record your list of priorities in the table below
- Finally, the group should come together again to compare lists and agree upon a single priority list. Record that list in the table as well.

Items	Individual Priorities	Group Priorities
Pistol		
Sunglasses		
Parachute		
Small Mirror		
Small knife		
A box of safety pins		
A Flash light		
A coat for each person		

A piece of rope		
An empty water bottle for each person		
A book on fish and wildlife		
One plastic coat		
An axe		

Session 2 Handout

Types of Learning

The situations described below exemplify three types of learning situations: Individualistic learning, Cooperative learning and Competitive learning. Try to identify which sample is which.

1. A first grade teacher is reviewing the English alphabet with her class. She leads the class in singing the alphabet with her several times. Then, she tells each pupil to take out an exercise book and write down the alphabet. After 10 minutes, she collects and marks the exercise books.
2. A 4th grade teacher is teaching decimals to her class. After working several examples at the board, she calls up 3 different pupils. She writes up the same problem 3 times and tells each of the three pupils to solve it. She promises to give the fastest pupil a piece of candy if his/her answer is right.
3. A second grade teacher in Egypt is teaching her class about the four seasons - winter, fall, summer and spring. She asks her pupils to sit in groups of 3. She assigns each group to a season. Within each group she asks one person to think of a color, another to think of a food, and a third to think of a piece of clothing that they associate with that season. She encourages the members of the group to help each other to think of appropriate examples. After five minutes, she asks the groups to help her generate a chart on the board summarizing all the information that they were able to come up with. She uses the chart to point out that when the weather and temperature change, people's habits do too.

Session 3 Handout

Steps in Using Cooperative Learning

There are many ways of conducting cooperative learning but most involve five steps that teachers should follow. The steps are listed here in the order in which teachers normally carry them out.

1. **Explain the objective(s) to the learners** – The teacher tells the learners what they will learn during the lesson and explains how the content is related to what they have been studying or will study (When the learner is oriented in this way he/she is more likely to concentrate on his/her work).
2. **Set up the work** – The teacher organizes the classroom to facilitate group activity, arranges the learners in groups, and assigns learners to roles (e.g. timekeeper, recorder). The teacher double-checks to ensure that the responsibilities associated with the different roles are understood (When learners are given a role to perform, they are more likely to take their work seriously and to attend to the activity).
3. **Define the task and how learners are to relate to each other** – The teacher clearly defines the task to be done, any steps involved, and the time allotment. He/she then teaches any prerequisite concepts that are required or arranges to have appropriate sources of the information available. Finally, he/she gives clear guidelines as to how the group members are to interact and the way the members are to treat each other (When learners understand exactly what they are to do, and it is clear that they must work well with others, they are more likely to succeed in an activity).
4. **Monitor** – After the groups start work, the teacher circulates among them and observes progress on the task and the way the teams are interacting. He/she intervenes when a group or individual needs help with the task or teamwork, but avoids giving away answers or dispensing harsh criticism.
5. **Evaluate the learning and behaviour of individuals as well as groups** – When the activity has been completed, the teacher checks success in meeting the academic objectives by both groups and the individuals within them. He/she also checks/comments-on the quality of each group's teamwork and the behaviour of individual team-members (for the success in meeting the social objectives). He/she praises the individuals who worked well and efficiently together (praise encourages the good performers and motivates others to try harder the next time around).

Session 3 Handout

Varieties of Cooperative Learning

Jigsaw

This cooperative learning method was developed by Aronson (The Jigsaw Classroom, 1978). (There are now two additional versions: Jigsaw II and Jigsaw III). In Aronson's method each learner in a five-member home group is given information that comprises only one part of the lesson. Each learner in the group has a different piece of information. All learners need to know all information to be successful. Learners leave their original home group and form an "expert group", in which all persons with the same piece of information get together, study it, and decide how best to teach it to their peers in the original group. After this is accomplished, learners return to their home groups, and each teaches his/her portion of the lesson to the others in the group. Learners work cooperatively in two different groups, their home group and the expert group. Grades are based on individual examination performance. There is no specific reward for achievement or for the use of cooperative skills.

Jigsaw II

This modification of Jigsaw was developed by Robert Slavin. In it, competition occurs between teams of learners who compete for specific group rewards. The rewards are based on individual performance. Points are earned for the team by each learner improving his/her performance relative to his/her performance on previous quizzes. Also, all learners read a common narrative and then each is assigned a topic on which to become an expert. This version saves the teacher from having to prepare different sets of reading materials.

Jigsaw III

This method, developed by Spencer Kagan, is for use in bilingual classrooms. It follows the original Jigsaw format but the groups consist of one English speaker, one non-English speaker, and one bilingual learner. All materials are provided in both languages.

Student Teams –Achievement Divisions (STAD)

This method, developed by Robert Slavin, involves competition among groups. Learners are grouped heterogeneously by ability and gender etc. Learners learn materials in teams and take quizzes as individuals. Individual scores contribute to a group score. The points earned by the group are based on each learner's improvement over previous quiz performance. Slavin considers this method appropriate for a variety of subjects, including science, if the focus is on learning material with a single right answer.

Teams-Games-Tournaments (TGT)

Developed by DeVries and Slavin, this method involves the same use of heterogeneous teams, instructional format, and worksheets, as does STAD. For the tournament, learners from different teams are placed in groups of three learners of comparable ability. In TGT the academic game replaces quizzes. Although study teams stay together for six weeks, tournament content changes weekly.

Slavin advises teachers against using tournament scores for individual quiz grades and suggests that quizzes be used as well as midterm and final examinations. He suggests that TGT can be used two to three days a week in science to learn basic concepts, with laboratory activities taking place on the other two days. It is also possible to alternate TGT with STAD on a weekly basis. Learners appear to enjoy the challenge of the tournaments and, because they compete with others of comparable ability, the competition is perceived to be fair.

Session 5 Handout

Procedure for Displacement Experiment

1. Add water to the catch bottle until it is about half full.
2. Use a marker to carefully mark the initial water level.
3. Tie a piece of string to the small stone and gently lower the stone into the water until it is fully submerged. Notice what happens.
4. Carefully, place a second mark next to the new water level.
5. Remove the small stone and add enough water to bring the water level back to where it was initially.
6. Repeat the process with the medium sized stone and then the large stone. Notice what happens to the water level after each stone is submerged. Pay attention to any differences.
7. When the group has finished, there should be four marks on the bottle. One mark should indicate the initial water level. The other three marks should indicate the water level after the small, medium sized, and large stones were immersed. If this is not the case, you may have to repeat all or part of the experiment.

Questions:

1. What happened to the stones when they were immersed in the water?
2. What happened to the water when the stones were put in?
3. What caused the water to behave as it did?
4. How did the result differ when you submerged different sized stones in the water?
5. How do you explain the differences in the reaction caused by submerging small, medium sized and large stones?
6. How does the phenomenon you observed relate to measuring the volume of an irregularly shaped object?

Session 6 Handout

Advantages of Using Cooperative Learning

Most classroom practice has been predominantly "talk and chalk", and this may have slowed down some learners' achievement levels and brought down their creativity and motivation to learn. Often, the result has been low levels of motivation, and competition rather than cooperation in learning.

Research now strongly supports the advantages of CL over competition and individualistic learning in a wide range of learning tasks. Consequently, it is strongly recommended that teachers adopt techniques and activities that enhance CL as a way of maximising pupils' learning achievement, motivation and development of skills. A few of the advantages of CL are listed below. For convenience, we have clustered them within three categories. The list of advantages is very long. Feel free to add any you can think of!

Development of Self Confidence and Motivation to Learn

- Learners are known to learn more when they are driven intrinsically (from within themselves). CL enhances learner driven (intrinsic) motivation.
- CL. increases the number of ideas, quality of ideas, feelings of stimulation, enjoyment, creativity of expression and involvement. It therefore enhances creative thinking.
- During CL. activities, the teacher constantly monitors progress and rewards effort. Thus, every success the learner achieves is positively rewarded.
- Low achieving learners can contribute to the group and experience success (inclusive learning) during CL. Since the achievement of the group is shared among group members, no one feels left out.

- CL provides support and care for each member of the team. Children's confidence is enhanced and psychological stability provided for.
- CL. increases learners' self esteem and personal worth. By associating themselves with group achievement, learners gain high self-esteem.

Promoting Student Achievement in Content knowledge and skills

- All learners increase their understanding of ideas by explaining them to others. This is ensured because individuals work in pairs/groups to accomplish a task.
- Learners who work with others at a task better understand the steps in finding the solution. This improves their retention of the new material.
- Success associated with CL drives the learners to learn better. As a result of participating actively their achievement levels also rise.
- CL. allows for ongoing evaluation by learners and teachers both during and after group activities. The process is a joint effort of the two parties and the reason for lack of progress is easily identified; and corrective measures can be instituted.
- When learners are at task, the processes they go through sharpen their intellect and new ideas are generated by individuals and the whole group. The urge to get the solution to the problem results in highlighting the level of reasoning (metacognition).
- Active learning experience is provided through the activity. The 'practice' aspect keeps learners alert throughout the task.
- The tasks presented pose a problem which must be solved. By continuing to search for answers, the pupils' level of persistence and perseverance increases, and so does the level of concentration.

- It is argued that the inability of some learners to perform well in some subjects stems from attitude especially coupled with fear. CL eliminates the fear for many individuals.

Development of Social Skills

- Learners get to know and trust each other. The arrangement forces learners to work with each other and in so doing; the pupils gain a high level of companionship, trust, understanding and feeling for each other.
- Activities are structured such that every member of the group/pair has a role to play. The skill of taking turns and playing roles is therefore developed.
- Learners are assigned to others to form pairs or work in groups. Each member is expected to work within their group. The social skill of identifying and belonging with a group is enhanced.
- CL encourages optimal use of resources. The learners use materials in groups/pairs, so the skill of sharing is developed.
- Interpersonal skills must be mastered for each group to accomplish the tasks. Conflicts must be resolved constructively, disagreements are resolved amicably.
- In many groups learners come from different backgrounds. When they work in teams as pairs/groups, the differences are narrowed and a positive relationship develops among them.
- Working as a pair requires a contribution from both members. So does working in groups. Interdependence is enhanced since the results will be deemed a group product. In addition, individual accountability is improved.
- Learners get peer support and social support (as part of the learning team, learners, accent and support each other to achieve success)

- CL develops learners' communication skills because they must make use of voices, expression of ideas and feelings etc.

Reading List:

The list for Cooperative Learning is not exhaustive use the internet to search for more data on the subject.

Cohen, Elizabeth G.: Restructuring the Classroom: Conditions for Productive Small Groups. Madison, WI: Wisconsin Centre for Education research, 1992. Ed 347 639.

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Stahl, Robert J. Cooperative Learning in Social Studies: A Handbook for Teachers. Menlo Park, CA: Addison-Wesley, 1994.

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Balom, Stephen. Cooperative Learning, Washington DC, Office of Educational Research and Improvement, 1992.

Roger T. and David W. Johnson in J. Thousand, A. Villa and A. Nevin (Eds), "Creativity and Collaborative Learning" Brookes press Baltimore, 1994.

Session 6 Handout

TASK SHEET

This lesson was observed in a nearby school.

Class: P.4
Subject: Social Studies
Topic: Constructing and Using Simple Instruments for Measuring Weather.

Objectives:

- Name and identify some elements of weather;
- Describe the instruments with which each element is measured
- Identify the units used to describe and measure each element

Procedure:

The teacher explained the purpose of the lesson to the pupils, and the class was divided into groups. Each group chose a leader and recorder. Each group was given several instruments that are used to measure elements of the weather and a book that describes how to predict the weather. Pupils within the groups worked in pairs and assisted each other in performing one of the tasks listed below. Upon completion of their task, the pairs compared their results with those of a neighbour. Then the group met as a whole to agree upon a result for each task. While the pupils worked, the teacher circulated and monitored the action. She clarified, corrected and offered support as needed. The pupils returned to a plenary where each recorder reported to the whole class on the conclusions of his/her group. The teacher summarized the reports on the chalkboard. To conclude the session, the pupils took a test dealing with instruments that measure weather elements.

Tasks:

Task I : Identify the elements of weather and describe the weather for the day.

- Task II** : Examine the calibrations on each instrument that you were given. For each instrument:
1. Draw a picture of the instrument
 2. Describe where the instrument should be placed
 3. Check the calibrations and write down the units of measurement

Handout Session 10

Topics for CL Lessons 1
Extracted from Uganda Primary School Curriculum
(Volume 1)

Assume that you are a primary school teacher. Design a cooperative learning lesson for one of the syllabus areas listed below:

Lower Primary : P.1A
Theme : The Human Body
Topic : Body Parts
Content: :
1. Identify head, eyes, nose, hair, mouth
2. Describe the uses of these body parts
3. Explain how to care for these body parts

Middle Primary : P.4 A
Theme 4 : The Human Body
Topic : The Muscular and Skeletal System
Content : List parts of the muscular skeletal system and describe their functions

Upper Primary: P.6 A
Human Health
Topic : Accidents and first aid
Content : Burns and scalds
1. What they are
2. Causes, Prevention
3. First Aid

Session 10 Handout

Cooperative Learning Lesson Form

Class / Stream: _____

Subject: _____

Topic: _____

Objectives:

- Academic**
1. _____
 2. _____
 3. _____
 4. _____

- Social:**
1. _____
 2. _____

Procedure / Lesson Development

Step	Content
Presentation	
Practice	

Towards Improved Classroom Instruction: "Cooperative Learning in the Classroom"

Performance / Evaluation a) Academic b) Social	

Self Evaluation/Remarks:

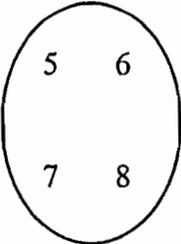
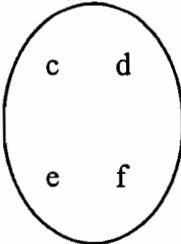
Session 9 Handout

Traditional Lesson Sample Version 2

Learning Objectives:

By the end of the lesson, pupils will be able to:

- Explain the concept of equal and equivalent sets
- Define and use equivalent sets

Traditional Version	Cooperative Learning Version
Presentation	Presentation
<p>Teacher writes the topic on the blackboard "Equal and equivalent sets"</p> <ul style="list-style-type: none"> • Teacher asks questions on content from the previous lesson on sets <ul style="list-style-type: none"> - What is a set? - What are equal sets? • Teacher draws two sets on the chalkboard <div style="display: flex; justify-content: space-around; align-items: center; margin: 10px 0;"> <div style="text-align: center;"> <p>K</p>  </div> <div style="text-align: center;"> <p>L</p>  </div> </div> <ul style="list-style-type: none"> • Teacher asks pupils to tell the number of elements in each set. Teacher asks pupils to identify the intersection of set K and L and point out the union of set K and L. • Teacher defines equal sets and equivalent sets 	

Practice	Practice
<p>• Teacher draws five sets A, B, C, D, and E on the blackboard.</p> <div style="display: flex; justify-content: space-around; text-align: center;"> <div style="border: 1px solid black; border-radius: 50%; padding: 10px; width: 40px;"> <p>A</p> <p>a b c d e</p> </div> <div style="border: 1px solid black; border-radius: 50%; padding: 10px; width: 40px;"> <p>B</p> <p>0 2 4 6</p> </div> <div style="border: 1px solid black; border-radius: 50%; padding: 10px; width: 40px;"> <p>C</p> <p>Y w x y z</p> </div> <div style="border: 1px solid black; border-radius: 50%; padding: 10px; width: 40px;"> <p>D</p> <p>6 2 4 0</p> </div> <div style="border: 1px solid black; border-radius: 50%; padding: 10px; width: 80px;"> <p>E</p>  </div> </div>	
Performance	Performance
<p>• The teacher asks learners / pupils to answer the following questions:</p> <ul style="list-style-type: none"> - How many elements are in set D? - Pick a pair of sets which are equivalent. - Pick a pair of sets which are equal. - What set is equivalent to set C? 	

Handout Session 9

**Traditional Lesson Sample
Version One**

Learning Objectives:

By the end of the lesson, learners should be able to:-

- Identify types of accidents
- Identify the causes of burns and scalds; demonstrate how to prevent and treat them.

Traditional Version	Cooperative Learning Version
Presentation	Presentation
<p>Teacher tells children that they are going to learn about accidents and First Aid.</p> <p>Teacher writes the topic on the blackboard: Burns & Scalds. Teacher asks pupils: "What is an accident?"</p> <p>Teacher explains what accidents are and where they occur. Teacher explains the causes of accidents. Teacher says that burns & scalds are also accidents.</p>	
Practice	Practice
<p>Teacher explains what scalds are and what burns are. Teacher tells pupils the causes of scalds and burns and how they can be prevented and treated.</p>	

Performance	Performance
<p>Teacher writes questions on the blackboard for children to answer.</p> <ul style="list-style-type: none"> • What is a scald? • What is a burn? • List one cause of a burn and one for a scald • List one way scalds can be prevented? <p>Pupils write the answers in their exercise books.</p> <p>Teacher goes around marking the children's answers.</p> <p>Teacher tells children to collect their books at the end of the lesson.</p>	

Session 9 Handout

FORMAT FOR COOPERATIVE LEARNING LESSON PLANNING

Class / Stream: _____ **Subject:** _____
Topic: _____

Objectives: Academic : 1. _____
 2. _____
 3. _____

Social : 1. _____
 2. _____
 3. _____

Procedure / Lesson Development

STEP	SPECIFIC QUESTIONS TO ANSWER
Presentation	<ul style="list-style-type: none"> • How will the lesson begin? • How will the objectives be explained to the learners? • How will prerequisite content be identified and delivered systematically to the learners? • What role will individuals/pupils play? • How will the learners be motivated?
Practice	<ul style="list-style-type: none"> • How will the learners interact with the new content? • What roles will individual learners, groups play? • How and when will the teacher intervene? How will the individual learners interact with each other?
Performance / Evaluation	<ul style="list-style-type: none"> • How will academic learning be evaluated? • What will be the indicators of work accomplished? • How will feedback be processed by the groups? • How will the social skills being targeted be identified and evaluated?

Handout Session 9

Cooperative Learning Lesson Comparison

Learning Objectives:

By the end of the lesson, learners will be able to:

1. Identify the passive and active voice and distinguish between them.
2. Convert passive sentences to active ones and vice versa.

Traditional Version	Cooperative Learning Version
<p>Presentation</p> <p>The teacher writes sentences in the active voice on the blackboard. "I cleaned the blackboard." The teacher then explains the passive voice and translates the sentences into the passive. "The blackboard was cleaned by me."</p>	<p>Presentation</p> <p>The teacher writes the sentences "I cleaned the blackboard" and "The blackboard was cleaned by me" on the board. She asks learners to identify the differences. Once they have noted differences, she tells them that the construction that uses "by me" is the passive voice, and the other construction is the active voice. She then writes two further examples of sentences in the active voice, and calls on 2 more learners to convert them to the passive voice.</p>
<p>Practice</p> <p>The teacher writes sentences in the active voice on the blackboard. "I cleaned the blackboard." The teacher then explains the passive voice and translates the sentences into the passive. "The blackboard was cleaned by me."</p>	<p>Practice</p> <p>The teacher asks her learners to sit in groups of 3. She tells them that they will do an activity to practice changing sentences from active to passive voice. She asks one member of each group to be the reader, another member the writer, and a third member to be the reporter.</p> <p>The teacher tells the learners that, at the end of the activity, everyone must understand the difference between active and passive voice and be able to convert from one voice to the other. She also emphasizes that group members must help each other to do so.</p>

	<p>She explains to the groups that she will give each reader, a piece of paper with four sentences written in the active voice. The reader's job is to read the sentences to the others one at a time. The group should then discuss how each sentence could be converted into the passive voice.</p> <p>Once the pupils agree on what the passive version for a sentence should be, the writer should write it down and give it to the reporter. The teacher tells the groups they will have 20 minutes for the activity.</p> <p>During the 20 minutes, the teacher circulates among the groups to be sure they are following instructions and to offer guidance when the discussion goes off-track or group members are not interacting well.</p>
<p>Performance</p> <p>Students copy the sentences into their copybooks and the teacher circulates monitoring for correctness.</p>	<p>Performance</p> <p>The teacher takes note of the performance of individuals and groups while monitoring and asks each reporter to report on his/her group's work, as well as on how easy or hard the activity was. Teacher praises team work and effort as well as right answers.</p>

Self Evaluation/Remarks:

Handout session 7

Procedures for Using Cooperative Learning

Before using CL a teacher must plan ways to prepare his/her learners to operate within the new way of doing things then follow the steps in using CL that were introduced during session 3. This handout describes some ideas that may make the process easier

Preparing the Learners

The learners in our classes come from different backgrounds and have different working experiences. Some learners might have experience with working in groups and others may not. Some may enjoy working group work while others may prefer working alone. So, before you start using CL you need to be aware of the learners' preferences and aptitudes for working in groups and think about ways to help the reluctant ones to accept the change. It is especially important to be ready to provide reassurances where needed.

Implementing the Steps for Using Cooperative Learning

In session 3 you learned that there are five steps that teachers should follow when implementing CL. However, not much information was supplied at that time as to ways to actually perform the steps in the classroom. The steps are repeated below along with a few tips as to ways to carry them out

- 1. Explain the objectives to the learners** - The teacher should tell the learners what they are going to learn in the lesson and how its content is related to what they have been learning or will learn in the future. (When the learners are oriented in this way, they are more likely to concentrate on their work.)
- 2. Set up the work** – Before setting up the work the teacher has a number of things to think about e.g. organizing the classroom, deciding which learners to group together, and his/her basis for assigning roles.

- a. Organizing the Classroom, the teacher must think in advance where the learners are going to sit (on the floor, in circles, grouped around tables scattered around the room?) and how the arrangement will be achieved (e.g. learners will move the tables?). These decisions will depend, in part, on the types of activities that will be involved in the lesson but may also be driven by the space available and the number of individual learners and groups that will be involved.
- b. Grouping the Learners. Before grouping the learners, think very carefully about who should be in which group. Doing this will require reflecting on the individual needs of learners, resources, time and the nature of task.

Be sure the groupings will not create conflict, hostility or frustration to any of the members. Decide whether the groups are going to be permanent or whether there will be a need for change. Remember, different kinds of groups offer different kinds of interaction and learning so try to remain flexible. Here are some possible ways to proceed.

Grouping by Ability

This way of grouping caters to ability by putting the bright, average and slow learners in separate groups. The main advantage of this type of grouping is that learners of differing ability can work at appropriate paces. Another advantage is that it is easy to manage the class because the learners can be kept on task with appropriate work.

One main disadvantage of grouping by ability is that the slower learners don't get the opportunity to learn from the bright ones. Another disadvantage is that the slower learners can become labelled and stigmatized. With this in mind, it is wise to avoid using names for the groups like "bright" and "slow." Though the learners will likely know the basis for the groups they are in, using names based on such things as colours can help avoid embarrassment. Letting the learners choose their own names is one way to avoid the problem. You can guide them to choose a name based on their favourite colours, birds, animals or flowers.

Mixed Ability Groups

This leads to groups of learners with differing levels of ability and proficiency. It provides the opportunity for learners to easily learn from one another because an assortment of talents and abilities are available. The slower learners are boosted by being helped and encouraged by the brighter ones but it is difficult to challenge the learner who is more apt. Parents of brighter learners may object to this form of grouping on the assumption that their offspring will be slowed down by having to help group-mates who are not as quick.

Friendship Grouping

In this approach, learners are free to choose who they want to work with. This arrangement encourages more active participation because learners are interacting with friends. However, grouping in this way may encourage chatting and learners spending less time on task.

Grouping by Interest

This type of grouping is based what the learners want to do. The common interest of learners in a group often leads to a sharing of ideas and good social interaction. The main advantage is that learners do best what they choose to do rather than what the teacher chooses for them. The disadvantage is that learners may choose to work with a friend rather than a subject or activity.

Gender grouping

This method of grouping is based on the assumption that boys and girls may have different needs or interests. Boys and girls may work well if isolated but grouping this way can be very divisive.

- c. Assigning Roles. Assigning learners to a role in the work of the group such as leader, recorder or timekeeper can give the individuals a sense of responsibility and ownership. But, to be effective, the learners need to know what role they are to play and what their responsibilities are. At first, you may wish to

assign roles based on the skill, confidence and aptitude of the learners and the way they are perceived by other group members (e.g. pick a popular learner with leadership skills to be the leader). But, try to use the early efforts as learning experiences in which everybody becomes familiar with the nature of all the jobs. At some point, try to give learners the chance to grow (e.g. deliberately choose the quiet, shy learner to be leader so that they can acquire leadership skills, confidence and enhanced self esteem).

- 3. Define the task and the way learners are to relate with each other** - The teacher needs to clearly define what is to be done and explain to the group the goal of the work. The learners must know the steps involved in the task and the time they have to do the activity. The members of the group need to feel that they are in the situation together and need to be concerned with other group members' understanding of the content as well as their own. Specify the basic behaviours you expect to see in the groups (e.g. taking turns, listening to one another, providing support, responding to others' questions, discussing without criticism). Lastly, tell the group how they are to report. Doing these things this will help the individuals and the group to understand exactly what they are to do and how they are to do it.
- 4. Monitor** - The teacher needs to circulate among the active groups and monitor carefully how well they are functioning. Check to see if the learners are on-task academically and that they are interacting well. Jot down observations that will help you to provide feedback to the whole class later. Intervene whenever necessary. Provide assistance with the task by clarifying instructions, reviewing procedures, teaching task skills or asking and answering questions. Draw upon the skills and expertise of the group as much as possible. Teach collaborative skills if the group is not functioning properly. Find ways of turning problem solving back to group members. Doing so can increase individual commitment to the group and maximize learning
- 5. Evaluate the Learning and behaviour of individuals as well as groups-** When the learners have completed the task, the teacher checks the success of the individuals *and* the groups in meeting both the academic objectives and the social ones. One way that the teacher can check the progress of individuals is by administering tests

individually. Another is to randomly select one group member to be quizzed on what has been done and learned. Evaluation of group performance can include judging the quality of group reports and directly observing the behaviour of the group (as part of monitoring). Having the learners reflect on what went well in the group and determining what could be improved the next time can be an effective tool as well.

Session 8 Handout

Using Cooperative Learning In Large Classes

Cooperative learning is always characterised by the presence of the elements and steps that you have become familiar with but teachers must make adjustments to cope with differing circumstances. This handout focuses on ways that teachers in Uganda can implement CL within the constraints that they are likely to face. Special attention is given to ways to compensate for the large classes that characterize Ugandan primary schools.

Review of Essential Tasks for CL:

By now, you should know that every teacher who proposes to use CL has many decisions to make and things to do. For review, some of the more important ones are listed below.

- Decide when to use CL. Timing? Content?
- Organise the classroom for CL
- Establish criteria and procedures for forming groups.
- Establish criteria and procedures for selecting and orienting group leaders.
- Establish procedures for providing learners with any prerequisite knowledge or skills that they lack.
- Decide how he/she will explain to learners the academic tasks they are to do and the cooperative methods they are to exhibit.
- Decide ways to monitor the progress of the groups.
- Determine ways to evaluate the achievement of individual learners and the collective achievements of the group.

The special problem for Ugandan primary teachers is that they must make the key decisions and do what is required within rather severe constraints. The biggest problem is finding ways to cope with the very large numbers of pupils in each class. The rest of this handout is devoted to some suggestions as to how to do this.

1. Solicit Volunteers:

One way to make it easier to cope with large classes is to get some help. Monitoring several small groups is less difficult when there are two or more people to share the work. One way to find this kind of help is to solicit volunteers. Concerned parents are a particularly rich source of volunteer help.

When dealing with volunteer help keep in mind that they are not likely to be trained teachers. This means that you must be careful in making assignments and be clear as to what the person is expected to do.

2. Make small groups larger:

CL is often characterised by the use of small groups of 3-6 learners. However, in large classes using groups this small would result in large numbers of groups which in turn, would be difficult to manage. One way to simplify matters is to include larger numbers of learners in each small group. Doing so reduces the total number of groups and makes it easier for the teacher to monitor the action. Optimal group size for Ugandan classrooms is 8-10 pupils but even larger numbers of participants may be necessary.

3. Get help from your pupils:

One of the advantages of cooperative learning is that pupils take responsibility for some of their own learning thus freeing up the teacher to deal with them individually or in small groups. One way to take full advantage of this bonus is to identify a few pupils who have leadership skills and train them to be small group leaders. If the training is well done it will create a cadre of "deputy teachers" who can ensure that the small group sessions go smoothly and take a lot of pressure off the teacher.

A good basis for training group leaders is the handout for session 2 entitled "Elements of Cooperative Learning" which spells out the way that pupils should behave in small groups. Explain to the budding leaders what each element entails and give them some practice in putting the activity into practice. Then, when the trainees begin to actually serve as leaders, monitor their behaviour and make corrections when necessary.

One disadvantage to using specially trained group leaders is that the practice limits the number of pupils who get to be the leader. This can be a real limitation to a shy learner who would really profit from the experience. You can overcome this problem by changing leaders periodically.

4. Divide the class in two

Another way of making it easier to use CL with large classes is to divide the class into two sections and have one section work in groups, while the other works as a whole class. After a time, the two groups can be switched so that everyone experiences both types of instruction.

Dividing the class in this way simplifies the management problems of the teacher because the number of pupils operating in the CL environment is cut in half. On the other hand, doing this means that the teacher must plan two distinct lessons and keep an eye on two distinct sets of pupils. This requires thorough planning on the part of the teacher and a lot of learning resources to keep the small groups busy while the teacher deals with the large group.

If you try this process, you need to ensure that the overall environment is conducive to learning. To do this, you must set up two different learning areas and supply plenty of instructional materials for learners to interact with. The idea is to allow time for the groups to collaborate effectively but give the teacher the chance to monitor the action while simultaneously keeping the large group productively occupied.

5. Vary the way pupils interact

A. Try using a jigsaw

Jigsaw is a commonly used procedure for organizing CL that features the formation of expert groups to discuss parts of a topic. You were briefly introduced to jigsaw in session 3 and experienced the process in Sessions 4 and 7. By using jigsaw in a large class a teacher is able to cover more content in each lesson.

Here's an example of using jigsaw to teach. P.5 Social Studies

Suppose the topic is: Uganda as an independent country and the subtopic is: Symbols of an independent nation.

The subtopic could be further divided into four focus areas with different activities for each. If that were done, four different groups could be doing different activities at the same time. Here is an example of how the breakdown might be made.

Activity One: Colours of the national flag

1. name the colours of the Uganda national flag
2. discuss the meaning of those colours

Activity Two: The national anthem

1. discuss the words of the anthem
2. discuss the significance of the anthem
3. talk about occasions when the anthem is sung
4. practice singing the anthem when standing on attention

Activity Three: Coat of Arms

1. discuss the meaning of the pictures which make up the Uganda coat of arms.
2. talk about some of the places where the coat of arms appears.

Activity Four: Language

1. list the different languages spoken in Uganda.
2. explain why English is Uganda's official language.

Now let us consider a way to organize the instruction using a jigsaw. Assume that you have a class of one hundred learners.

One way to proceed would be to put the pupils into ten groups of ten learners each and give each learner a number from 1 to 10. Then, you might assign each group to one of the subtasks listed above. When the subtasks have been completed you would ask the pupils to regroup so that all number 1's, 2's, 3's sit together and so on until you get to the 10's. Call each of the new groups an "expert group"

In the expert groups, each learner will have previously studied a different topic so they all have information that the other members do not. Each member then shares his/her information with the others. Once

the information has been shared, all members of each expert group must decide how best to teach everything they've learned to their peers back in the original (home) group. The learners then return to their home groups, where everyone teaches her/his portion of the topic to the others in the group.

A big advantage of jig sawing is that each learner has a real need to participate in their home group. This is because he/she must report to the expert group on what the home group did. The learners must pay attention in the expert groups as well because they are expected to teach what they have learned to their home group-mates.

B. Try Brainstorming

Brainstorming is a technique in which groups try to generate as many ideas as possible. It can work in large classes because the groups can be as big as 10 – 12 learners each. Here's one way of organizing for brainstorming.

A good way to begin is to write the topic or problem on the chalkboard /flipchart and display it where learners can read, re-read or refer to it, for example, a teacher might write: "How can we control soil erosion on our school grounds?"

When the topic or problem is understood, put the learners into groups and make the usual arrangements for CL (e.g. assign roles). Then, explain the brainstorm process and ask them to begin. Emphasize that the brainstorming session should be in two parts.

1. A creative part: During this stage the group tries to create as many ideas as possible. Learners should be encouraged to contribute any idea that comes to mind no one should question or criticize any idea brought forward. All ideas are accepted and recorded by the secretary.

2. critical evaluation: During this stage the learners should be more critical. They should be encouraged to discuss all the ideas generated in part 1 and choose the ones that seem to be the most useful.

Here are some suggestions as to how to structure the discussion after the groups have completed their work.

1. Bring the whole class back together and have each reporter list the ideas that were generated by his/her group in order of priority.
2. Write the ranked ideas from all groups on the chalkboard / flipchart
3. With the help of the class, choose the best ideas from the total list and rank them based on usefulness.
4. Discuss each of the highly ranked ideas with the class.

C. Use Quality Circles

Quality circles work well in situations where there is a specific concern to be addressed e.g. inadequate classroom performance. It can also work with topics like HIV/AIDS, Health and Sanitation, Food and Nutrition – Keeping healthy, environmental conservation and degradation Here are the steps that are normally followed in using this approach.

1. Pose the general question or concern to the whole class and encourage the group members to offer comments or suggestions (e.g. ways to improve the performance of the class).
2. Assign the pupils to groups on the basis of the suggestions made in the whole-class discussion. Have each group sit in a circle so everyone can see everyone else.
3. Tell the learners to exchange ideas about their particular part of the topic (e.g. ways to improve the effectiveness of group work)
4. Have the groups report on their deliberations. (e.g. present suggestions as to how group-work could be improved) Discuss their comments/recommendations with them and explain which ones are not feasible and why. .

D. Use Buzz Groups

Buzz groups are very good for generating ideas from learners. The groups are normally composed of about four learners, however, in large classes you could use buzz groups with ten learners or more.

The process for using buzz groups is to form the groups then give them time to discuss the topic. Organize the discussion as you would for brainstorming. Impose a time limit but no other constraints.

Normally, the group discussion is followed by a plenary session organised in the same way as a brainstorming session.

E. Group in Pairs: "Think – Pair – Share"

Working in pairs cuts the number of pupil units in half which makes things more manageable. Structure the discussion to stimulate the individuals to first think about the topic or problem themselves, then share their ideas with his/her partner. Where appropriate, emphasize compromise and collaboration

In this approach, learners should be given a question to answer. Each member is then told to answer the question individually. After each individual has an answer, the pair creates a joint answer that both partners agree upon and can explain. Both members of the pair must be able to explain the reasoning behind their own and the pair's answer.

To promote individual accountability, the teacher can randomly call on participants to explain their answers. To save time, the teacher can sample a few pairs to report. Ask pairs with similar ideas to put up their hands to help your selection.

F. Use Informal Groups

These groups are less structured and exist for a shorter time. Learners are simply told to turn to a partner or group to discuss a topic or question. This technique is particularly useful when doing a demonstration. Once learners complete their discussion, the teacher can choose a person to report and perhaps stimulate a discussion.

G. Use Group Investigation

Group investigations involve individual groups carrying out projects. For example a group might tackle the problem of trying to build a bridge that will support fifty kilograms. Often the projects extend over some time and involve doing some of the work outside of school.

Normally, learners doing projects are allowed to choose the group they join and therefore the topics they take on. The freedom to choose topics

promotes satisfied learners which, in turn, helps to reduce the burden of over-crowded classes. The fact that the teacher can provide support to groups rather than dealing with the whole class at a time simplifies management as well.

Here are some attributes of group investigations:

1. Group investigations emphasize more learner choice and control than any other cooperative method. Learners are involved in planning what to study and how to investigate.
2. In group investigations associations are formed on the basis of common interest in a particular aspect of a general topic. All group members help to plan how they will research the topic and how to divide the work among themselves. Each member carries out his/her own part of investigation.
3. The group synthesizes and summarises the work and presents their findings to the class. The teacher needs to adopt an indirect style of leadership, acting as a resource person while providing direction and clarification as needed. The teacher's task is to create a stimulating work environment

These are typical steps in using group investigations:

1. The teacher identifies the general topic. Through discussion, he/she helps the learners to identify sub-topics.
2. Learners work together to plan how they will carry out the investigation of their sub-topic or set of questions.
3. Learners work on their investigations. In addition to helping learners plan and locate resources, the teacher reviews with each group the activities that are planned for a certain class period.
 - a. Learners work together in their groups, analysing and evaluating the information they have obtained.

- b.** Each group presents a summary or demonstration of the results of its investigation so that all learners gain a broad perspective of the general topic.
- c.** The teacher evaluates all reports, demonstrations, and presentations as well as what individuals have learned. Learners provide feedback to groups.

Session 9 Handout

**“The 3Ps”
(Presentation, Practice, Performance)**

The 3Ps stand for “Presentation, Practice and Performance”. The 3Ps spell out the stages to be reflected in the lesson plan if a CL teacher is to be effective in the classroom.

Let’s look at what each “P” entails;

a) Presentation

This includes the way the teacher introduces the new content (skill, knowledge, and attitude) and is able to connect it to what the learner already knows. In CL, presentation normally involves explaining the objectives and setting up the work. It may also involve presenting prerequisite content.

b) Practice

This is the stage in which the learner interacts with the new content. In CL this usually involves defining the task to be done and the way learners are expected to interact with one another (including the “essential elements”). CL always involves placing the learners in small groups and encouraging them to work together to learn what is required. The teacher must plan how to manage the experiencing and sharing phase to the benefit of the individual learner, the small group and the class as a whole.

c) Performance

This is commonly referred to as the “evaluation phase.” The teacher receives feedback from the learners by focusing on the academic and social objectives set for the lesson. This could be in the form of concrete entities such as displays of articles, pieces of work or experiments with solutions or could be observations of social behaviour like teamwork. In CL both the individual and the group he/she participates in are evaluated.

Session 11
Workshop Planning
TTr Version

Length of Session: 2 hours

Objectives:

- To discuss possible plans for presenting a CL workshop

Materials/Preparations:

- Copies of all lesson descriptions and handouts used during this workshop
- Any notes taken by the participants during the workshop regarding ways to conduct their own CL workshop

Procedure:

Explain to the participants that they will have two hours to discuss ways to conduct their own CL workshop with special emphasis on ways to use the training materials that they have been given.

Step 1

Have the participants break into five or more groups of about equal size and have each group select a leader and a timekeeper. Ask the group leaders to check to be sure that all members have all session descriptions and handouts.

Tell the groups to begin discussing the materials session by session starting with session 2. As they discuss each session the individuals should try to identify any problems that they might have in implementing it during their upcoming workshop and things they might do to make the job easier. Some particular questions that the groups might think about are:

- Is the time estimate for the session realistic? Any adjustments in order?
- Were any parts of the session ineffective? What can be done about it?

- Did any ideas come out of this workshop that should be added to the materials for the session? (e.g. in session 8 are there additional suggestions for ways to use CL in crowded classrooms)

Tell the groups that they have 1.5 hours for the discussion which means that they should devote about 10 minutes to each session on average. Remind the timekeepers that they are responsible for keeping the group on schedule.

As the groups do their work, monitor the action and intervene when necessary. Listen carefully to what is being said and be sure that the discussions remain focused on planning for the upcoming workshops rather than becoming a general critique of the materials or the workshop. Also be sure that everyone in the group is participating. Take note of any especially interesting ideas that the entire group should hear about.

After 90 minutes call the group into plenary session and ask if anyone wants to share any especially interesting ideas about conducting the upcoming workshops? List any responses on a flip chart and add any thoughts that you came to mind while you monitored the group work.

Use the remaining time to clear up any unanswered questions or to add suggestions of your own on to ways to conduct a CL workshop.

Be sure to have participants fill out and turn in the session evaluation forms before closing.

Good Luck!

Session 11
Program Planning
TT Version

Length of Session: 2 hours

Objectives:

- Initiate teacher trainers' planning for the school-based programs they will be conducting to train local teachers to use CL.

Materials/Preparations:

- Copies of all lesson descriptions and handouts used during this workshop
- Any notes taken by the participants during the workshop regarding ways to conduct a training program for the teachers in their schools
- At least one page of flip chart paper per group + tape for posting the page on the wall

Procedure:

Explain to the participants that they will spend the next two hours discussing procedures for training teachers in their school to use CL with special emphasis on ways to organize their training program.

Step 1

Tell the participants that their first activity will be to share possible ways to organize the training program that they will soon be rolling out. Emphasize that the discussion should aim to identify patterns that are in line with the goals for the program which are:

- Orient teachers to CL and train them to use it,
- Stimulate as many teachers as possible to try out CL,
- Monitor teachers' use of CL and provide necessary follow-up encouragement and support.

Have the participants break into five or more groups of about equal size and have each group select a leader, a timekeeper and a reporter. Write the questions below on a flip chart or the board and explain that the groups will have 90 minutes to discuss them. Remind the timekeepers that they must keep the group on schedule and tell the recorders to summarize their group's comments on each question on a page of flip chart paper which should then be posted in a prominent place.

- When, and how often, will you bring the teachers together for training?
- How many training sessions will be required? What content and activities should be included in each session?
- How will you evaluate the degree to which teachers have learned what they should have?
- How will you stimulate your teachers to try CL in their classrooms?
- What kind of follow-up encouragement and support will be required? How will you provide it?

As you monitor the groups' discussions try to discourage any plans to use "chalk and talk" methods for the up-coming training programs. Teachers will not learn to use CL unless they get some hands-on experience with it during their training. Also, be sure that all members of the groups enter into the discussion. Take note of any especially interesting ideas that you think the entire group should hear about

After 90 minutes, call the group into plenary session and ask the reporters to summarize, question by question, the results of their discussions (to save time, remind the recorders to ignore points already made by other groups). In making their report, the recorders should refer to the flip chart page that they posted earlier.

When the reports have been completed, spend a few minutes discussing the overall results. Try to reach some consensus as to effective ways to organize the teacher training sessions to come

Use any remaining time to clear up any unanswered questions or to add suggestions of your own as to ways to conduct a CL teacher training program.

Towards Improved Classroom Instruction: "Cooperative Learning in the Classroom"

End the session and the workshop with hearty congratulations to the participants for a job well done and encourage everyone to give themselves a resounding clap.

Be sure to have the participants fill out the session evaluation forms and turn them in before everyone gets away.

Good Luck!

Session Evaluation Sheet Participant Version

Session Title: -----

Answer the questions after you complete the session. Try to be as specific in your answers as possible. In addition to pin point the problem, and suggest how it can be corrected.

What problem did you have in understanding what you were to do? How could the directions be made clearer?

What problem did you have in actually doing what you were supposed to do?

Do you think you learned what was intended about Cooperative learning? The content of the session important to

Was the content of session important to your understanding of cooperative learning? If not, what should be done about it?

Was the content dealt with effectively? If not what was wrong?

Towards Improved Classroom Instruction: "Cooperative Learning in the Classroom"

Were the handouts effective? Identify those that were problematic and tell us what needs to be done to them?

What logistical problems did you have? (e.g. forming groups, reporting, setting up equipment)

Overall, how would you rate this session from 1 to 10 (1=pretty bad and 10= very good)

Make any other comments about the session that you wish.

Workshop Evaluation Sheet Trainer Version

Name -----

Position -----

Please answer these questions after you have completed the workshop. Try to be as specific in your answer as possible. In addition pin point the problem, and suggest how it can be corrected.

Has the workshop been a worthwhile experience for you? If yes, explain. If no, why?

Do you feel that you now have a good understanding of Cooperative Learning? If not, what is missing?

Has the workshop prepared you to conduct a training session on Cooperative Learning? If not, what was lacking?

Are the training materials appropriate for use in your own training workshop on Cooperative Learning? How can they be improved for this purpose?

From your own assessment, can Cooperative learning be implemented in the primary school classrooms? If no, why?

Reflecting on the sessions, are there any sessions that you would delete or modify? If so identify the session(s) and point out what needs to be changed?

Towards Improved Classroom Instruction: "Cooperative Learning in the Classroom"

Make any additional comments that you wish about the workshop or the training materials.

HANDOUT FOR TRAINER OF TRAINERS & TRAINER OF TEACHERS

LESSON TOPICS PART II

Extracted from Uganda Primary School Curriculum (Volume one)

Lower Primary: P.2 Subject S.S.T

Topic: The School Neighbourhood

General Objective:

To enable the learner to describe the people in the school neighbourhood and their activities.

Lower Primary: P.2 – Mathematics

Topic: Operations on number

General Objective:

To enable the learner to carry out addition, subtraction, multiplication and division of numbers.

Lower Primary: P.2: Integrated Science

Theme: The world of living things

Topic: Plant life

General Objective:

To enable learner to acquire knowledge about plant life.

Lower Primary: P.2 English Language.

Unit: V

Topic: Shopping

General Objective:

To enable the learner to develop language related to shopping.

Middle Primary: P.3 English Language

Unit: VII

Topic: Accidents

General Objective:

To enable the learner to describe common accidents

Middle Primary: P.4 Mathematics

Unit: VII

Topic: Geometry

General Objective:

To enable the learner to form patterns and recognise shapes.

Middle Primary: P.3 S.S.T

Unit: IV

Topic: Important places in our Sub-county / Municipality

General Objective:

To enable the learner to name the important places in the sub-county / municipality and the functions.

Middle Primary: P.4 Integrated Science

Theme: 2

Topic: Sanitation

General Objective:

To enable the learner to:-

- Increase his/her awareness of vector and diseases spread.
- Develop skills for preventing, controlling and treatment of vector diseases

Upper Primary: P.7 Mathematics

Topic: Measures

Middle Primary: P.3 English Language

Unit: VII

Topic: Accidents

General Objective:

To enable the learner to describe common accidents

Middle Primary: P.4 Mathematics

Unit: VII

Topic: Geometry

General Objective:

To enable the learner to form patterns and recognise shapes.

Middle Primary: P.3 S.S.T

Unit: IV

Topic: Important places in our Sub-county / Municipality

General Objective:

To enable the learner to name the important places in the sub-county / municipality and the functions.

Middle Primary: P.4 Integrated Science

Theme: 2

Topic: Sanitation

General Objective:

To enable the learner to:-

- Increase his/her awareness of vector and diseases spread.
- Develop skills for preventing, controlling and treatment of vector diseases

Upper Primary: P.7 Mathematics

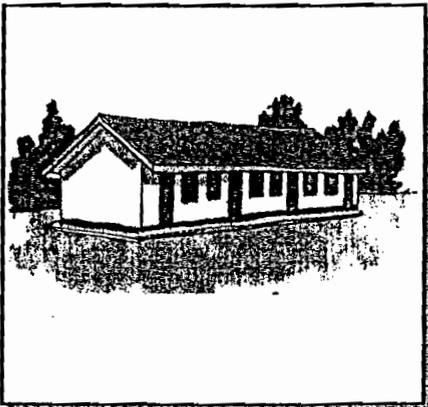
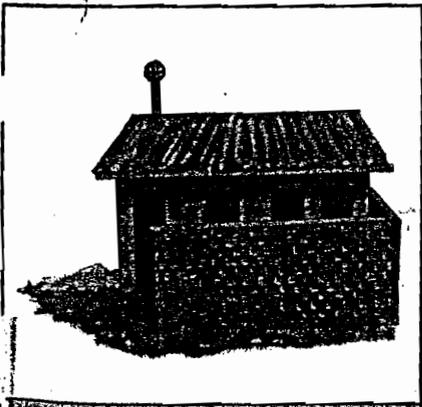
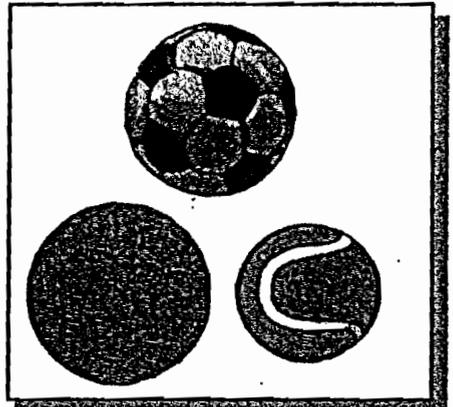
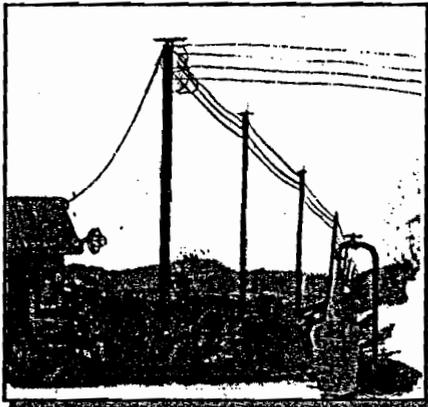
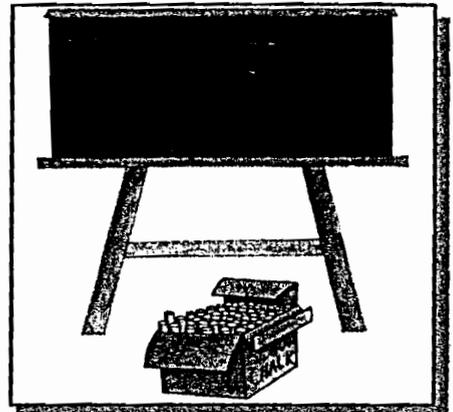
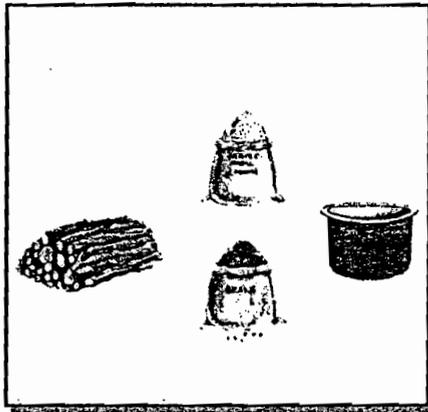
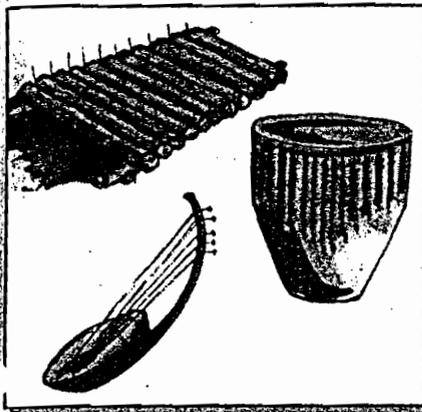
Topic: Measures

TOPIC 5

Our Needs at School

A school has many needs.

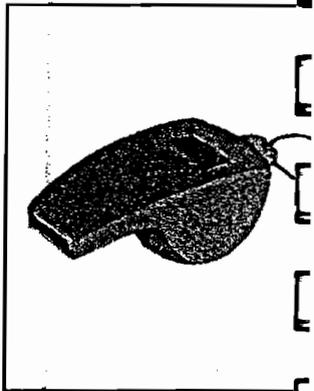
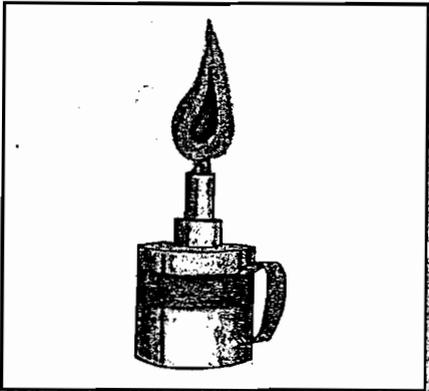
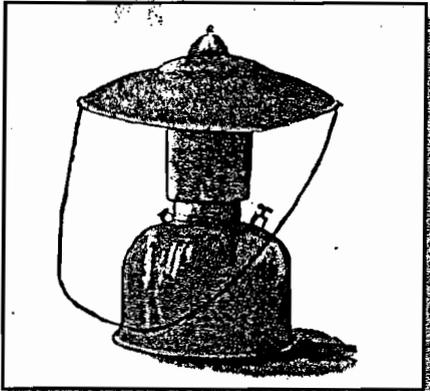
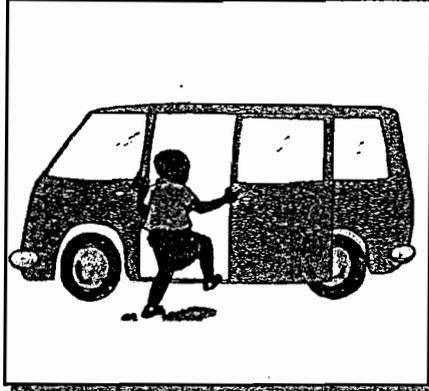
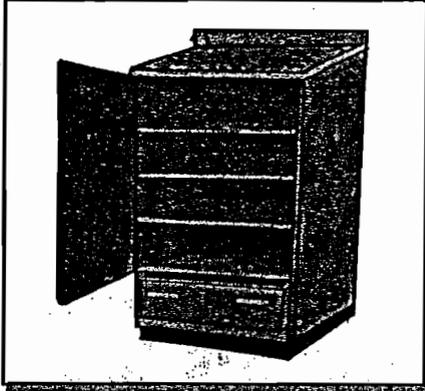
Here are some of the things needed in a school.



Name the school needs shown in the pictures above.

How does the school get these things?

What is use of each of these things?



Write down the things that you have at your school.

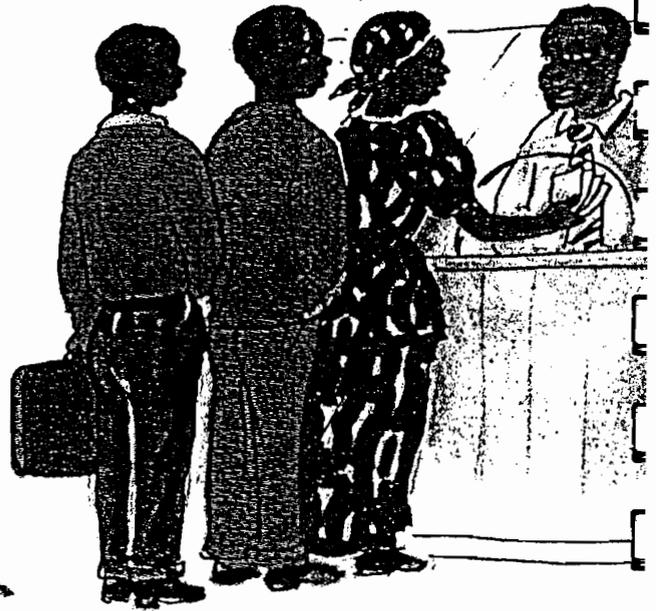
Ways in which the school needs are met.

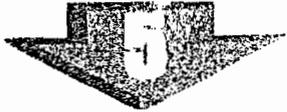
There are many ways in which a school meets its needs.

Many schools use government money to meet their needs.

Some parents pay school fees.

Some parents also give gifts to the school e.g books and pencils.





Our needs at school

The following help us to learn well:

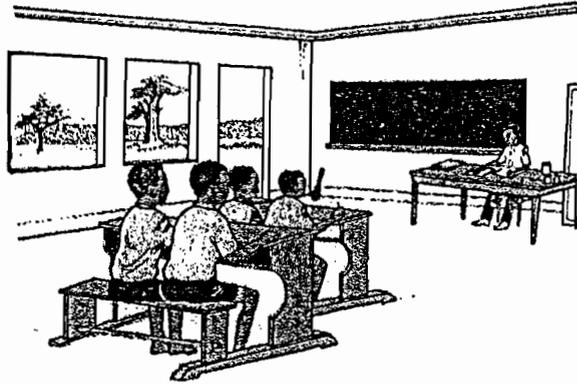
1. Buildings
2. Water
3. Learning materials
4. Furniture
5. Uniforms
6. Food
7. Security
8. Transport
9. Playground.

We need:

a library to read from 1



classrooms to learn in 2



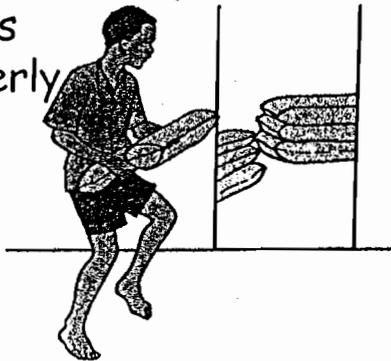
food for growth 3



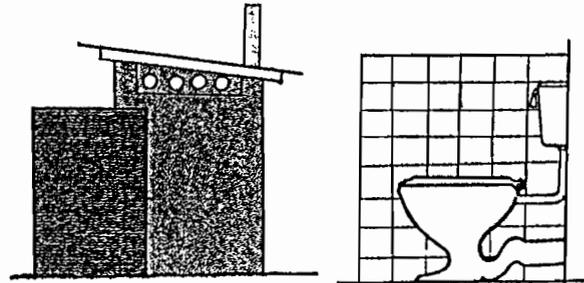
medical care 4



a store to keep school things properly 5



latrines and toilets to ease ourselves from 6

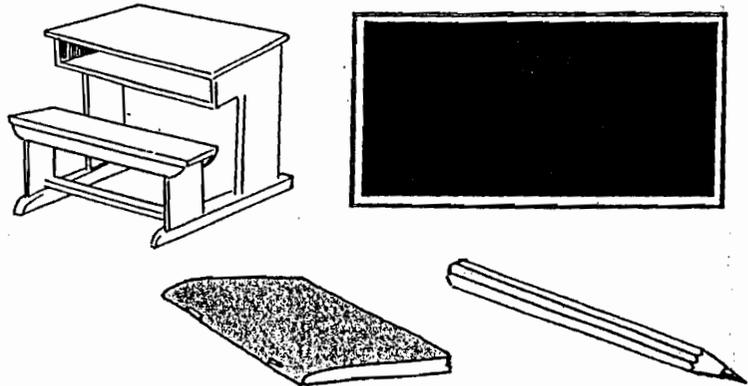


☺ What other things do we need at school?

unit **4** *Needs of our school*
.....

Our school needs many things.

What things can you see in the picture?



What other things does a school need?

A school needs money to buy things.



How does your school get money?