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Learning English as a Second Language through Exploring Prenumerical and Numerical Concepts

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Learning English as a Second Language

through

Exploring Prenumerical and Numerical Concepts

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for the Master of Arts in Teaching degree at the
School for International Training, Brattleboro,
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ABSTRACT

The purpose of this project is to present
some lesson plans for teachers of English
as a second language (ESL) to children
in the first years of school to show the
potential of numerical concepts to teach
ESL. Hopefully reading or looking at the
samples in creating units in ESL with
numbers as a content matter can give teachers
ideas about how to create their own lesson
plans using this or a different content mat-
ter. The project includes a study of the
Instructional and Performance Objectives,
Teaching Techniques, Visual Aids, as well
as Number and Language Games, among other
topics.

This project by Maria Angeles Barrero is accepted in
its present form.

Date August, 1973   Principal Advisor Janet Bing

Project Advisor: Raymond Clark

Personal thanks for help to Jan Bing, Ray Clark and Oden Oak.

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Instructional Objectives

The objectives of these lesson plans are presented in two sections, Numerical Objectives and Linguistic Objectives. Each lesson plan presents in detail the particular goal to be achieved in both sections. Most of the objectives are intended to develop the students' skills in recognizing, discovering, solving and expressing basic numerical concepts and operations in English.

The lesson plans introduce a numerical concept presented in a practical fashion. By actually dialing the numbers in a telephone number, or measuring quantities of a cooking recipe, the students can clarify their thoughts and form new concepts in an easy and efficient way.

In addition to a child's natural aptitude for game-playing, numbers can be used to a pedagogical advantage, and the learning process will be enhanced if a child's curiosity in numbers and numerical relationships is explored.

When presented with a game or an operation, making brownies, for instance, the children will quickly learn as much language as needed to play the game or to take part in the actual cooking. This is a learning strategy currently being used with children.

As well as having favorite numbers, children often are curious about other numerical concepts such as a grown-up's age. And, indeed, an age of 40 years is an awesome number when compared to a child's age of seven.

Numerical Objectives

The numerical concepts introduced in the lesson plans are sometimes new for the students, whereas others are familiar ideas that just need to be reinforced and practiced. The numerical objective of each lesson plan provides the conceptual framework of the lesson. The choice of numerical concepts has been determined by the degree of difficulty that children at this age, about seven years old, can handle. Once the numerical points were selected, the next task consisted in thinking of specific activities that might aid in presenting the concept to children. The activities selected should be adequate ones to get the children interested enough in the numerical concept. At the same time the activities should be fun for children, as well as be simplified or reduced to their essentials, when necessary. The directions for the activity should be clear and simple, so the children can understand them. The lesson plans present the numerical concept, making use of present and perceivable objects in the beginning. If the child is

only able to perform a number operation (for example "addition"), when the objects are in front of him, an intermediary step should be tried as suggested by Carl Bereiter. The idea consists of having the objects actually present, but covered so that they cannot be seen. The child then carries out the addition, knowing that the objects are really there.[1]

Two of the learning abilities most consistently developed in the lesson plans are those related to the following areas: visual perception— discrimination, identification of form, shape, size, and color— and "abstract thinking". The term "abstract thinking" encompasses:

> representation and the use of language to describe and deal with the objective world.... Representation is involved when one "thinks" about things that are not immediately present. In other words, representation involves the ways in which the child "re-presents" events — past, future, or imaginary. Representation is also involved in dealing with abstract qualities of objects, even if immediately present (e.g., "Which is heavier?"). Finally, representation is involved in the use of pictures, language and symbols to store, manipulate, and communicate information about the past, present and future.[2]

Linguistic Objectives

As fas as the linguistic objective is concerned, each activity can accommodate a variety of linguistic

structures, but usually there will be two or three, in each lesson. It may be easier for the beginning students, to get into the activity if the vocabulary to be used in the situation is limited according to their abilities.

In the language objectives there are a number of basic structures and tenses — commands, questions, short affirmative and negative answers, present progressive, past, future — that are used in different lesson plans in order to express the numerical concept in the lesson, as well as reinforce and improve the students' listening and speaking abilities. This reinforcement is necessary because by "overlearning" the basic and characteristic sentence patterns of the language, the process of second language learning is facilitated.

An oral approach to language learning is used in the lesson plans. Although it is necessary for the children to be familiar with reading and writing arabic numerals, no graphemic knowledge of any other writing is needed.

Pronunciation should be given adequate attention from the beginning. If the teacher really listens and pays attention to what the students say, (s)he can get a clue to how children think and be able to communicate with a child at his or her own level. Children's misconceptions often give insight into the way they see things.

Children should listen to the teacher, as well as one another. The children ought to speak with accurate pronunciation, including sounds, intonation, rhythm, stress, and juncture. By using numbers as the focus of the lesson plans, the teacher can work on pronunciation and cover many of the major sounds and some of the most difficult clusters of English. As you will note from the table on the following page a teacher will be using these sounds, when talking about numbers. The teacher does not have to give too much time or insist on absolute accurancy for the clusters, because they offer difficulty even for children whose first language is English.

Number	Sound
zero	/zirow/
one	/wən/
two	/tuw/
three	/θrɨy/
four	/fowr/
five	/fɨyv/
six	/siks/
seven	/sevɨn/
eight	/eyt/
nine	/nayn/
ten	/ten/
eleven	/ɨlevɨn/
twelve	/twelv/
thirteen	/θərtɨyn/
fourteen	/fowrtɨyn/
fifteen	/fiftɨyn/
twenty-one	/twentɨy-wən/
twenty-two	/twentɨy-tuw/
twenty-three	/twentɨy-θrɨy/
twenty-four	/twentɨy-fowr/
fourth	/fowrθ/
fifth	/fifθ/
sixth	/siksθ/
eighth	/eytθ/
ninth	/naynθ/
tenth	/tenθ/
eleventh	/ɨlevɨnθ/
twelfth	/twelfθ/
fourths	/fowrθs/
fifths	/fifθs/
eighths	/eyθs/
ninths	/naynθs/
hundredths	/həndrɨdθs/
thousandths	/θawzɨndθs/
half	/hæf/

Situational Teaching

All numerical and logistic concepts are presented in a real situation. Thus, on one hand the students are given immediate practice in listening and speaking skills, and on the other, situational reinforcement of the learning process is enhanced. Since the objectives are attained through the actual process of doing something, the learning process becomes easier and less painful.

The lesson plans look for a complete involvement of the children. It is intended to develop their ability to follow instructions, give commands, and especially gain the skill of verbal inquiry, because of the importance of question asking in the communication process. Effective communication from the beginning is the goal of "Situational Reinforcement techniques". These goals are accomplished when the children are involved in an actual situation.[3]

Performance Objectives

The Performance Objectives define concisely the behavior change that may be expected after the lesson is completed. This section is a combination and summary of the numerical and the linguistic objectives. The numerical and linguistic sections are expressed using terms that correspond to the

cognitive domain, while the performance objective section in each lesson plan describes learning in terms of the children's psychomotor skills, — they have to engage in behavior which requires physical activity.[4]

Perhaps one performance objetive activity could be to ask one or more of the students to describe or explain how to do a certain activity to someone.

From all the performance objectives listed in the lesson plans, 80 per cent of the answers should be correct before children progress to another activity.

The Students

These lesson plans are intended for teachers of ESL for children in their first years of school. The children should be ready for these particular numerical concepts. Stanley Sapon defines this state of readiness first as "the possession of requisite skills for making the required responses", and secondly as "being prepared to profit from the instruction".[5] The lesson plans require the children to have the numerical readiness to be able to apply the principles of classification, seriation and conservation of numbers. The following quotations give further insight to these principles:

> Children can be taught to count, but an understanding of number is something they must develop for themselves out of their experiences. Number is a logical concept built

up from the fusion of two prenumber ideas — classifi-
cation and seriation (arranging in order). A true
understanding of number depends first of all on the
development of these two logical operations, which under-
lie all types of analytical thinking.[6]

Classification requires the ability to recognize likeness
and differences between objects and to group them accord-
ingly.[7]

Seriation calls for arranging objects in a series accord-
ing to some specified order. Because this concept is
based on comparison, it is harder for children than clas-
sification, where they have only to decide whether or
not an object possesses the required characteristic —
for instance, "Is it red?."[8]

A child is sure that the two rows contain the same number
of objects as long as they are lined up one to one, but
that conviction leaves him when you spread the objects
in your row farther apart or put them closer together. He
can make the one-to-one correspondence sooner than he can
conserve it in the face of changing appearances. Not
until he becomes a conserver of number, which Piaget plac-
ed at about six and a half to seven, does he grasp the
essential idea of number — that is, that the number of
objects in a group remains the same no matter how they
are shuffled around.[9]

Although the English language learners may be begin-

ners, but it would be preferable that they have at least

informal exposure to the English language.

There are different points of view about the issue of

grouping children for instruction. I think it would be easier

to carry out these lesson plans if the grouping is made in

terms of a readiness level to deal with concepts of a numer-

ical kind similar in difficulty as that of the numerical

objectives in these lessons.

Teaching ESL through Content Matter

Teaching ESL through content matter, numerical concepts in these lesson plans, may help to present the language as a tool the students have to manipulate in order to get into the class projects. Another reason to teach ESL, through this particular subject matter, is that numbers are one of the first basic concepts children are introduced to in the first years of schooling. Numerical and linguistic sequencing can be worked out concurrently.

On the other hand, numbers pose other pedagogical advantages, for example their visual application can make the concepts come alive for the students.

Considerations on Teaching Young Children

It is important for teachers of young children to know that children learn from one another, through conversation and observation. Thus it may happen that a child who does not grasp a point or concept made by the teacher, will understand it, when remade by one of his peers. Because of these reasons and many others the teacher should plan for interaction and cooperation of the children in activities. When a group feeling develops it is easier to diminish the children's dependence on the teacher.

The teacher of young children has to both promote their work in groups and foster their ability to work

independently; with individualized attention given to those
who need it, during independent study. The teachers also
need to know that not all children will respond immediately.
Some children need to be allowed extra time, because of
unique individual abilities. Thus the same rate of progress
should not be expected and not all children will profit
equally from each lesson.

It is generally accepted that children do not go
through the frustation and anxieties of grown-ups when learn-
ing a second language, but, nevertheless, new vocabulary and
structures should be built into adequate steps, with sentence
reinforcement at a suitable pace.

In conclusion I would like to point out that before
teachers can arrive at solutions for helping children learn,
initially some basic problems must be understood. Why
children fail in learning, can be expressed no better than
Holt does in the following quotation:

> They fail because they are afraid, bored and confused
> They are afraid, above all else, of failing, of disap-
> pointing or displeasing the many anxious adults around
> them, whose limitless hopes and expectations for them
> hang over their heads like a cloud.
> They are bored because the things they are given and
> told to do in school are so trivial, so dull, and make
> such limited and narrow demands on the wide spectrum
> of their intelligence, capabilities and talents.
> They are confused because most of the torrent of words
> that pours over them in school makes little or no sense.
> It often flatly contradicts other things they have been
> told, and hardly ever has any relation to what they real-
> ly know — to the rough model of reality that they carry

around in their minds.[10]

Visual Aids

Visual aids are helpful in carrying out these lesson plans in a number of ways, i.e., to bring variety and refresh interest in the lesson, to stimulate children to speak English, to present the information in a meaningful way and to set up adequate activity in presenting the numerical concept. By using visual aids, the length of the teacher's explanations is cut considerably. A common focus of interest is provided to attract and keep the children's attention on the same spot for a short time, while the use of translation and mixing to languages together is avoided.

By using these kinds of aids to arrange situations, the teacher efficiently facilitates the process of learning the numerical concepts as well as bringing out the students' speaking ability.

At the same time most language teachers would agree that more effective learning takes place when a visual presentation is used to get the children's response, because in this way the interaction beween children and material is increased.[11]

Finally, arranging effective contingencies, experiences and situations may be the only procedures for teachers

to effectively enhance children's learning process, because it is generally believed that children cannot be taught how to learn. It is inborn.

Realia: Equipment and Material

The classroom should provide an exciting and interesting environment, offering the children means of making their own discoveries about numbers and the English language.

Here are some suggestions for materials to use in this kind of ESL class:

Tape recorder to record the lesson and follow-up review, to work on pronunciation and listening comprehension; slide projector and overhead transparency projector to keep a single focus of attention during part of a lesson; hand puppets for teacher to begin a dialogue or present commands as a real conversation exchange.

Equipment necessary to develop representation skills: the blackboard, wall charts, number charts, price charts, pack of flashcards of numbers, additional flashcards, calendars, stencils of numbers and geometrical drawings.

Objects for classifying, matching in one-to-one correspondence, and counting: dolls, bottles, jars, soda-straws, pipe cleaners, in different shapes and sizes. Beads, buttons, marbles, colored pebbles, shells, sticks, Cuisenaire

rods, bricks, logs, differently shaped hard-wood blocks, three dimensional numbers, cardboard boxes, sets of interlocking segments that can be put together to form numbers.

Equipment necessary for particular lesson plans: measuring aids: rulers, tape measures, yardsticks, string, balances, scales; real and play money; stamps sets; cooking utensils; play clock with movable hands, and real clock, and objects of daily living.

Lesson Plans

It is left to the teacher's discretion how to use the lesson plans. One lesson plan should not be the amount of information that can be presented at one time or that should be covered in one class period, especially since the child's attention span usually cannot be engaged for longer than twenty minutes. These lessons are planned with the idea that instruction should be one or two periods a day, five days a week. One characteristic of children's activities is the tireless way in which they do the same thing over and over again. The teacher should take full advantage of this characteristic and repeat those activities that become favorites to reinforce the same or different concepts.

The lesson plans are not daily sequenced. The arrangement of the lesson plans is sequenced according to the difficulty of the numerical objectives. The numerical sequence is an idealized intellectual development in the children. However, the lesson plans are not meant to be a kind of math method.

Finally, one other purpose of the lesson plans is to show the potential of numerical concepts in teaching ESL.

Lesson Plan 1

Realia: Stencil with students' and teacher's
                               phone numbers.

Numerical Objective: Reinforcement in listening compre-
                               hension and production of numbers
                               from 1 to 100.

Linguistic Objective: Reinforcement of the possessive
                               adjective forms, the possessive case,
                               and sentence pattern Whose number
                               is....?
                               Reinforcement of the interrogative
                               sentence pattern using What.

Performance Objective: Students can ask and answer the
                               question What's your phone number?
                               They will be able to answer the
                               question Is X's phone number...?
                               looking at the numbers in the
                               dittos.

Teacher writes the phone numbers on the blackboard, each name with its phone number, or hands the information in a ditto.

T.: MY PHONE NUMBER IS 254-6411

WHAT'S YOUR PHONE NUMBER, MARIA?

M.: MY PHONE NUMBER IS 256-1219

T.: MARIA'S PHONE NUMBER IS 256-1219

JUAN, ASK PEDRO WHAT HIS PHONE NUMBER IS

J.: PEDRO, WHAT'S YOUR PHONE NUMBER?

P.: MY PHONE NUMBER IS 254-4536

T.: JOSE, WHAT'S PEDRO'S PHONE NUMBER?

J.: PEDRO'S PHONE NUMBER IS 254-4536

Then, with hand and eye signals the teacher conveys the idea that (s)he wants the students to ask and answer this question.

T.: IS THAT MARIA'S PHONE NUMBER? (gesture)

S.: YES/NO

T.: YES, IT IS/NO, IT ISN'T

JUAN, ASK PEDRO IF THAT'S HIS PHONE NUMBER

J.: PEDRO, IS THAT YOUR PHONE NUMBER?

P.: YES, IT IS.

T.: WHOSE NUMBER IS 254-4119?

Other structures that can be presented while talking on phone numbers are:

My phone number is in the phone book (your, his, her, our, your, their).

Mine is in the phone book.
Is yours in the phone book? (hers, his, ours, theirs, yours)

Lesson Plan 2

Realia:	Number charts (1-100), (1-500), (1-1000).
Numerical Objectives:	Reinforcement in counting by 1's, 2's, 3's, 10's, 20's, 30's, from 1 to 100. by 50's from 1 to 500. by 100's from 1 to 1000.
Linguistic Objective:	Reinforcement in listening comprehension and production of the affirmative command form with the verb to count. Learning and practicing in listening comprenhesion of the form by 1's and the word backwards.
Performance Objective:	Students when requested to do so, can count by 1's, 2's, 3's, 10's, 20's, 30's from 1 to 100. by 50's from 1 to 500. by 100's from 1 to 1000.

A chart with numbers should be handy.

T.:   COUNT FROM 1 TO 100 (gesture). The students are able to

do this.

NOW, COUNT BACKWARDS (FROM 1 TO 100).

100, 99,98, 97... (s)he lets children continue.

COUNT BY ONES FROM ONE TO TEN

NOW, COUNT BY TWOS FROM 2 TO 100.

NOW, COUNT BY THREES FROM 3 TO 100.

The teacher can make use of this procedure to present the
sentences:

T.:   COUNT BY TENS FROM 10 TO 100.

COUNT BY TWENTIES FROM 20 TO 100.

COUNT BY THIRTIES FROM 30 TO 90.

CONT BY FIFTIES FROM 50 TO 500.

COUNT BY HUNDREDS FROM 1 TO 1000.

The teacher requests the students to ask one another to count
using the sentences above. They may count by fours, fives, sixes,
sevens, eights, nines, fourties if the students are able to
handle practice with these numbers.

$$2 + 1 = 3$$

+

+

+
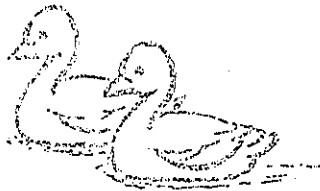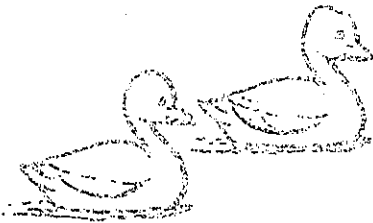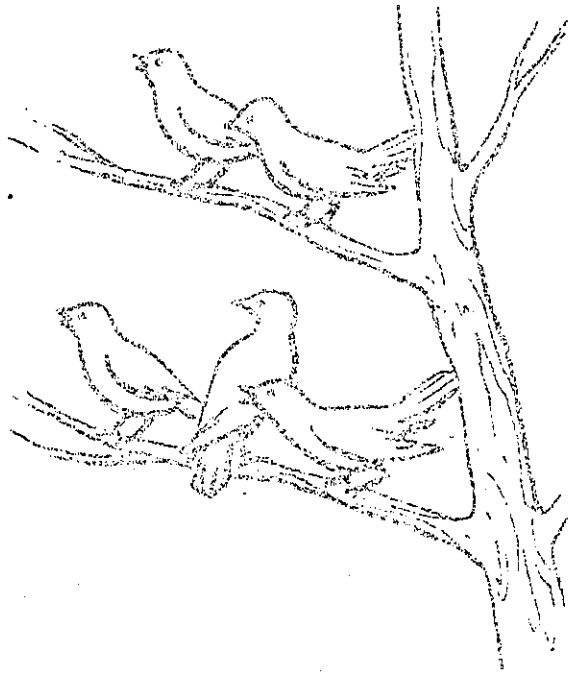
Note: Before the next lesson plan it may be useful to practice the sentence pattern (how many ducks or rabbits are there) with the following ditto.

The teacher may also talk about the number of legs, feet and ears of the animals

Lesson Plan 3

Realia: Four or more different pairs of socks and gloves, mittens, sneakers, stencils with drawings of different pairs of items.

Numerical Objective: Reinforcement in the use of numbers from 1 to 24.
Learning and practice the concept of one or more pairs.

Linguistic Objective: Reinforcement of listening comprehension and production of questions with how many.
Reinforcement of listening comprehension and production of the affirmative, negative and interrogative forms with there is and there are.
Learning listening comprehension and production of vocabulary items such as: socks, gloves, mittens, sneakers.

Performance Objective: The students will be able to answer the question how many pairs of... are there? Always with vocabulary familiar to the students.

T.: THERE ARE TWO GLOVES

THERE IS ONE PAIR OF GLOVES

THERE AREN'T TWO PAIRS OF GLOVES

ARE THERE THREE PAIRS OF GLOVES?

THERE ARE FOUR SOCKS

THERE ARE TWO PAIRS OF ...

MARIA, ASK JOSE IF THERE ARE TWO PAIRS OF SOCKS

M.: JOSE, ARE THERE TWO PAIRS OF SOCKS?

J.: YES, THERE ARE

P.: ARE THERE THREE PAIRS OF GLOVES, MARIA?

M.: NO, THERE AREN'T

Teacher introduces other items: mittens, shoes, sneakers.
Then, with hand and eye signals the teacher conveys the idea
that (s)he wants students to ask and answer one another
these questions, using this sentence pattern.

T.: TWO TWOS ARE FOUR

THREE TWOS ARE...

FOUR TWOS ARE...

FIVE TWOS ARE...

SIX TWOS ARE...

T.: HOW MANY SOCKS ARE THERE? (gesture)

THERE ARE EIGHT SOCKS

HOW MANY PAIRS OF SOCKS ARE THERE?

S.: THERE ARE FOUR PAIRS OF SOCKS.

T.: MARIA, ASK PEDRO HOW MANY PAIRS OF GLOVES THERE ARE.

M.: HOW MANY PAIRS OF GLOVES ARE THERE, PEDRO?

P.: THERE ARE SIX PAIRS OF GLOVES

Then, with hand and eye signals convey the idea that you want
students to ask one another this questions using the dif-
ferent vocabulary items that they know with the idea of one
or more pairs.

Teacher hands out dittos with drawings of people.

T.:   HOW MANY LEGS ARE THERE?
       HOW MANY PAIRS OF LEGS ARE THERE?
       HOW MANY PEOPLE ARE THERE?

Other structures that can be taught in this lesson plan
are:

 How many pairs of legs do you see?
How many people do you see?
How many pairs of socks can you count?
How many pairs of socks do you wear?

Lesson   Plan 4

Realia: Ruler, tape measure, table, desks, small wall chart.

Numerical Objective: Practice with the units of measurement for people's height and the dimensions of objects.

Linguistic Objectives: Learning listening comprehension and production of the sentence patterns X's height is 4'2", I'm... tall, he's... tall, how tall is he? How tall are you?

Performance Objective: Students are able to answer and ask the question how tall are you?, appropriately.

T.: I'M GOING TO MEASURE JOSE'S HEIGHT (gesture)

JOSE IS 4'2" TALL.

HOW TALL IS JOSE?

S.: JOSE IS 4'2" TALL.

T.: MARIA, MEASURE PEDRO'S HEIGHT, PLEASE

JOSE, ASK MARIA HOW TALL PEDRO IS

J.: HOW TALL IS PEDRO, MARIA?

M.: PEDRO IS 4'1" TALL.

T.: HOW TALL ARE YOU, PEDRO?

P.: I'M 4'1" TALL

Then, with hand and eye signals the teacher conveys the idea that (s)he wants the students to measure each other's heights one at a time.

Other Structures:

He is very tall, isn't he?
She isn't very short, is she?

Measure the classroom, table, desk, using a ruler, or tape measure.

The table is ...long
The table is... wide

The desk is narrow, isn't it?
The desk isn't big, is it?
The desk is low, isn't it?
The desk is wide, isn't it?

Lesson   Plan 5

Realia: Marbles or any of the objects

                                 mentioned for counting. Stencils

                                 with additions.

Numerical Objective: Reinforcement of counting and ad-

                                 ding up to 20.

                                 Learning that when a zero is added

                                 to a number, it does not change.

                                 Reinforcing that exchanging the

                                 order of the numbers in an addition

                                 does not change the result.

Linguistic Objective: Review of the numbers from 1 to 20.

                                 Reinforcement of the structure ...

                                 and... are... , in statements,

                                 questions, short affirmative and

                                 negative answer forms.

                                 Reinforcement of the sentence pattern

                                 It is the same as, in the affirmative,

                                 negative and interrogative forms.

Performance Objective: Students will be able to indicate

                                 that they undestand questions such

                                 as: Is 2+4 the same as 4+2? and is

                                 4+0 the same as 0+4 by giving the

Performance Objective: correct oral answer or by writing

the appropiate arabic numeral.

T.: THREE MARBLES AND SIX MARBLES ARE NINE MARBLES

SIX MARBLES AND THREE MARBLES ARE NINE MARBLES

ARE THREE MARBLES AND SIX MARBLES NINE MARBLES?

S.: YES, THEY ARE

T.: TWO MARBLES AND EIGHT MARBLES ARE...

S.: EIGHT MARBLES AND TWO MARBLES ARE TEN MARBLES

T.: ZERO MARBLES AND FOUR MARBLES ARE FOUR MARBLES

Teacher hands out dittos and (s)he reads first.

T.: THREE AND SIX IS THE SAME AS SIX AND THREE

MARIA, ASK PEDRO IF TWO AND EIGHT IS THE SAME AS EIGHT

AND TWO

M.: IS TWO AND EIGHT THE SAME AS EIGHT AND TWO?

P.: YES, IT IS.

Then, with hand and eye signals the teacher conveys the idea
that (s)he wants students to ask and answer each other's
questions, using this sentence pattern.

$$2+5=5+2 \qquad 1+8=8+1$$

$$0+4=4+0 \qquad 2+9=9+2$$

$$6+2=2+6 \qquad 4+7=7+4$$

$$7+3=3+7 \qquad 6+3=3+6$$

Lesson   Plan 6

Realia:
Any of the items mentioned for counting. Stencils with problems in the addition of two equal numbers (2+2=4)

Numerical Objective:
Reinforcement in addition from 1 to 100.
Learning and practice of the concept of one number and its double.

Linguistic Objective:
Reinforcement of the sentence pattern What's...and...?,... and... are ...
Reinforcement of the noun plural form.

Performance Objective:
When asked what's ...and .. from 1 to 100, with numbers or familiar objects, students will be able to say the correct answer or write the appropriate number.

T.:   I HAVE ONE MARBLE HERE AND I HAVE A MARBLE HERE

ONE MARBLE AND ONE MARBLE ARE ... MARBLES

TWO MARBLES AND TWO MARBLES ARE ...

THREE MARBLES AND THREE MARBLES ARE ...

WHAT'S FOUR MARBLES AND FOUR MARBLES?

S.:   FOUR MARBLES AND FOUR MARBLES ARE ...

T.:   MARTA, ASK JOSE WHAT FIVE MARBLES AND FIVE MARBLES ARE

M.:   WHAT'S FIVE MARBLES AND FIVE MARBLES?

T.:   FIVE MARBLES AND FIVE MARBLES ARE ...

Then, with hand and eye signals the teacher conveys the ideas that (s)he wants the students to ask and answer this question with numbers up to 50.

Teacher passes out dittos with problems in the addition of two equal numbers, the answer should be a number not higher than 100.

10=5+5	1+1=2
4=	2+2=
20=	4+4=
48=	25+25=

Lesson   Plan 7

Realia:	Coins and bills
Numerical Objective:	Reinforcement of the worth of each of the coins presented. Review of coin and bill addition from 1 to 100.
Linguistic Objective:	Review in listening comprehension and production of the numbers from 1 to 100. Learning listening comprehension and production of the sentence pattern it is the same as ..., in affirmative, negative and interrogative forms.
Performance Objective:	Students will be able to indicate that they understand the question: Is .. the same as ... , about the coins' worth, by giving the correct oral answer.

T.: ONE NICKEL IS THE SAME AS FIVE PENNIES

ONE DIME IS THE SAME AS TEN PENNIES

IS ONE NICKEL THE SAME AS FIVE PENNIES?

ONE QUARTER IS THE SAME AS TWENTY-FIVE PENNIES.

MARIA, ASK JOSE IF ONE QUARTER IS THE SAME AS TWENTY-FIVE

PENNIES.

M.: IS ONE QUARTER THE SAME AS TWENTY-FIVE PENNIES, JOSE?

J.: YES, ONE QUARTER IS THE SAME AS TWENTY-FIVE PENNIES.

T.: ONE HALF DOLLAR IS THE SAME AS FIFTY PENNIES.

ONE DOLLAR IS THE SAME AS ONE HUNDRED PENNIES.

Teacher makes sure that students are able to ask and answer
questions about nickels before getting into dimes. Then, with
hand and eye signals the teacher conveys the idea that (s)he
wants students to ask and answer this type of question.
The teacher may present the following information as statements
or questions.

T.: ONE DIME IS THE SAME AS TWO NICKELS

ONE QUARTER IS THE SAME AS FIVE NICKELS

ONE HALF DOLLAR IS THE SAME AS TEN NICKELS

ONE DOLLAR IS THE SAME AS TWENTY NICKELS

ONE QUARTER IS THE SAME AS TWO DIMES AND ONE NICKEL

ONE HALF DOLLAR IS THE SAME AS FIVE DIMES

ONE DOLLAR IS THE SAME AS TEN DIMES

ONE HALF DOLLAR IS THE SAME AS TWO QUARTERS

ONE DOLLAR IS THE SAME AS FOUR QUARTERS

Other linguistic structures that can be presented while rein-
forcing these coins' worth are:

One nickel is five cents
One dime is ten cents
One quarter is twenty-five cents
One half dollar is fifty cents
One dollar is one hundred cents

How much is a nickel?
How many cents are there in a nickel?

Five pennies are worth a nickel
Five pennies make a nickel

Lesson   Plan 8

Realia:	A set of Magic Cards.[12] A stencil with numbers from 1 to 100. A set of flashcards of numbers from 1 to 100.
Numerical Objective:	Reinforcement of the numbers from 1 to 100. Practice in reading numbers and addition from 1 to 100.
Linguistic Objective:	Review on listening comprehension and production of the numbers from 1 to 100, and of the possessive adjective your. Reinforcement of listening comprehension and production of commands in the affirmative and negative forms. Learning to understand and produce the affirmative, interrogative, short affirmative and short negative answer forms with the present tense of the verb to be.
Performance Objective:	When asked to think of a number, the students will indicate that they un-

Performance Objective: derstand the teacher's command,

by putting a finger on the number

on the list of numbers from 1 to

100, or by picking up the number

from a box with flashcards of num-

bers from 1 to 100. They will be

able to ask and respond correctly

to the question: Is it on card num-

ber one?

The class listens and the first student plays with the teacher.

T.:   THINK OF A NUMBER FROM 1 TO 100 (gesture)

    DON'T TELL ANYONE YOUR NUMBER   (gesture)

    IS IT ON CARD NUMBER ONE?

S.:   YES, IT IS/NO, IT ISN'T

This procedure is repeated for cards two through seven. With the Magic Cards the teacher is able to come out with the correct number.

T.:   IS YOUR NUMBER ...?

S.:   YES, IT IS

The teacher takes one student aside and gives him the explanation for guessing numbers with the Magic Cards. Probably all the students would like to try it themselves, that is the time to practice:

Is it on card number ...?

Students should be able to continue the game with only occasional prompting from the teacher.

Other structures that can be presented using the Magic Cards are:

Did you think number ...?
Was it number ...?
I can guess which number you thought
I can guess which number you are thinking
Who wants to learn how to guess a number?
Do you want to learn how to guess numbers?

With these
Magic Cards

you can guess correctly any number thought of by your audience, as well as any age, and the like.

EXPLANATION:
The person thinking of a number is to tell you on which cards the number can be seen. You now add the first numbers of those cards together, the sum of which is the number thought of by the person out of the audience.

Example: Someone thinks of 65. He tells you that the number is on card No. 1 and 7. You add the first numbers of these two cards together (1 + 64) and and the answer is 65!

Card No. 1

1 · 3 · 5 · 7 · 9 · 11 · 13 · 15

17 · 19 · 21 · 23 · 25 · 27

29 · 31 · 33 · 35 · 37 · 39

41 · 43 · 45 · 47 · 49 · 51

53 · 55 · 57 · 59 · 61 · 63

65 · 67 · 69 · 71 · 73 · 75

77 · 79 · 81 · 83 · 85 · 87

89 · 91 · 93 · 95 · 97 · 99

Card No. 2

2 · 3 · 6 · 7 · 10 · 11 · 14 · 15

18 · 19 · 22 · 23 · 26 · 27

30 · 31 · 34 · 35 · 38 · 39

42 · 43 · 46 · 47 · 50 · 51

54 · 55 · 58 · 59 · 62 · 63

66 · 67 · 70 · 71 · 74 · 75

78 · 79 · 82 · 83 · 86 · 87

90 · 91 · 94 · 95 · 98 · 99

Card No. 3

4 · 5 · 6 · 7 · 12 · 13 · 14 · 15

20 · 21 · 22 · 23 · 28 · 29

30 · 31 · 36 · 37 · 38 · 39

44 · 45 · 46 · 47 · 52 · 53

54 · 55 · 60 · 61 · 62 · 63

68 · 69 · 70 · 71 · 76 · 77

78 · 79 · 84 · 85 · 86 · 87

92 · 93 · 94 · 95 · 100

Card No. 4

8 · 9 · 10 · 11 · 12 · 13 · 14

15 · 24 · 25 · 26 · 27 · 28

29 · 30 · 31 · 40 · 41 · 42

43 · 44 · 45 · 46 · 47 · 56

57 · 58 · 59 · 60 · 61 · 62

63 · 72 · 73 · 74 · 75 · 76

77 · 78 · 79 · 88 · 89 · 90

91 · 92 · 93 · 94 · 95

Card No. 5

16 · 17 · 18 · 19 · 20 · 21

22 · 23 · 24 · 25 · 26 · 27

28 · 29 · 30 · 31 · 48 · 49

50 · 51 · 52 · 53 · 54 · 55

56 · 57 · 58 · 59 · 60 · 61

62 · 63 · 80 · 81 · 82 · 83

84 · 85 · 86 · 87 · 88 · 89

90 · 91 · 92 · 93 · 94 · 95

Card No. 6

32 · 33 · 34 · 35 · 36 · 37

38 · 39 · 40 · 41 · 42 · 43

44 · 45 · 46 · 47 · 48 · 49

50 · 51 · 52 · 53 · 54 · 55

56 · 57 · 58 · 59 · 60 · 61

62 · 63 · 96 · 97 · 98

99 · 100

Card No. 7

64 · 65 · 66 · 67 · 68 · 69

70 · 71 · 72 · 73 · 74 · 75

76 · 77 · 78 · 79 · 80 · 81

82 · 83 · 84 · 85 · 86 · 87

88 · 89 · 90 · 91 · 92 · 93

94 · 95 · 96 · 97 · 98

99 · 100

Lesson Plan 9

Realia:

Blackboard, an Apple, a Knife,
Coins. Stencils with drawings
of sets and geometrical
figures.

Numerical Objective:

Reinforcing the concept of one
half ($\frac{1}{2}$) and ($\frac{1}{2}+\frac{1}{2}=1$). Students
will practicing this concept
with one and even numbers.
Learning to find out one half of
an even number in a set of
objects, one half of a geometri-
cal figure — circle, square,
triangle.

Linguistic Objective:

Reinforcement of questions such
as: What's this? What are those?,
How many do ...have?
Practicing listening comprehension
of affirmative commands with give,
color, draw.
Learning answers such as: that's
one half of ..., that's the other

Linguistic Objective: half of ..., those are two halves of....

Performance Objective: They will indicate that they understand the command: give, write, color, draw one half of ... with even numbers from 1 to 100, or familiar vocabulary items.

An apple, coins and the stencils should be handy.

Teacher holds up an apple.

T.: WHAT'S THIS?

S.: THAT'S AN APPLE

T.: YES, THIS IS A WHOLE APPLE

Teacher cuts the apple in half, and picks up one half of the apple each time.

T.: WHAT'S THIS?

    THIS IS HALF OF THE APPLE

    (AND) THIS IS THE OTHER HALF OF THE APPLE

    PEDRO, WHAT'S THIS?

Teacher makes sure that students are able to ask and answer these sentences.

T.: THESE ARE TWO HALVES OF THE APPLE

    WHAT ARE THESE?

S.: THOSE ARE TWO HALVES OF THE APPLE

T.: TWO HALVES MAKE A WHOLE APPLE

Teacher draws a circle on the blackboard.

T.: WHAT'S THIS?

S.: THAT'S A CIRCLE

Teacher draws half a circle.

T.: WHAT'S THIS?

S.: THAT'S HALF OF A CIRCLE.

T.:   (ALL RIGHT) COME AND DRAW THE OTHER HALF.

Teacher takes each time half the number of pennies mentioned.

T.:   HOW MANY PENNIES DO I HAVE HERE?

S.:   YOU HAVE TWO PENNIES

Teacher takes one penny and asks:

T.:   HOW MANY PENNIES DO I HAVE NOW?

S.:   YOU HAVE ONE PENNY

Teacher continues with numbers 4, 6, 8, 10, 12... Then, with hand and eye signals the teacher conveys the idea that (s)he wants the students, one at a time to ask one another these questions. Teacher starts the sentences if necessary.

Teacher gives a child 2 coins, for to the next child, 6 to the next...

T.:   JOSE, GIVE ME HALF OF YOUR PENNIES

      HOW MANY PENNIES DO YOU HAVE NOW?

      MARTA, ASK PEDRO TO GIVE ME HALF OF HIS PENNIES

      MARTA, ASK PEDRO HOW MANY PENNIES HE HAS NOW

M.:   HOW MANY PENNIES DO YOU HAVE NOW, PEDRO?

P.:   I HAVE ...

The next exercise is intended to develop the students' skills thinking on their own. Teacher hands out the dittos with drawings.

T.:   COUNT THE APPLES IN THIS SET

      NOW, COLOR HALF OF THE APPLES GREEN

      COLOR THE OTHER HALF OF THE APPLES RED

Teacher may demostrate if necessary. Teacher gives the same commands for the geometrical figures-circles, squares, triangles.

T.: COLOR HALF OF THE CIRCLE GREEN

COLOR THE OTHER HALF OF THE CIRCLE YELLOW

COLOR HALF OF THE RECTANGLE RED

COLOR THE OTHER HALF BLACK

COLOR HALF OF THE TRIANGLE BLUE

COLOR THE OTHER HALF OF THE TRIANGLE ORANGE

Other structures that can be presented within the content of this lesson plas are:

Is the yellow part half of the circle?
Is the yellow half as big as the green half?
Is one half as big as the other?
Is one half the same as the other?
Is the yellow half the same size as the red?
Draw a line to cut the figure in a half
Is this circle cut in half (by the line)?
Draw a line from top to bottom in these figures. Making two halves.

If they can handle the difficulty, other fractions (1/3, 1/4, 1/5..., 2/3, 2/4 ..., 3/4, 3/5 ...) may be presented this way.

$\frac{1}{2}$

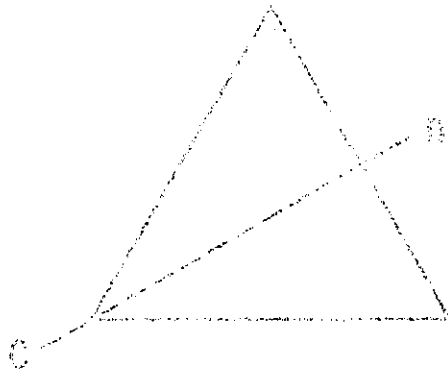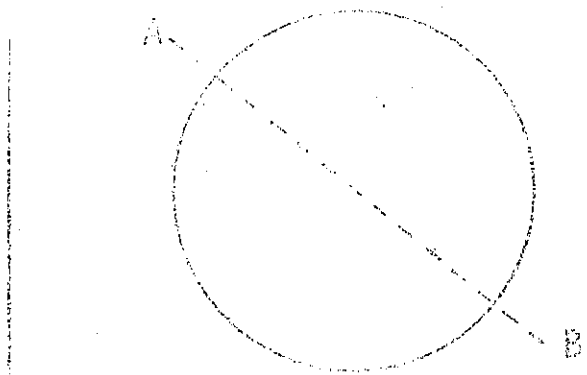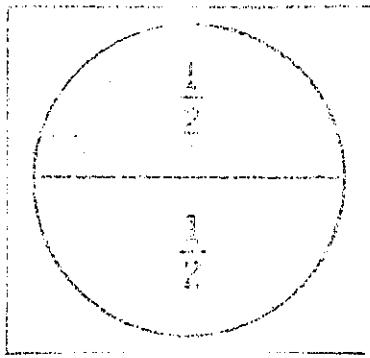$\frac{1}{2} + \frac{1}{2} = 1$

$\frac{1}{2}$

$\frac{1}{2}$

A

B

C

D
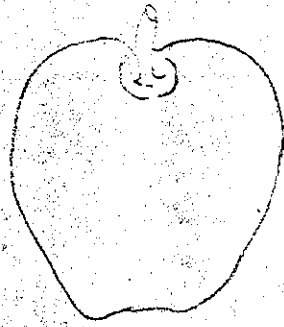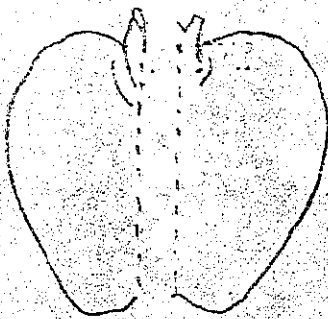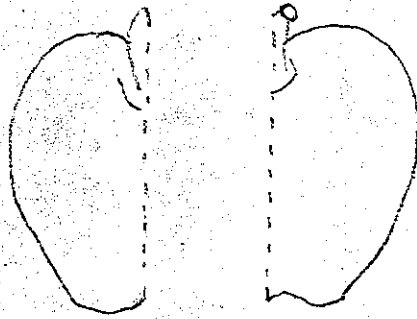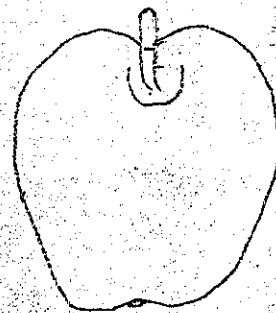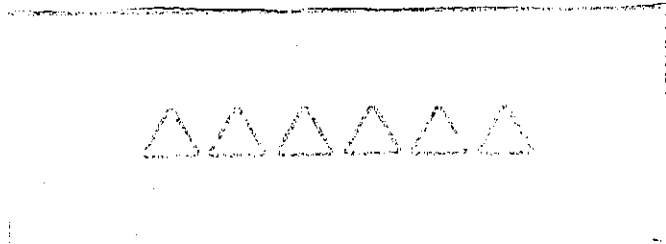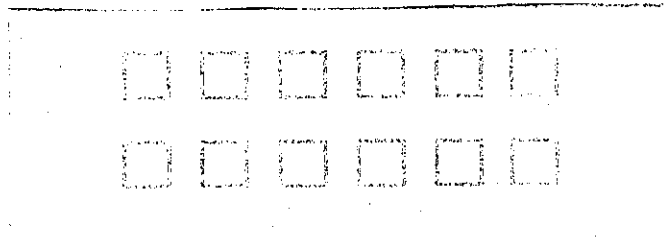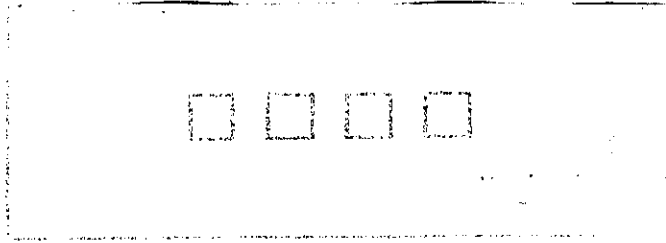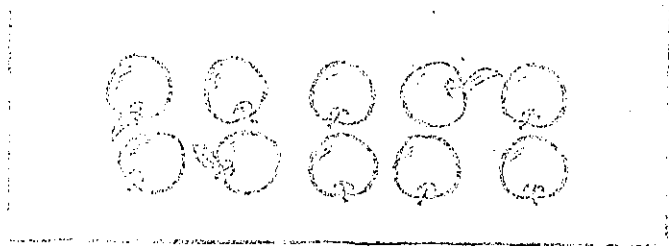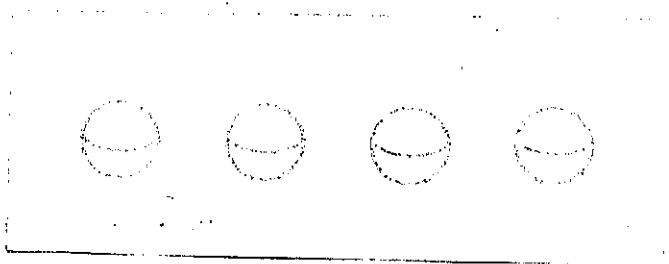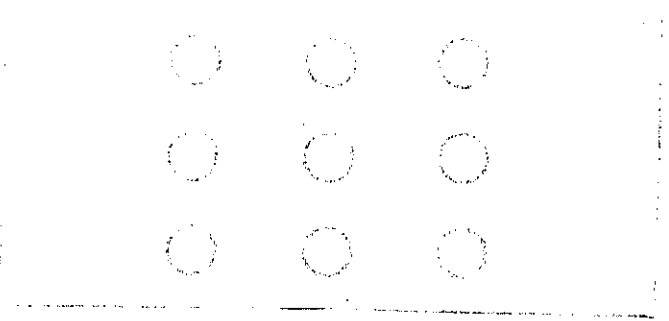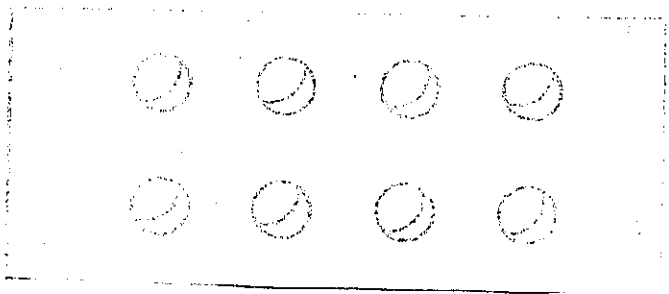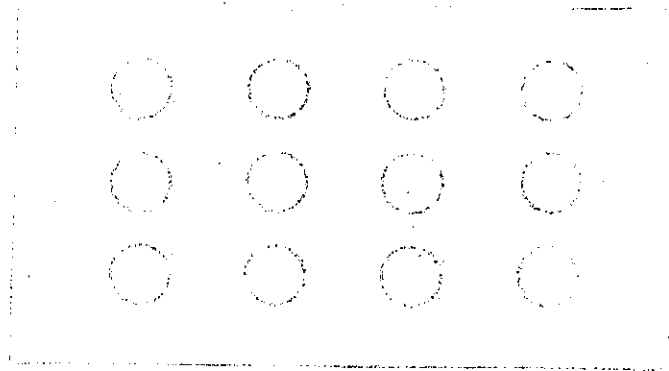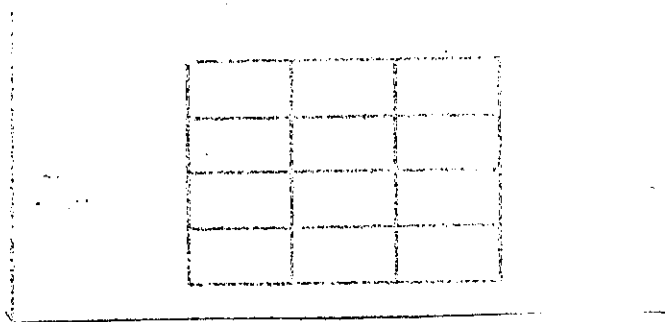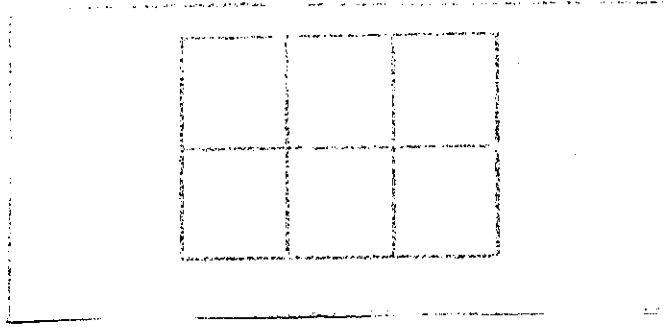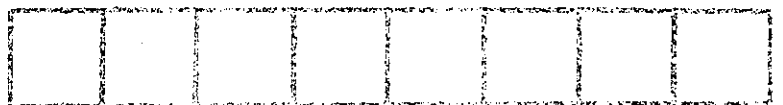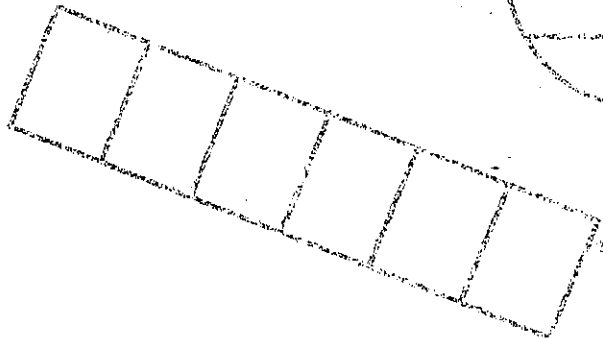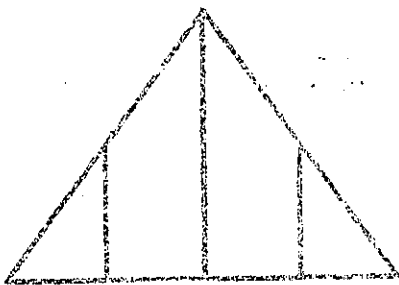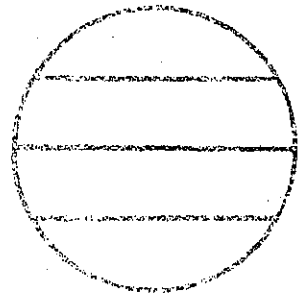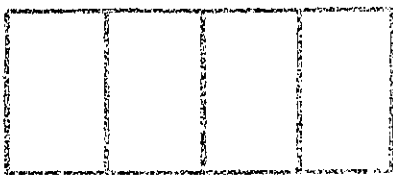
Lesson Plan 10

Realia:

The Cooking Utensils and Ingredients needed for this recipe. An oven.

Numerical Objective:

Reinforce numbers and the fraction $\frac{1}{2}$. Acquaint the students with the English system of measure for cooking.

Linguistic Objective:

Review of the names of the ingredients and cooking utensils. Reinforcement in listening comprehension and production of affirmative commands in the second person, singular and plural forms. Reinforcement of the interrogative form with "what" and the affirmative form of the present progressive. Learning to understand and produce these verbs: measure, beat, melt, add, mix, chop, bake.

Performance Objective:

The students will be able to carry out and give commands expressed with any of the seven verbs mentioned. They will be able to ask and answer

Performance Objective: the question: What are you doing?

using the correct form and the

appropriate verb out of the seven.

The cooking utensils and ingredients are handy.

T.:   MEASURE A CUP OF SUGAR

     WHAT ARE YOU DOING?

     I'M MEASURING A CUP OF SUGAR

     PEDRO, TELL MARIA TO MEASURE A CUP OF SUGAR

P.:   MEASURE A CUP OF SUGAR, MARIA

T.:   JOSE, ASK MARIA WHAT SHE IS DOING

J.:   WHAT ARE YOU DOING, MARIA?

M.:   I'M MEASURING A CUP OF SUGAR

T.:   MARIA IS MEASURING A CUP OF SUGAR

     JUAN, WHAT'S MARIA DOING?

J.:   MARIA IS MEASURING A CUP OF SUGAR

Then, with hand and eye signals the teacher conveys the idea that (s)he wants the students, one at a time, to give the commands and ask the questions.

The teacher can make use of the same procedure to present the sentences:

T.:   BEAT THE SUGAR AND EGGS

     MEASURE SIX TBSP. OF BUTTER

     MELT THE BUTTER AND CHOCOLATE

     ADD THE BUTTER AND CHOCOLATE TO EGG MIXTURE

     ADD HALF A CUP OF FLOUR TO MIXTURE

     CHOP HALF A CUP OF NUTS

     ADD THE NUTS TO MIXTURE

     BAKE FOR TWENTY-FIVE MINUTES

Lesson Plan 11

Realia: Stencils with drawings of the food
                                items and their prices. A scale
                                and the food items mentioned. Bills
                                and coins.

Numerical Objective: Reinforcing of the weight concept
                                of a half a pound.

Linguistic Objective: Reinforcement of the sentence pat-
                                tern how much is one half a pound
                                of...

Performance Objective: When asked how much any of the
                                familiar items is, the students
                                can give the appropriate answer.
                                They may look at the information
                                given in the dittos.

T.: HALF A POUND OF SUGAR IS 50¢

HALF A POUND OF FLOUR IS ...¢

HALF A POUND OF NUTS IS ...¢

ONE BAR OF BUTTER IS...¢

TWO SQUARES OF CHOCOLATE ARE ...¢

SIX (HALF A DOZEN) EGGS ARE ...¢

HOW MUCH IS ONE HALF A POUND OF SUGAR?

IT'S ...¢

MARIA, ASK JUAN HOW MUCH ONE HALF A POUND OF FLOUR IS

M.: HOW MUCH IS A POUND OF FLOUR, JUAN?

Then, with hand and eye signals the teacher conveys the idea
that (s)he wants the students to ask and answer this question
with different items.

Other structures that can be introduced while talking about
prices are:

It costs
How much does it cost?
How much do they cost?
How much did they cost?
How much is it all together?
Is it very expensive?
How much money do we need?
How much money did we spend?
How much money do we need to spend?
How much money are we going to spend?

The lesson plans are just samples to get the teacher started, they are by no means the final answer and here are some additional suggestions for teaching other linguistic structures as well as an Activity and a Game Section.

Section I.

Here are some suggestions about structures that can be taught with a numerical content. The parts of the lesson I refer to are underlined.

Draw these numbers ... upside down
Which numbers are inside/outside?

How many numbers do you need to write 10/100/1000?
How old are you?
She is seven years old

He's got one number
He hasn't got two numbers
Has he got number one?
Who's got one number?

This is a 5¢ ruler
This is a 15¢ pencil
This is a 50¢ copybook
This is a 20¢ eraser
This is a one-dollar bill
This is a five-dollar bill
This is a ten-dollar bill
This is a twenty-dollar bill
This is an eight-cent stamp

What comes before 2?
1 comes before 2
What comes after 2?
3 comes after 2

2+9=12

It isn't right, <u>is it?</u>
It is difficult, <u>isn't it?</u>
Is this addition <u>easy for you?</u>
Is this addition <u>too difficult for you</u>?
<u>Isn't it difficult</u>/wrong/right?
Are you <u>sure?</u>

<u>Fill in the missing numbers</u>
<u>Fill in</u> the right place the numbers you hear

<u>Does January have 31 days?</u>
Yes, <u>it does</u>
<u>Do March and January have</u> 31 days?
Yes, <u>they do</u>
January has <u>more days than</u> February
February has <u>less days than</u> July

Maria is <u>as tall as</u> Jose
Maria's desk is <u>as long as</u> Pedro's
Maria's desk has <u>the same lenth as</u> Jose's
Juan's desk is <u>not so big as</u> Maria's

Doll A is <u>taller than</u> doll B
<u>This one is bigger</u>
<u>That one is smaller</u>
The table is <u>longer than</u> the desk
The desk is <u>lower than</u> the table

Doll A is <u>taller than</u> doll B
Doll B is <u>taller than</u> doll C
Doll A is <u>the tallest</u> doll
Which is <u>the tallest</u> doll?
Which is <u>the tallest doll of the three?</u>

Section II

    Here are some suggestions on different parts of the lesson along with an activity. There is a complete sample of an activity centering around the time. Teachers can prepare activities centering around order, distance, location and temperature.

Activity Centering around the time

What time is it?

It's one o'clock
It's four minutes past one
It's half past one
It's a quarter to one
It's twenty off one

There are 60 minutes in one hour
There are 30 minutes in half an hour
There are 15 minutes in a quarter of an hour

The short hand on the clock is the hour hand
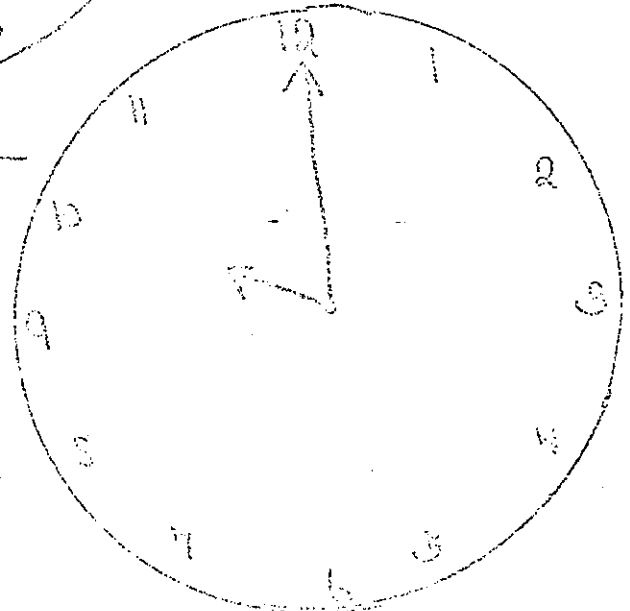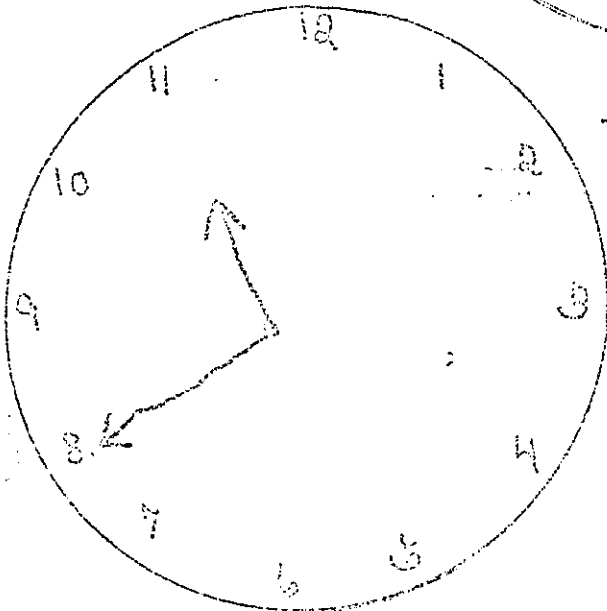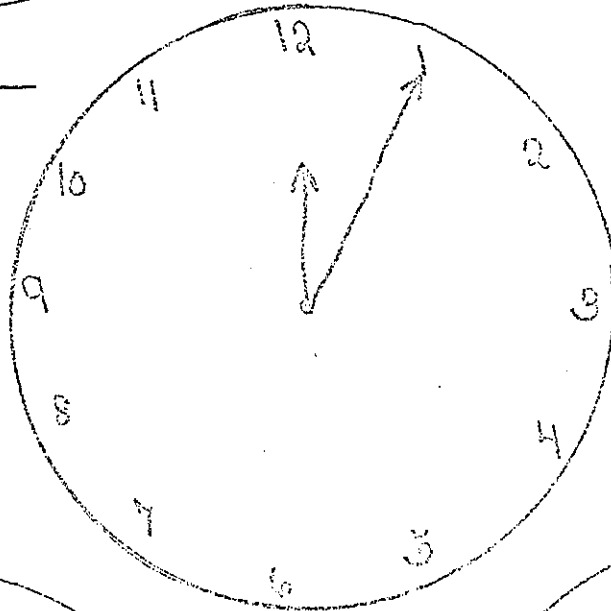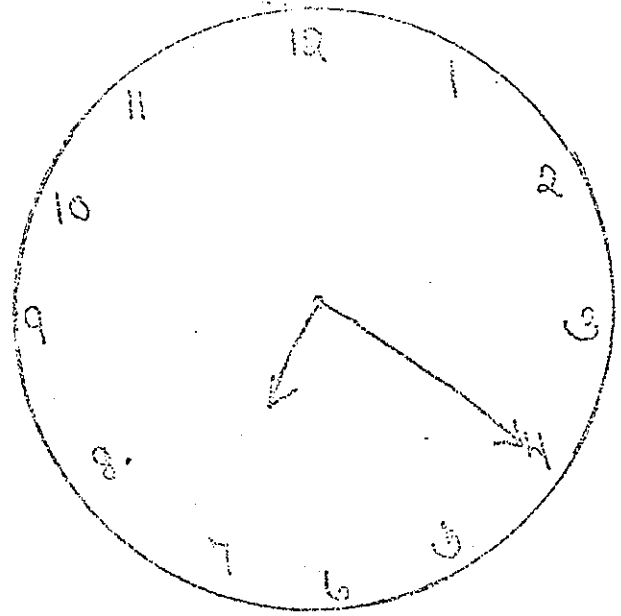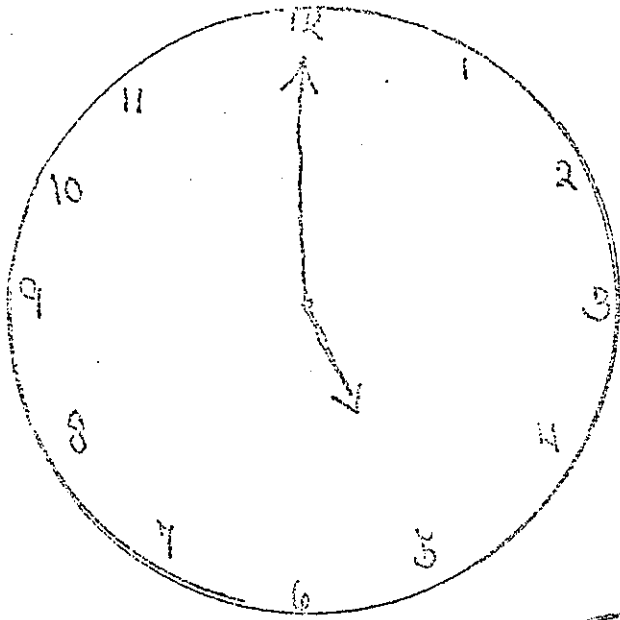The long hand on the clock is the minute hand

Draw hands on the clocks
Write numbers on the clock face
Show half past two
Draw the hands on the clocks to show a ... time. On the line
below/under each clock write the time you drew.
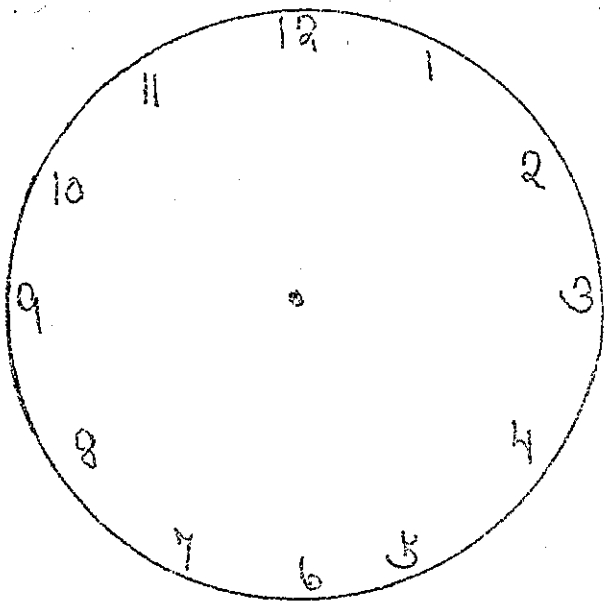Color afternoon red, color daytime yellow, color night-time
blue.

When it is half past two o'clock, the small hand is between...
and ..., and the big hand is at ....
When the big hand and the little hand are at 12, it is ....
When the little hand is between 6 and 7 and the big hand is
at 6, it is... o'clock.
When the big hand is at 12 and the little hand is at 6, it is
... o'clock.

My bedtime is ... o'clock
My lunch is ... o'clock
My television time is ... o'clock
My play time is ... o'clock
I meet the school bus at ... o'clock
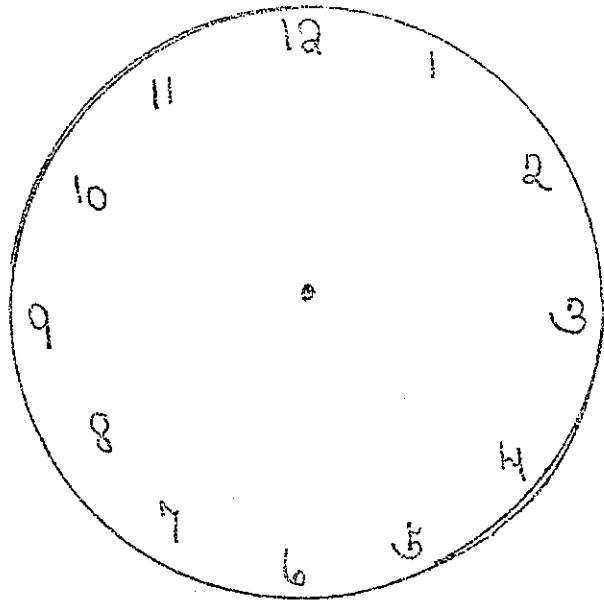I leave school for home at ... o'clock

From 6 o'clock a.m. to 12 o'clock noon, there are 6 hours.
We call that time of day forenoon.
From 12 o'clock noon to 6 o'clock p.m. there are 6 hours.
We call that time of day afternoon.
From 6 o'clock a.m. to 6 o'clock p.m., we call daytime.
From 6 o'clock p.m. to 6 o'clock a.m., we call nighttime.

The hour hand moves ... than the minute hand.
The hour hand is the ... hand.
The minute hand is the ... hand.

Clock 1 (top left) — numbers: 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1

__12:30__

Clock 2 (top right) — numbers: 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1

__6:45__

Clock 3 (center) — numbers: 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1

__3:20__

Clock 4 (bottom left) — numbers: 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1

__11:15__

Clock 5 (bottom right) — numbers: 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1
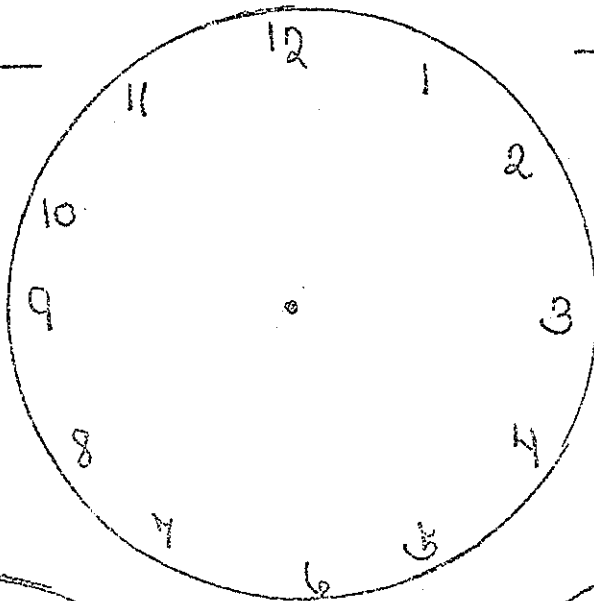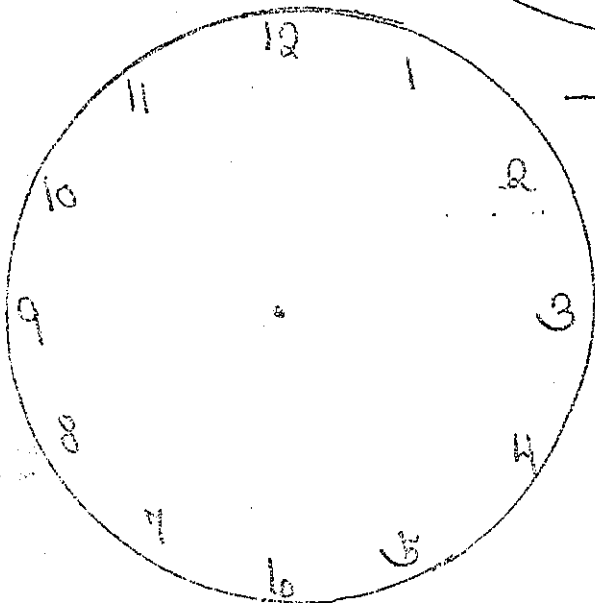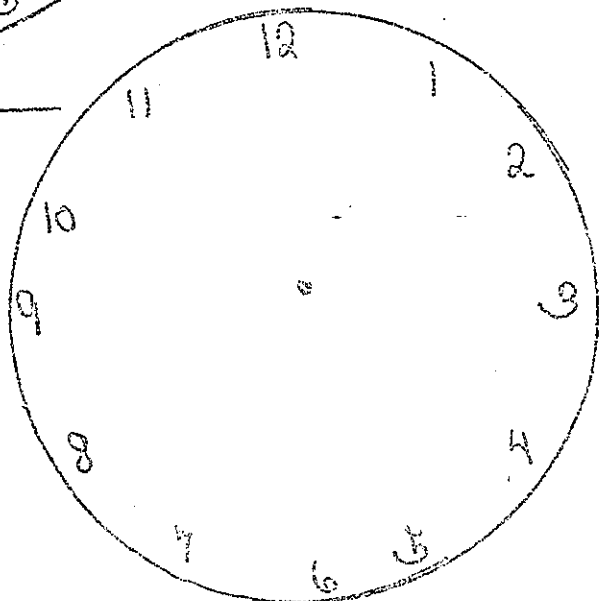
__8:25__
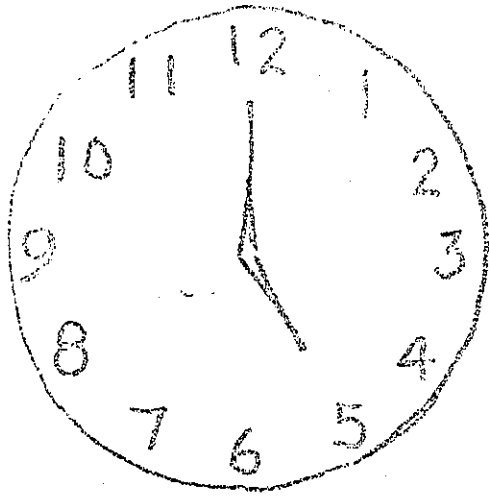
_____ o'clock

_____ o'clock

_____ o'clock
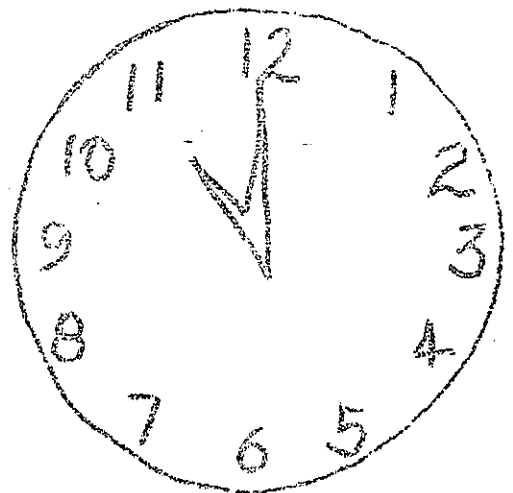
_____ o'clock

_____ o'clock

_____ o'clock

What is another way to say 12:10?
What is another way to say 12:30?
What is another way to say 12:45?
What is another way to say 12:50?

What's on TV at 5:00?
What time is Sesame Street on TV?
What was on TV yesterday at 4:00?

Section III

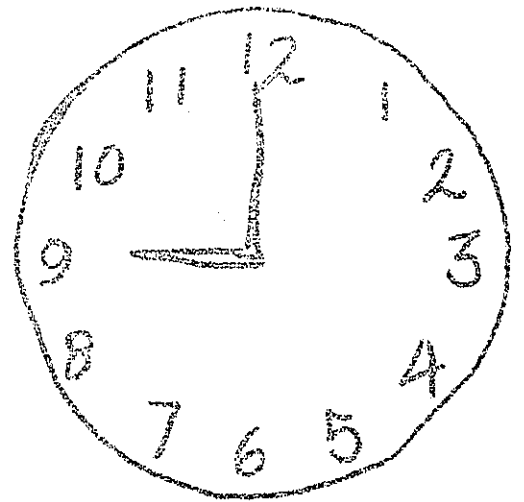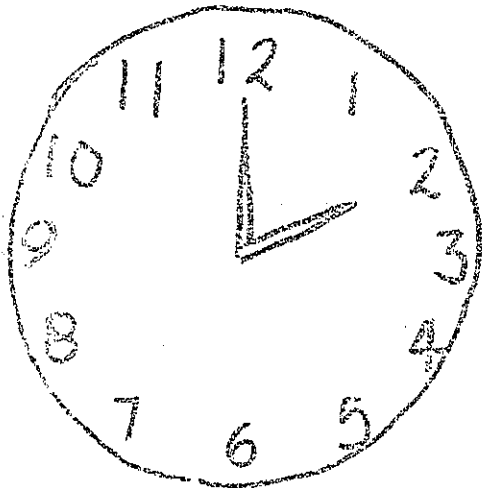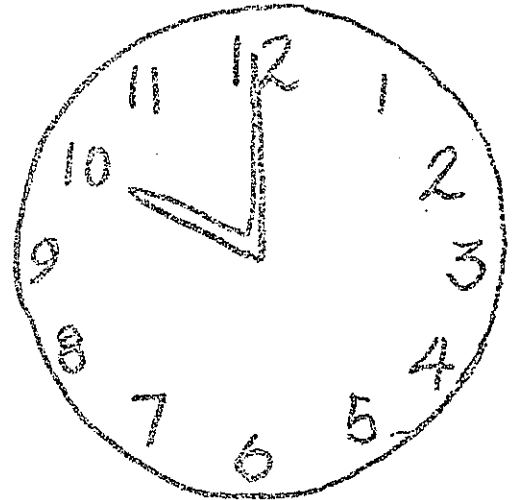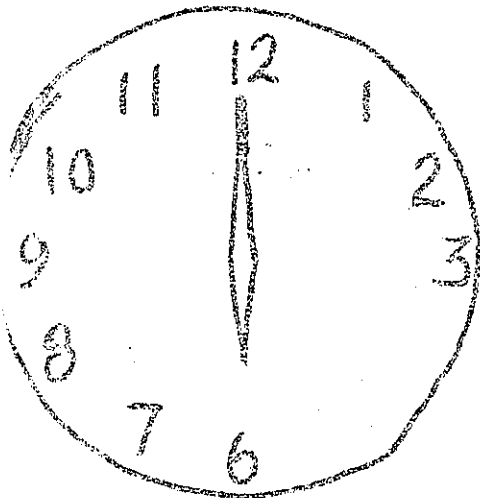This section contains three sources of games. The first twenty-one games come from the book Thinking is Child's Play, by Evelyn Sharp.[12] If the teacher finds them relevant or of interest (s)he can find the directions in the book mentioned; the games have the same number in both, this project and the book.

The linguistic objectives for the games can have a difficulty level similar to that in the lesson plans presented in this project. There are games where children have to order objects according to one or more properties, such as size or color. In other games children are asked to order things in a series from larger to smaller, heavier to lighter, and so on.

Other games provide experience in one-to-one correspondence, and conservation of number. All these games provide experiences necessary for an understanding of number to be developed in children.

The other games belong to the second language learning type. The first four language games come from the book Games for Second Language Learning by Gertrude Dorry.[13]

I located the games such as: "I'm Listening" and "Did you take ...?", while I was teaching an ESL class, and cannot credit them to anyone.

GAMES FROM EVELYN SHARP'S BOOK

Game	Purpose
1,2	To provide experience in classification by color.
3,4,5,6	To provide experience in classification by shape.
7	To provide experience in recognizing order.
8,17	To let you know if the child has reached the stage of mental development where he is a conserver of quantity.
9,14	To provide experience in classification of objects by a nonvisual method.
10	To let you know what stage of development the child has reached in recognizing and reproducing certain figures.
11	To provide experience in classification by size.
12	To let you know if the child has reached the stage of mental development where he is a conserver of length.
13	To provide experience in duplication a pattern.
15	To provide experience in classification according to negative information.
19,21	To let you know if the child has reached the stage of mental development where he is a conserver of number.
20	To provide experience in one-to-one correspondence, which precedes counting.

More Difficult Games Section

Game	Purpose
1	To provide experience in classification by two characteristics (color and shape) at one time.
2	To provide experience in seriation, (arranging in order).

Here are four games with numbers from Gertrude Dorry's book.

Number-recognition Relay

Level: Elementary
Limit of Group: 20 players at a time
Type: Blackboard

Ahead of time, write 100 numbers in mixed order on each half
of the blackboard, using a different order for the two lists.
Also, prepare in advance a list of the numbers in the order in
which you will call them during the game.
Choose from your class two teams of 10 students each and have
them stand in lines with their backs to the blackboard. Give a
piece of chalk to the player nearest the blackboard at the end
of each line.
As you call the first number on your list, the two students with
the chalk will turn around and put a cross through the number
you have called, each on his half of the blackboard. As soon
as one player has crossed out the number, announce the second
number. The first player will give the chalk to the next player
in line and then take his seat. The object of the game is to
see which team will first finish crossing out the numbers you
call.
With 100 numbers on the blackboard, you can choose new teams
until every student in the class has had a turn.
If a student makes a mistake in crossing out a number, he must
return to the blackboard, erase his mistake, rewrite the num-
ber, and then cross out the correct one. The students at their
seats can help you see that the correct numbers are crossed out.

King's Chair

Level: Any
Limit of Group: None
Type: Active

The players are usually seated in a broken circle or oval
formation but could be in their seats in the classroom. Be-
ginning at the break in the circle or the end of the first row,
the players are numbered from 1 up.
Player Number 1 is the King, and the object of the game is to
make him move from his seat to the end of the line.
The King begins the game by calling any number in the circle.
The person whose number is called must answer immediately with
another number, and so on. Any player who fails to answer im-
mediately with another number must go to the end of the line.
Then all the players who were seated after him move up one chair,
changing numbers as they move.

After each move, the King starts the play again. The players should frequently call 1 in an attempt to confuse the King and move him to the end of the line. The game is effective only if played fast.

Spin the Plate

Leve:Any
Limit of Group:25 players
Type:Active

For this game, you need a tin or plastic plate or lid.
The players stand in a circle, IT in the middle with the plate in his hand. The players are numbered from 1 up around the circle, IT also having a number.
The play begins with IT spinning the plate on its rim in the center of the circle and calling a number. The player whose number is called must pick up the plate from the floor while it is still spinning. If he fails to do so, he becomes IT. If the player is successful in picking up the plate before it stops spinning, IT has another turn.
Variation
The game may be made more complicated by having IT call a problem instead of a simple number, e.g., "6 times 2" (Number 12 would try to pick up the plate) or "9 minus 3" (calling Number 6) or "4 plus 3" (calling Number 7).

Buzz

Level:Any
Limit of Group:None
Type:Oral

The students may be seated in a circle or in their places in the classroom. Any player may begin the game. The group decides upon a "forbidden" number, e.g., 4. Then the players begin to count in turn, but no player must ever mention any number containing 4 or being a multiple of 4. Instead, he must say Buzz. If he fails to do this, he is eliminated from the play. The game may continue until all but one player have been eliminated.

I'm Listening

I'm Listening is an exercise to give practice in reviewing numbers
and in following directions. The teacher needs a ditto for each
child with ten rows of numbers on the sheet and five numbers in
each row. The children are divided into two teams. Each child is
given a ditto. The teacher gives directions only once, which the
children must follow. The children mark their answers as soon as
the teacher is finished.
One point is given for each row in which all the answers are cor-
rect. The team with more points is the winner.

In row one put a line under numbers ...
In row two draw a box around numbes ...
In row three mark X through numbers ...
In row four circle numbers ...
In row five put a line over numbers ...
In row six underline numbers ...
In row seven cross out numbers ...

Did you Take ...?

One player takes a number of marbles from a box. The class tries
to find out how many he took. The player who gives the correct answer
has his turn.

FOOTNOTES

1.   Report of the Conference on Problems of Teaching
   Young Children. Andrew Biemiller, ed. (Toronto:
   Ontario Institute for Studies in Education, 1970.),
   p.120.

2.   Ibid., p.114.

3.   Eugene Hall and Elizabeth Fanham, Situational Reinforce-
   ment: Orientation in American English (Washington, D.C.:
   Institute of Modern Languages, 1968), p.i.

4.   Rebecca Valette and R. Disick, Modern Language Per-
   formance Objectives and Individualization. A. Handbook
   (New York: Harcourt Brace Jovanovich, 1972), p.28.

5.   Report of the Conference on Teaching Young Children,
   op. cit., pp.114-15.

6.   Evelyn Sharp, Thinking is Child's Play (New York: Dis-
   cus, Avon Books, 1969), p.23.

7.   Ibid., p.23.

8.   Ibid., p.25.

9.   Ibid., pp.26-27.

10.   John Holt, How Children Fail (NYC,N.Y.: Dell Books,
   1964), pp.xiii-xiv.

11.   Belen Mills and Ralph Mills, Designing Instructional
   Strategies for Young Children (Debuque, Iowa: WM. C.
   Brown Co., Publishers, 1972), p.268.

12.   Otto M. Derlag, Magic Set of Creative Playthings
   (Radensburg, Western Germany, 1969).

13.   Evelyn Sharp, op. cit., pp.52-134.

14.   Gertrude Dorry, Games for Second Language Learning
   (New York: Mc-Graw-Hill, 1966), pp.2-4.

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1. Beard, Ruth. An Outline of Piaget's Developmental Psychology. New York: New American Library, Mentor Books, 1972. This book is a guide to understanding the work of Professor Piaget. It has a glossary of special vocabulary and an indexed bibliography. The purpose of this outline is to extend understanding of Piaget's findings and theories to the widest possible audience. It presents a comprehensive account of the major features of Piaget's work which are of interest to teachers.

2. Dorry, Gertrude. Games for Second Language Learning. New York: Mc-Graw-Hill, 1966. It is a collection of over 70 games designed for supplementary group activities for learning English as a second language. Categories include numbers, vocabulary, structure and pronunciation. Also indicated are types (active, blackboard, pronunciation), level of advancement (elementary, intermediate, advanced), and numbers of players. Directions are clearly worded, with examples given where necessary.

3. Hall, Eugene and Fanham, Elizabeth. Situational Reinforcement: Orientation in American English. Washington, D.C.: Institute of Modern Languages, 1968. The introduction explains the SR approach to language learning. SR is a system which makes languages meaningful by using and practicing it in situations which the students can understand without difficulty. The material in this series is arranged according to situations.

4. Hess, Robert and Croft, Doreen. Teachers of Young Children. Boston: Houghton Mifflin Co., 1972. This book is rich in ideas of immediate and practical application to a classroom situation. The authors integrate psychological research and theory on child development with early education theory and practice. Chapter 6, "Growth of Language and Cognitive Abilities" has been of main interest for this project.

5. Holt, John. How Children Fail. NYC, N.Y.: Dell Books, 1964. Holt analyzes the strategies children use to meet the demands made on them, the effect of fear and failure on children, the distinction between real and apparent learning, and the way schools fail to meet the needs of children. His conclusions point the way toward helping teachers make children's daily experiences in school more meaningful.

6. Jersield, Arthur. Child Psychology. Englewood Cliffs, N.J.: Prentice-Hall, 1968.
   This book deals with children's thinking and cognitive development in infancy. There are sections on children's thinking at different age levels; discussions of recent research on attention, perception and language development. Section V, chapter 20 deals with the concepts of Conservation, Number and Quantity.

7. Lee, W. and Coppen, Helen. Simple Audio-visual Aids to Foreign-languages Teaching. London: Oxford Univ. Press, 1964.
   The purpose of this handbook is to give an introduction to the use of aids in foreign-language and second-language teaching. Part I of this book deals with using aids. Part II deals with making aids and there is valuable information of pictures and films in the Appendix.

8. Mager, Robert. Preparing Instructional Objectives. Palo Alto, Calif.: Fearon Publishers, 1962.
   This book deals with Objectives, and their importance in transmitting skills and knowledge to others. The main qualities of meaningful objectives are clearly stated.

9. Mills, Belen and Mills, Ralph. Designing Instructional Strategies for Young Children. Debuque, Iowa: WM. C. Brown Co., Publishers, 1972.
   This book is intended for use in courses dealing with educational methods for elementary education. Part II deals with identification and statement of instructional objectives, diagnosis and assesment of learning needs, promoting learning through questioning techniques, and utilization and management of instructional media.

10. Piaget, Jean. The Child's Conception of Number. New York: W.W. Norton and Co., 1965.
    Piaget discusses a set of investigations he and his team carried out on the genesis of the notion of number in the child's mind. They set out to diagnose developing number-relevant capabilities for counting and elementary school number work. The first experiments deal with the child's ability to grasp the idea of conservation of quantity and conservation of number.

11. Report of the Conference on Problems of Teaching Young
    Children. Andrew J. Biemiller, ed. Toronto: Ontario
    Institute for Studies in Education, 1970.
    The six papers that make up this monograph vary con-
    siderably in focus and detail of approach. Four major
    types of educational objectives recur throughout this
    volume. The first concerns readiness. The second
    type of objective concerns cognitively directed per-
    ception. The third objective involves "abstract
    thinking". A fourth common theme of these papers is
    the child's capacity for employing perceptual and
    representational skills as tools for effective func-
    tioning in his world — that is, the development of
    the child's ability to solve problems by carrying
    out such complex operations as adding, categorizing
    objects, and categorizing according to more than one
    criterion.

12. Sharp, Evelyn. Thinking is Child's Play. New York:
    Discus, Avon Books, 1969.
    It is a guide to leaning and teaching games for
    young children. It emphasizes operations children
    like to do. In the manipulation of simple objects,
    a child can learn methods of reasoning much more
    important than simply learning to count. That is
    the foundation of these exciting techniques to stim-
    ulate the child's intellectual development.

13. Valette, Rebecca M. and Disick R.. Modern Language
    Performance Objetives and Individualization. A Hand-
    book. New York: Harcourt Brace Jovanovich, 1972.
    This book provides a rationale for the use of be-
    havioral objectives. Part I of this handbook pro-
    vides practical guidelines for writing performance
    objectives and for implementing them in the class-
    room.