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ABSTRACT

Two separate tests which measure children's ability to produce standard grammatical and phonological features when they speak, provide pre-instructional and post-instructional data to help determine instructional emphases. The structured response test, requiring 15 minutes to administer, yields a profile of group performance in the production of standard grammatical (word formation and word order) and phonological features in English. The test consists of 43 items which refer to three pictures. The group score indicates which features of the language are most troublesome for a particular group of students. The conceptual oral language test (COLT) is used with pupils in the primary block who are low achievers because of inadequate control of standard English. The COLT is designed to assess the pupil's ability to solve problems and talk about basic concepts in mathematics, science, and social sciences. This test consists of 60 items divided into four formats: differentiation, classification, seriation, and analogy. Test administration requires approximately 35 minutes. Assessment of instructional programs for bilingual and non-standard English speakers is facilitated through the evaluation of the results of this test. (RL)

MICHIGAN ORAL LANGUAGE SERIES

Standard English as a Second Language or Second Dialect

Michigan Oral Language Productive Tests

ACTFL EDITION
1970

Preface to the ACTFL Edition

Since its organization the American Council on the Teaching of Foreign Languages (ACTFL) has been interested in and concerned with the education of Americans for whom English is not the mother tongue. This interest and concern have led ACTFL to study several instructional programs in this area.

One set of materials which came to our attention is the Michigan Oral Language Series produced under the direction of Ralph Robinett and Richard Benjamin with E.S.E.A. Title I-Migrant funds provided by the Michigan Department of Education to the Washtenaw County Intermediate School District and the Foreign Language Innovative Curricula Studies (E.S.E.A. Title III). The series consists of structured oral language lessons for use with four, five and six year old children who need to learn English as a second language or standard English as a second dialect; the lessons are accompanied by evaluation and teacher training materials.

The series gives the teacher a detailed sequence of oral language activities which are not only linguistically controlled but also emphasize and reinforce the conceptual development of the child.

ACTFL has made these materials available for several reasons:

1. So that you can see what one project has been able to produce with competent staff.

2. So that you will appreciate--if you do not already--what materials development means.

3. So that you can use these materials for training personnel in your institution.

4. So that you may consider adapting or adopting them--in whole or in part--for your program.

The series consists of six components:

1. Bilingual Conceptual Development Guide--Preschool
2. English Guide--Kindergarten
3. Spanish Guide--Kindergarten
4. Interdisciplinary Oral Language Guide--Primary One
5. Michigan Oral Language Productive Tests
6. Developing Language Curricula: Programed Exercises for Teachers

If you wish to order multiple or single copies of these texts please consult the catalogue published by ACTFL.

This ACTFL Project has been made possible by CONPASS (Consortium of Professional Associations for Study of Special Teacher Improvement Programs), under a grant from the U.S. Office of Education, and it is intended to extend the work of CONPASS initiated at its conference in Grove Park, North Carolina on 10-15 June 1969. ACTFL extends its appreciation to CONPASS for the grant which makes the distribution of these materials possible and to the staff of FLICS and the Migrant Worker Program for their willingness to share the fruits of their work.

F. André Paquette
Executive Secretary

MICHIGAN ORAL LANGUAGE PRODUCTIVE TEST

Conceptual Oral Language Test

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These materials were developed by the Washtenaw Intermediate School District under a grant from the Migrant Program of the Michigan Department of Education and are the property of the State of Michigan

1969

MICHIGAN MIGRANT PRIMARY INTERDISCIPLINARY PROJECT
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MICHIGAN ORAL LANGUAGE PRODUCTIVE TEST

Structured Response

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This test is based on the Dade County Test of Language Development. The original test has been revised and enlarged in cooperation with the Foreign Language Innovative Curricula Studies with permission of the Division of Research, Development, and Evaluation, Dade County Board of Public Instruction, Miami, Florida. Inquiries should be addressed to Evaluation Director, Michigan Migrant Primary Interdisciplinary Project, 3800 Packard Road, Ann Arbor, Michigan 48104.

MICHIGAN ORAL LANGUAGE PRODUCTIVE TEST - Structured Response

Directions for Administration

I. OBJECTIVE

The purpose of the test is to assess the child's ability to produce standard grammatical and phonological features when he speaks.

II. METHOD

A. Standard Stimulus. The child is shown three pictures which form a story. He is given a Stimulus (S) concerning one of the pictures. The Stimulus is structured so that the child will give a Response (R) containing a particular feature of grammar or pronunciation.

The procedure for giving the Stimulus (S) and scoring the Response (R) is as follows:

1. Give Stimulus, marked S
2. If Child does answer with underlined Response (R), record response number.
3. Give (S) second time if child gives no answer the first time.
4. Do not give any further help.
5. If child gives an answer which is not listed in the test, or if he doesn't respond after the second time, mark 0 (other)

B. Importance of Standard Stimulus. It is important to give the Stimulus (S) as it is written.

For example: (Question 5 - Stimulus)
PAST PARTICIPLE

S (Point to boy) (Child's name). Ask the boy if he always goes to this river to fish. Have you always...

As may be seen, if the examiner did not include the words, Have you always, the child could say, Do you always go, instead of Have you always gone. It would then become difficult to find out what word the child uses for gone without actually giving him a cue or answer.

C. Use of Tape Recorder. To help the teacher check on whether or not he has given a standard Stimulus, it is convenient to use a tape recorder during the testing sessions

Later on, when playing back the tape, the teacher may not only check on the standard Stimulus, but also recall various features from an individual child's test. The children will not be afraid of the recorder if they are allowed to hear themselves on the recorder a little bit before the test.

The tape recorder need not be used extensively to score the test, however. Examiners have found that on-the-spot scoring is not only more practical but equally or more reliable for checking sound differences that are important in the phonological and grammatical features tested.

III. GENERAL TEST CONSIDERATIONS

A. Time Required. The 43 items should take approximately 15 munutes to give.

B. Testing Room and Equipment. No extra equipment is needed besides the test booklet with its three pictures. You will need to reproduce five more response sheets. A tape recorder is advisable for the first few children as a means of self-checks.

C. Setting the Child at Ease. The teacher is at an advantage in the testing situation because the child already knows her. Working with the tape recorder may be strange for the child, and the test may be different from any he has encountered before. However, the tape recorder will help the teacher get the child to name his brothers and sisters, tell about a pet, tell about something he did well yesterday in class; or, if the child does not seem to be afraid, he may wish to tell about the things he sees in the first picture he is shown.

Sometimes the children are quite verbal, and sometimes they need help in this warm-up period. If the child does not respond to the questions above easily, it is best just to go right into the test. The praise given for answering will begin to make him feel at ease.

D. Praise for Answering. The child feels more relaxed and will try to give better answers if he is praised. Even if he misses giving the grammatical or phonological feature needed, praise may be given. However, the child is sensitive to false praise. It is better to give moderately positive comments such as, fine, or You're giving me lots of answers or even an enthusiastic uh-huh or O.K. Often words like, good and very good, begin to sound false. Also, testers sometimes find themselves saying, good, when the answer is standard and a dull uh-huh, when the answer is non-standard. Moderately positive comments will guard him from this tendency.

IV. SPECIFIC TEST CONSIDERATIONS

There are many questions the teacher will have as she begins to test. The most common are listed below:

1. What is the best way to give the Stimulus?

   The Stimulus must always be read word for word. Sometimes you will find a line of dashes drawn over to a part of the Stimulus. It is helpful for the child to repeat the Stimulus from this part through to the end.

   For example: (Question 34 - Stimulus)
   USES OF BE

S	Let's name some things in this picture.
(Pointing)	These are dishes.
(Point to table)	These are chairs, and
(If necessary, help child repeat)- - - - - - - - -	This ...

   If the child repeats <u>this</u>, it gives him a good start at producing the whole sentence. Otherwise, he may give a short answer, <u>a table</u>. The verb to be tested will be missed.

2. How do you get a child to repeat the last word?

   After the teacher becomes somewhat familiar with the test, she will be able to use eye contact to have the child repeat what she says. The child will become used to the teacher looking up from the picture and will realize he is to repeat words.

   This eye contact system has the advantage of being non-verbal, so the child can concentrate only on the question. Until the system is established, the teacher may need to deviate from the general instructions in the following way:

   a. Read the <u>entire</u> Stimulus;
   b. Tell the child, <u>Say what I say, (child's name)</u>.
   c. Repeat just the starting word of the child's sentence.
   d. Repeat the entire Stimulus with the child's starting word given twice.

For example:	Teacher:	Did the father start to fish by himself, or did he wait for the boy? He ...
	Teacher:	Say what I say, (child's name).
	Teacher:	He ...

If necessary,

Teacher: Did the father start to fish by himself, or did he wait for the boy?
He ...
He ...

3. What if a child remains silent?

If a child remains silent on a particular question, it may be that he doesn't know the meaning of one of the words. This has been anticipated to a great extent in the test. Changes have been made to use simpler words, or definitions have been provided. In any case, it is a good policy when the child is silent to ask:

Teacher: Do you know what (_____) means?
It means (simple synonym).
(Repeat Stimulus)

Even if the child says he knows what a word means, it is good to give the synonym.

Sometimes the child doesn't understand what the teacher is pointing to in the picture. However, if the teacher tries to give some verbal explanation, she may run the risk of giving the child the answer. Therefore, if the child does not seem to understand what the teacher is pointing to, the teacher may say:

Teacher: Point to the same thing I'm pointing to.
(Guide child's finger to same point)
(Repeat Stimulus)

4. What if a child generally does not give answers?

It is easy to assume that if a child does not give answers, he doesn't understand. It is just as easy to assume some erroneous causes. The teacher is at a distinct advantage in this testing situation. If a particular child does not give answers, the teacher may want to re-test him after she has tested several other children. Quickly reviewing the information she has accumulated with these children, she may pick out the simplest questions. Starting with these, the child will probably begin to answer questions.

5. Is it necessary to test exactly five students several times a year?

There is no magic about the number five. In other words, it is not a necessary number; it is only a convenient number. We would like to stress, however, that the value of the Structured Response test is it's ability to give the teacher a quick overview of her students' language needs. The more efficient the curriculum is in meeting the students' language needs, the more quickly the overview is likely to change. To ease the teacher's load, we recommend that she test five pupils taken at randon every six weeks or so. She can easily spend fifteen minutes with one pupil each day for a week.

6. What will the scoring system tell me?

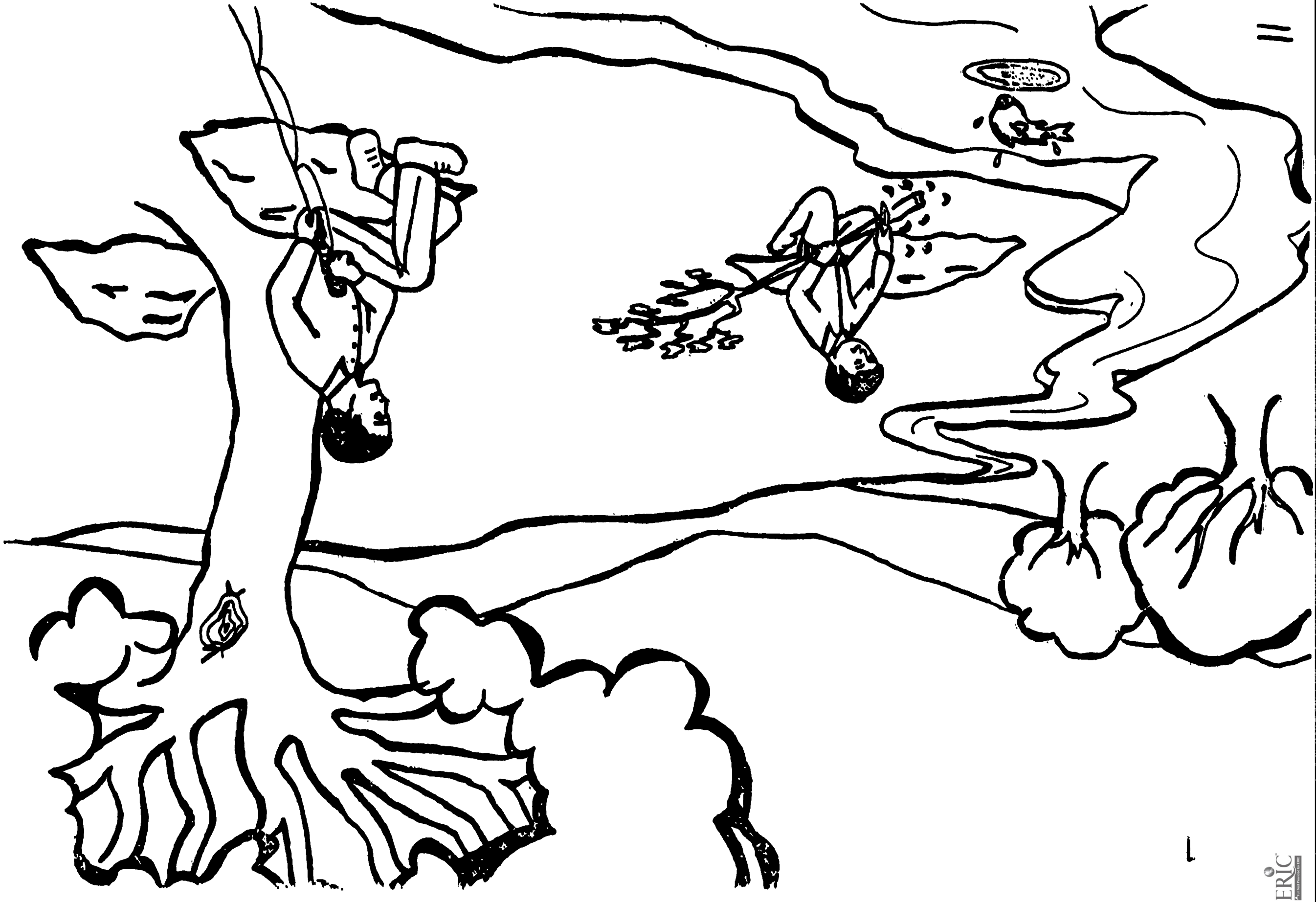
The Structured Response test has eleven grammatical and phonological categories. After the teacher has tested five pupils, for example, she need spend only 15-20 minutes to arrive at the Category Percentages for the eleven categories. You will notice that the Category Sheet helps you keep record of the percentages for six testing dates. This record can show you if the curriculum's progress is meeting the students' language needs.

MICHIGAN ORAL LANGUAGE PRODUCTIVE TEST - Structured Response

Directions for Administration	Example (Item 1 below)
a. Give Stimulus, marked S.	S Let's name some things, (child's name). This is a boy. This is the father, and these ...
b. As you read, point to Stimulus objects in picture. e.g., Point to boy when saying Point to father when saying Point to trees when saying	 This is a boy This is the father, and these ...
c. If child answers with an underlined Response, marked R, -Record response number on Response Sheet, e.g., (1) ... <u>are</u> trees	See section (R) in Item 1 below Recorded as: (1)
d. Response number is determined only by underlined portion; e.g., ... <u>is</u> trees e.g., ... <u>is</u> tadpoles	 Recorded as: (5) Recorded as: (5)
e. If child doesn't answer, or doesn't use an underlined Response, -Repeat Stimulus -having child join in with you from the dashes; e.g., (If necessary, have child repeat)- - - - - - - - -	 See section (S) in Item 1 below -This is a boy. This is the father, and these ...
f. After second time, if child still doesn't answer, or doesn't use an underlined Response, -Record (0) -Go on to next item	 Recorded as: (0) Other
g. Accept final response; e.g., If child says, ... <u>are</u> trees and then says, ... <u>is</u> trees	 Recorded as: (5)

Example (Item 1)

S	Let's name some things, (child's name).	R (1)	... <u>are</u> trees.
(Point to objects)		(5)	... <u>is</u> trees.
(If necessary, have child repeat)- - -	-This is a boy. This is the father,	(6)	... be trees.
		(7)	... trees. (<u>verb</u> omitted)
(Points to trees)	and these ...	(0)	Other



Test Items

1. USES OF BE
(Are as main verb)

S — Let's name some things, (child's name).

(Point to objects)
(If necessary, help child repeat) - - - - - - - - - This is a boy.
This is the father,
(Point to trees) and these ...

R (1) ... are trees.

(5) ... is trees.
(6) ... be trees.
(7) ... trees. (verb omitted)
(0) Other

2. PLURAL
(Regular - /z/ ending)

S (Point to trees) — Let's count these, (child's name).
One, two, ...
Three what?

R (1) Trees. (s pronounced /z/)

(5) Trees. (s pronounced /s/)
(6) Tree(_). (/z/ omitted)
(7) Treezez. (non-standard plural)
(0) Other

Use Picture 1

3. DOUBLE NEGATIVE
(Negated main verb plus affirmative noun determiner or noun subsititute: doesn't have plus a, one, or any)

S (Pointing) — The father has a fishing pole, but the boy doesn't have ...

R
(1) ... a fishing pole.
(2) ... one.
(3) ... any fishing pole.
(4) ... any.

(5) ... no fishing pole.
(6) ... none.
(0) Other

4. USES OF HAVE
(Have as auxiliary; requires following past participle, walked)

S (Point to boy) — (Child's name) Ask the boy if he has walked along the river before.

R
(1) Have you walked along the river before?

(5) Has you walked along the river before?
(6) Has you walk(__) along the river before?
(7) Have you walk(__) along the river before?
(8) Did you walk along the river before?
(9) Did you walked along the river before?
(10) Is you walk along the river before?
(11) Is you walked along the river before?
(12) You walk along the river before? (have and -ed omitted)
(13) You walked along the river before? (have omitted)
(0) Other

Use Picture 1

5. PAST PARTICIPLE
(Irregular - past participle, gone, not the same as infinitive plus /d/, i.e., goed, nor as the past, went)

S (Point to boy) (Child's name)
Ask the boy if he always goes to this river to fish.
(Say with child)- - - - - - - - - - -Have you always ...

R (1) ... gone to this river to fish?

(5) ... went to this river to fish?
(6) ... go to this river to fish?
(7) ... goes to this river to fish?
(8) ... goed to this river to fish?
(0) Other

6. PRONUNCIATION
(Initial consonant sound th pronounced as in thin, think)

S (Holding thumb up) What do you call this? A ...

R (1) thumb.

(5) tum. (/t/ substituted for th)
(6) fum. (/f/ substituted for th)
(7) sum. (/s/ substituted for th)
(0) Other

7. PRONUNCIATION
(Initial consonant cluster /sk/ pronounced)

S (Point to ground) We color grass green.
(Point to sky) What do we color blue? The ...

R (1) sky.

(5) (_)ky. (/s/ omitted from /sk/)
(6) es-ky (vowel added)
(0) Other

Use Picture 1

8. USES OF DO
(In questions, main verb, likes, changes to like with addition of does auxiliary)

S (Pointing to self) (Child's name)
Ask me if the boy likes to fish.

R (1) Does the boy like to fish?

(5) Do the boy like to fish?
(6) Does the boy likes to fish?
(7) Do the boy likes to fish?
(8) The boy likes to fish? (does omitted)
(9) The boy like to fish? (does omitted)
(0) Other

9. PAST PARTICIPLE
(Irregular - past participle, made, not the same as infinitive plus /t/, i.e., makt but is the same as irregular past)

S (Point to the boy) Ask the boy if he always makes his own fishing pole.

(If necessary, help child repeat)- - - - - - - - - - - -Have you always ...

R (1) ... made your own fishing pole?

(5) ... make your own fishing pole?
(6) ... makes your own fishing pole?
(7) ... makt your own fishing pole?
(0) Other

NOTE: Child may confuse pronouns. Do not score his pronoun use. Score only the underlined form of past participle.

Use Picture 1

10. PRONUNCIATION
(Final consonant in the cluster /st/ pronounced)

S (Make slow swimming motion with hand, then make fast swimming motion) — Some fish swim very slow, and some fish swim very ...

R (1) ... fast.

(5) ... fas(_). (/t/ omitted from /st/)
(0) Other

11. PAST TENSE
(Regular - /t/ ending)

S (Point to fish) — Where did the fish jump?
(If necessary help child repeat)- - - - - - - - - - - -The fish ...

R (1) ... jumped in the river.

(5) ... jump(_) in the river. (/t/ omitted)
(6) ... jump-ed in the river. (2 syllables)
(0) Other

12. USES OF DO
(don't as auxiliary or as substitute for longer predicate; main verb, have, remains the same with addition of don't auxiliary; placement of not between auxiliary and main verb)

S (Holding up pencil or pen) — I have a pencil (pen) in my hand. Tell me if you have a pencil (pen) in your hand.
(If necessary, help child repeat)- - - - - - - - - - - -No, I ...

R (1) ... don't (do not) have a pencil).

(5) ... doesn't (does not) (have a pencil).
(6) ... don't (do not) has a pencil.
(7) ... has a pencil. (don't omitted)
(8) ... have a pencil. (don't omitted)
(9) Any answer where not (no) is placed before verb construction; e.g., "...not (no) have a pencil."
(0) Other

Use Picture 1

13. POSSESSIVE
(Regular - 's pronounced /z/)

S (Point to father's pole) — Whose pole is this? This is the ...

R
(1) ... father's (pole). — ('s pronounced /z/)

(5) ... father's (pole). — ('s pronounced /s/)
(6) ... father( ) (pole). — (/z/ omitted)
(7) ... pole of the father. — (non-standard possessive)
(0) Other

NOTE: Dad's, Daddy's and man's may be substituted for father's.

14. COMPARISON
(Superlative)

S (If necessary, help child repeat)- - - - - - - - - - - -The boy thinks T. V. is fun; baseball's more fun, and fishing is the ...

R
(1) ... most fun.
(2) ... best.

(5) ... fun. — (positive)
(6) ... more fun. — (comparative)
(7) ... funner. — (non-standard comparative)
(8) ... more funner. — (non-standard comparative)
(9) ... funnest. — (non-standard superlative)
(10) ... most funnest. — (non-standard superlative)
(11) Any antonym of fun, in any form, e.g., hard, harder, not fun.
(0) Other

Use Picture 1

15. USES OF HAVE
(Has as main verb)

S (Point to father's fishing pole) — What does the father have in his hand?
(If necessary, help child repeat)- - - - - - - - - - - -He ...

R (1) ... has a fishing pole (in his hand).

(5) ... have a fishing pole (in his hand).
(6) ... haf a fishing pole (in his hand).
(7) ... hab a fishing pole (in his hand).
(8) ... has a fishing pole (in his hand). (s pronounced /s/)
(0) Other

16. PAST TENSE
(Regular -/ɨd/ ending)

S — Did the father need some string, or did the boy need some string?
(If necessary, help child repeat)- - - - - - - - - - - -The ...

R (1) ... (boy, father) needed some string.

(5) ... (boy, father) needet some string. (/ɨt/ substituted for /ɨd/)
(6) ... (boy, father) need(_) some string. (/ɨd/ ending omitted)
(0) Other

17. SUBJECT-VERB AGREEMENT
(/s/ ending on verb)

S — Does the father go home, or does he keep on waiting?
(If necessary, help child repeat)- - - - - - - - - - - -He ...

R (1) ... keeps on waiting. (s pronounced /s/)

(5) ... keep(_) on waiting. (/s/ omitted)
(0) Other

NOTE: If child says, He goes home, reply, But, the father's still there. Then repeat the question.

Use Picture 1

18. USES OF HAVE
(Had as main verb)

S — (Child's name) What did you have for lunch yesterday?

(If necessary, help child repeat)- - - - - - - - - - - - -I ...

R
(1) ... had etc.

(5) ... have etc.
(6) ... has etc.
(7) ... hab etc.
(8) ... haf etc.
(9) ... hat etc.
(0) Other

19. PLURAL
(Regular - /s/ ending)

S (Point to rocks, one at a time) — This is a rock. This is a rock, and this is another rock. So, there are three ...

R

(1)	... rocks.	(s pronounced /s/)
(5)	... rock(_).	(/s/ omitted)
(6)	... rock-ez.	(ez pronounced /ɨz/)
(7)	... rock-es.	(es pronounced /ɨs/)
(8)	... rock-sez.	(sez pronounced /sɨz/)
(9)	... rock-ses.	(ses pronounced /sɨs/)
(0)	Other	

20. PRONUNCIATION
(Final consonant sound th pronounced as in bath or as in bathe)

S — Is the boy fishing by himself? No, he's fishing ...

R

(1)	... with his father.	
(5)	... wit his father.	(/t/ substituted for th)
(6)	... wid his father.	(/d/ substituted for th)
(7)	... wif his father.	(/f/ substituted for th)
(8)	... wis his father.	(/s/ substituted for th)
(0)	Other	

Use Picture 1

CHANGE TO PICTURE 2

21. USES OF DO
(Doesn't as auxiliary or as substitute for longer predicate; main verb, wears, changes to wear with addition of doesn't auxiliary; placement of not between auxiliary and main verb)

S (Point to father's shoes) — The father wears shoes in this picture. Tell me if the boy wears shoes.

(If necessary, help child repeat)- - - - - - - - - - - -No, he ...

R
(1) ... doesn't (does not) (wear shoes).

(5) ... don't (do not) (wear shoes).
(6) ... doesn't (does not) wears shoes.
(7) ... don't (do not) wears shoes.
(8) ... wear shoes. (doesn't omitted)
(9) ... wears shoes. (doesn't omitted)
(0) Other

22. COMPARISON
(Superlative)

S (Point to each fish starting with the smallest, on the left) — Here are four fish. This fish is short; this one is long. This one one is longer; and this fish is the very ...

R
(1) ... longest (one).
(2) ... longes( ) (one).

(5) ... long (one). (positive)
(6) ... longer (one). (comparative)
(7) ... more long (one). (non-standard comparative)
(8) ... more longer (one). (non-standard comparative)
(9) ... most long (one). (non-standard superlative)
(10) ... most longest (one). (non-standard superlative)
(11) Any antonym of long, in any form; e.g., short, shorter, not long.
(0) Other

Use Picture 2

23. PLURAL
(Irregular)

S (Point to boy's feet) — Here's a foot. And here's a foot. So there are two ...

R (1) ... feet.

(5) ... foots.
(6) ... feets.
(7) ... foot.
(0) Other

NOTE: If a child does not use some form of the word feet, say, (showing hands) These are my hands, and (showing feet) These are my ...

24. POSSESSIVE
(Regular -'s pronounced /ɪz/)

S (Point to fish's tail) — Whose tail is this? This is the ...

R (1) ... fish's (tail). — (s pronounced /ɪz/)

(5) ... fish's (tail). — (s pronounced /ɪs/)
(6) ... fish(_) (tail). — (/ɪz/ ending omitted)
(7) ... tail of the fish. — (non-standard possessive)
(0) Other

NOTE: Do not score pronunciation problems, ish. Score only the underlined form of the possessive.

25. SUBJECT - VERB AGREEMENT
(/ɪz/ ending on verb)

S — Does the boy use big worms or little worms to get the fish?

(If necessary, help child repeat)- - - - - - - - - - - -He ...

R (1) ... uses (big, little) worms. — (es pronounced /ɪz/)

(5) ... uses (big, little) worms. — (es pronounced /ɪs/)
(6) ... use(_). — (plural ending omitted)
(0) Other

Use Picture 2

26. COMPARISON
(Comparative)

S	(Pointing to boy) (Point to smallest fish)		The boy is little, but the fish is much ...
R	(1)	... littler.	
	(5)	... little.	(positive)
	(6)	... more little.	(non-standard comparative)
	(7)	... more littler.	(non-standard comparative)
	(8)	... littlest.	(superlative)
	(9)	much.	(adjective omitted)
	(10)	Any antonym of little, in any form; e.g., big, bigger, not little.	
	(0)	Other	

NOTE: Smaller (small, smallest) may be substituted for littler (little, littlest).

27. USES OF HAVE
(Have as auxiliary; requires following past participle, fished)

S			Ask the boy if he has ever fished before.
R	(1)	Have you ever fished before?	
	(5)	Has you ever fished before?	
	(6)	Has you ever fish(_) before?	
	(7)	Have you ever fish(_) before?	
	(8)	Did you ever fish before?	
	(9)	Did you ever fished before?	
	(10)	Is you ever fish before?	
	(11)	Is you ever fished before?	
	(12)	You ever fish(_) before?	(have and -ed omitted)
	(13)	You ever fished before?	(have omitted)
	(0)	Other	

Use Picture 2

28. PAST PARTICIPLE
(Irregular - past participle, seen, not the same as infinitive plus /d/, i.e., seed, nor as the past, saw)

S — Ask the boy if he always sees a lot of fish in the river.

(If necessary, help child repeat)- - - - - - - - - - - -Have you always ...

R (1) ... seen a lot of fish (in the river)?

(5) ... saw a lot of fish (in the river)?
(6) ... see a lot of fish (in the river)?
(7) ... sees a lot of fish (in the river)?
(8) ... seed a lot of fish (in the river)?
(0) Other

29. PAST TENSE
(Regular - /d/ ending)

S (Point to boy's mouth) — Did the boy cry a lot or did he smile a lot?

(If necessary, help child repeat)- - - - - - - - - - - -He ...

R (1) ... smiled (a lot).

(5) ... smilt (a lot). (/t/ substituted for /d/)
(6) ... smile(_) (a lot). (/d/ omitted)
(7) ... smil-ed (a lot). (2 syllables)
(8) ... smil-et (a lot). (2 syllables)
(0) Other

Use Picture 2

30. DOUBLE NEGATIVE
(Negated main verb plus affirmative noun determiner or noun substitute: aren't plus any, or (_) birds)

S (Point to the sky)

There are no birds in the sky.
So we can say that there aren't ...

R
(1) ... any.
(2) ... any birds.
(3) ... birds.

(5) ... no birds.
(6) ... none.
(0) Other

31. PRONUNCIATION
(Consonant sound ng pronounced)

S (Point to fish)

Fish swim with fins.
What do birds fly with?

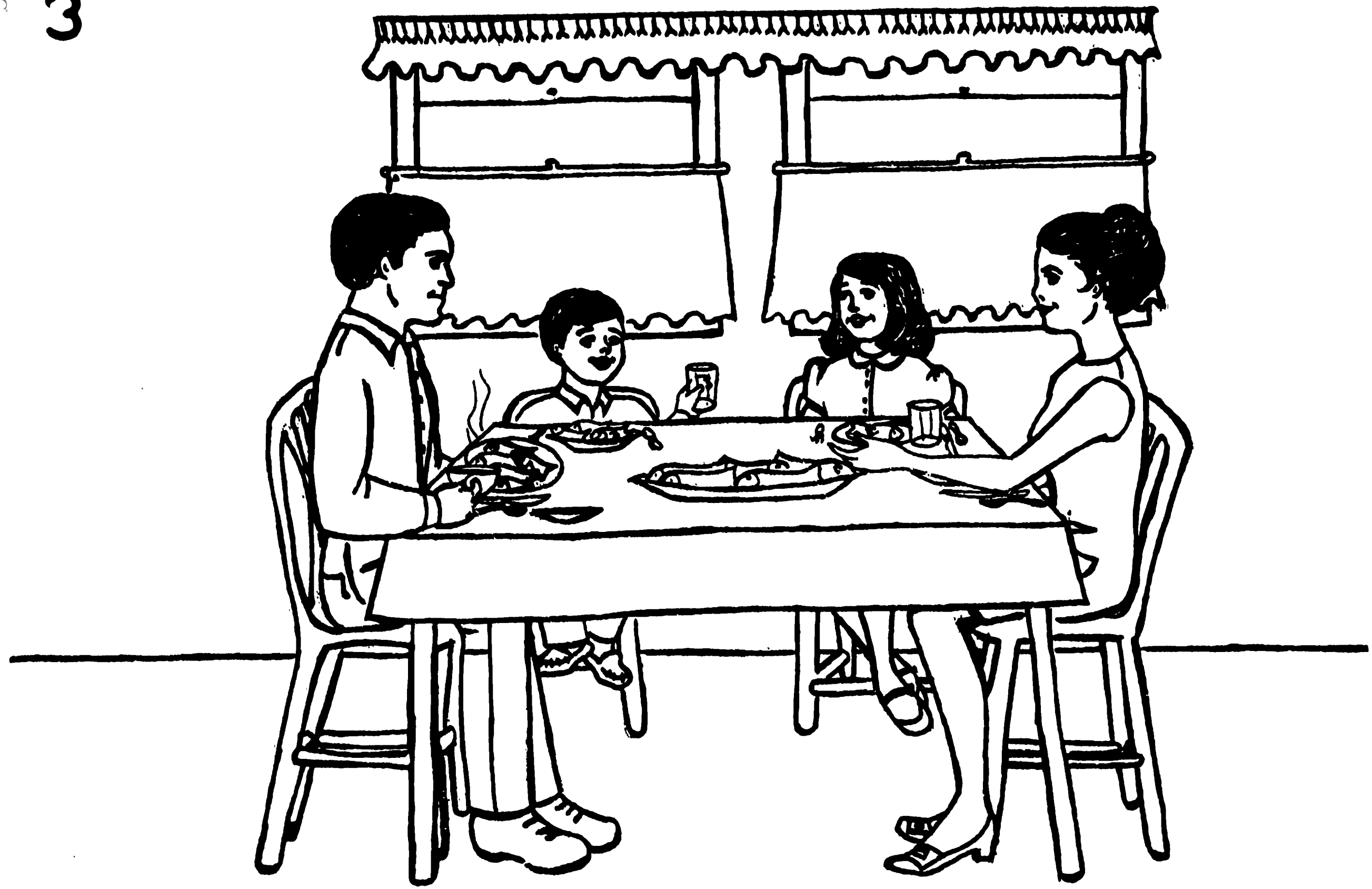
R
(1) Wings.
(2) (A) wing.
(3) (A) wink(_).
(4) Wing-ez (-es).

(5) Win. (/n/ substituted for ng)
(6) Wins. (/n/ substituted for ng)
(0) Other

NOTE: Child may have difficulty with /z/ pluralization. Do not score pluralization problem. Score only the underlined pronunciation problem.

If the child answers, feathers, ask, (Holding arms out to simulate wings) What are the feathers on? Or, ask, (Holding arms out) What do airplanes fly with?

Use Picture 2



CHANGE TO PICTURE 3

32. PAST TENSE
(Irregular - past, went, not the same as infinitive plus /d/, i.e., goed)

S — When the father and boy finished fishing, where did they go?

(If necessary, help child repeat)- - - - - - - - - - - -They ...

R (1) ... went home.

(5) ... go home.
(6) ... goed home.
(7) ... go-ed home. (2 syllables)
(0) Other

33. USES OF BE
(Were as main verb or as substitute for longer predicate)

S (Point to father and boy) — Who was tired?

(If necessary, help child repeat)- - - - - - - - - - - -They both ...

R (1) ... were (tired).

(5) ... was (tired).
(6) ... is (tired).
(7) ... are (tired).
(8) ... be (tired).
(9) ... tired. (verb omitted)
(10) They. (verb omitted)
(0) Other

34. USES OF BE
(Is as main verb)

S (Point to each object) — Let's name some things in this picture. These are dishes. These are chairs, and

(If necessary, help child repeat)- - - - - - - - - - - -this ...

R (1) ... is (a table).

(5) ... are (a table).
(6) ... be (a table).
(7) ... a (table). (verb omitted)
(0) Other

Use Picture 3

35. PLURAL
(Regular - /ɨz/ ending)

S (Point to glass) — This is a glass.
(Point to glass) — This is a glass.
That makes two ...

R (1) ... glasses. (es pronounced /ɨz/)

(5) ... glasses. (es pronounced /ɨs/)
(6) ... glass(_). (plural ending omitted)
(0) Other

36. PRONUNCIATION
(Initial ch sound pronounced)

S (Point to chair) — What's the mother sitting in? A ...

R (1) ... chair.

(5) ... shair. (sh substituted for ch)
(0) Other

37. POSSESSIVE
(Regular - 's pronounced /s/)

S (Point to girl) — Let's call the girl Janet. Whose
(Point to blouse) — blouse is this? This is ...

R (1) ... Janet's (blouse).

(5) ... Janet(_) (blouse). (/s/ omitted)
(6) ... the blouse of Janet. (non-standard possessive)
(0) Other

Use Picture 3

38. USES OF BE
(Isn't as main verb or as substitute for longer predicate; requires following present participle, wearing; placement of not between auxiliary and main verb)

S (Point to father and boy) The father and boy are wearing shirts,
(Point to girl) but
(Shake head "No")- - - - - - - - - - the girl ...

R (1) ... isn't (is not) (wearing a shirt).

(5) ... aren't (are not) (wearing a shirt).
(6) ... ain't (wearing a shirt).
(7) ... not (no) wearing a shirt.
(8) ... doesn't (does not) (wear a shirt).
(9) ... don't (do not) (wear a shirt).
(0) Other

NOTE: Child may have difficulty with a shirt. Do not score the double negative problem. Score only the underlined use of be.

39. USES OF DO
(In questions, main verb, baked, changes to bake with addition of did auxiliary)

S (Point to mother) Ask the mother if she baked a pie?

R (1) Did you bake a pie?

(5) Do you bake a pie?
(6) Does you bake a pie?
(7) Do you baked a pie?
(8) Does you baked a pie?
(9) Did you baked a pie?
(10) You baked a pie? (did omitted)
(11) You bake a pie? (did omitted)
(0) Other

NOTE: Child may confuse pronouns. Do not score his pronoun use. Score only the underlined use of do.

Use Picture 3

40. COMPARISON
(Comparative)

S — Fish for supper is very good, but the boy likes hot dogs much ...

R
(1) ... better.
(2) ... more.

(5) ... best. (superlative)
(6) ... bestest. (non-standard superlative)
(7) ... good. (positive)
(8) ... more good. (non-standard comparative)
(9) ... more better. (non-standard comparative)
(10) much. (adverb omitted)
(0) Other

41. DOUBLE NEGATIVE
(Negated main verb plus affirmative noun determiner or noun substitute: don't want plus any, more, or any more)

S (Point to mother) — The mother wants to know if the boy wants more milk. The boy says, "No, I don't want ...

R
(1) ... any more (milk)."
(2) ... more (milk)."
(3) ... any (milk)."
(4) ... milk."

(5) ... no more (milk)."
(6) ... no milk."
(7) ... none."
(0) Other

Use Picture 3

42. SUBJECT-VERB AGREEMENT
(No ending on main verb)

S

(Point to girl)
(Point to father and boy)
(If necessary, help child repeat)- - - - - - - - - - - -

Look. Everybody is eating fish. The girl eats a little bit of fish.

-They ...

R (1) ... eat (a lot, a little bit).

(5) ... eats (a lot, a little bit).
(0) Other

43. SUBJECT-VERB AGREEMENT
(/z/ ending on main verb)

S

(If necessary, help child repeat)- - - - - - - - - - - -

Does the boy go outside to play after dinner, or does he go to bed?

-He ...

R (1) ... goes (outside, to bed). (s pronounced /z/)

(5) ... goes (outside, to bed). (s pronounced /s/)
(6) ... go (outside, to bed).
(7) ... goed (outside, to bed).
(8) ... went (outside, to bed).
(0) Other

Use Picture 3

MICHIGAN ORAL LANGUAGE PRODUCTIVE TEST - Structured Response

Response Sheet

Recording code: 1, 2, 3, 4 (standard); 5, 6, etc. (non-standard); 0 (other)

- If child answers with listed standard or non-standard response:_ _ _ _Record response number
- If child answers with unlisted response after second administration:_ _ Record 0

(*Number of last item on given test page)

Item	Name	Category	TOTALS Count 1 point for each (1-4)
1		A	
* 2		H	
3		D	
* 4		E	
5		G	
6		J	
* 7		J	
8		C	
* 9		G	
10		J	
11		F	
*12		C	
13		I	
*14		B	
15		E	
16		F	
*17		K	
18		E	
19		H	
*20		J	
21		C	
*22		B	

Tester _____

Sheet____of____sheets

Item	Name	Continue with same students as listed for Items 1-22	Category	TOTALS Count 1 point for each (1-4)
23			H	
24			I	
*25			K	
26			B	
*27			E	
28			G	
*29			F	
30			D	
*31			J	
32			F	
33			A	
*34			A	
35			H	
36			J	
*37			I	
38			A	
*39			C	
40			B	
*41			D	
42			E	
*43			K	

Teacher _____Grade____

School _____Date____

Location _____

MICHIGAN ORAL LANGUAGE PRODUCTIVE TEST - Structured Response

Category Sheet

USES OF BE - A

Test Date	#	Item Number 1	33	34	38
	1				
	2				
	3				
	4				
	5				
	6				

CATEGORY

Total /20		Percent
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%

USES OF HAVE - E

Test Date	#	Item Number 4	15	18	27
	1				
	2				
	3				
	4				
	5				
	6				

CATEGORY

Total /20		Percent
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%

COMPARISON - B

Test Date	#	Item Number 14	22	26	40
	1				
	2				
	3				
	4				
	5				
	6				

CATEGORY

Total /20		Percent
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%

PAST TENSE - F

Test Date	#	Item Number 11	16	29	32
	1				
	2				
	3				
	4				
	5				
	6				

CATEGORY

Total /20		Percent
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%

USES OF DO - C

Test Date	#	Item Number 8	12	21	39
	1				
	2				
	3				
	4				
	5				
	6				

CATEGORY

Total /20		Percent
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%
/20	=	%

DOUBLE NEGATIVE - D

Test Date	#	Item Number 3	30	41
	1			
	2			
	3			
	4			
	5			
	6			

CATEGORY

Total /15		Percent
/15	=	%
/15	=	%
/15	=	%
/15	=	%
/15	=	%
/15	=	%

The purpose of this sheet is to rearrange the Response Sheet totals into grammatical and phonological categories so that student weaknesses can be identified.

DIRECTIONS:

1. For each item, transfer the number in the Response Sheet's TOTALS colums to the appropirate category on this sheet.
2. For each category:
   a. Add the row and enter this number in the Total column.
   b. Compute the category percentage by dividing by the indicated number and entering it in the Percent col.*

REMEMBER: Six rows are provided in each category, one row for each of six testings through the year. Only five students are tested at each testing, one a day for a week.

*If the Response Sheet is not based on five students, refer to the formulas on the back of the Category Sheet.

PAST PARTICIPLE - G

Test Date	#	Item Number 5	9	28	CATEGORY Total /15		Percent
	1				/15	=	%
	2				/15	=	%
	3				/15	=	%
	4				/15	=	%
	5				/15	=	%
	6				/15	=	%

SUBJECT-VERB AGREEMENT - K

Test Date	#	Item Number 17	25	42	43	CATEGORY Total /20		Percent
	1					/20	=	%
	2					/20	=	%
	3					/20	=	%
	4					/20	=	%
	5					/20	=	%
	6					/20	=	%

PLURAL - H

Test Date	#	Item Number 2	19	23	35	CATEGORY Total /20		Percent
	1					/20	=	%
	2					/20	=	%
	3					/20	=	%
	4					/20	=	%
	5					/20	=	%
	6					/20	=	%

NOTE: Following formula is for sample using more or less than 5 pupils (no. pupils = N*).

For Cat.				
A,B,C E,F H,K	Categ. Total	÷ 4xN*	=	Categ. %
D,G,I	Categ. Total	÷ 3xN*	=	Categ. %
J	Categ. Total	÷ 6xN*	=	Categ. %

POSSESSIVE - I

Test Date	#	Item Number 13	24	37	CATEGORY Total /15		Percent
	1				/15	=	%
	2				/15	=	%
	3				/15	=	%
	4				/15	=	%
	5				/15	=	%
	6				/15	=	%

PRONUNCIATION - J

Test Date	#	Item Number 6	7	10	20	31	36	CATEGORY Total /30		Percent
	1							/30	=	%
	2							/30	=	%
	3							/30	=	%
	4							/30	=	%
	5							/30	=	%
	6							/30	=	%

Conceptual Oral Language Test

Administration Manual
(part one)

and

Technical Report
(part two)

John C. Larson

Michigan Migrant Primary
Interdisciplinary Program

Part One

Administration Manual

DIRECTIONS FOR ADMINISTERING THE CONCEPTUAL ORAL LANGUAGE TEST

This paper is intended to specify the procedures for administering the COLT. While it includes a brief comment on interpretation of the scores, the derivation and validation of the scores are described in detail in the technical report. The technical report provides information about the correlation of the COLT with other tests of language and general ability, and about the limitations of the research edition of the COLT in its present form.

The COLT was designed to assess the pupil's ability to solve problems and think in terms of basic concepts in math, science, and social studies. The pupil indicates his answers in two ways: a) non-verbally, by pointing to the picture of his choice; and, b) verbally, by explaining his answer in standard English. Thus, a measure of the pupil's understanding is obtained which is relatively free from the effects of dialect or language differences from the examiner. At the same time, the discrepancy between the non-verbal and verbal score indicates the degree of the pupil's handicap in oral production of standard English.

Part-scores can be obtained in the three content areas as an indication of the pupil's relative strengths in these subjects. In addition, part-scores can be obtained in each of the four basic processes as an indication of the pupil's conceptual ability to solve problems in certain ways. More exact definitions of these seven part-scores are elaborated in the technical report; however, the analysis of the COLT in its present form suggests that the part-score reliabilities are too low as yet to be used as separate measures of ability. Thus far, only

the total non-verbal and total verbal scores are reliable enough to be of practical use. The total scores, then, may be interpreted as general measures of the pupil's ability to manipulate and express basic concepts in math, science, and social studies.

The COLT is designed to be used as a summary measure of the overall effects of curriculum at the first-, second-, and third-grade levels. While the COLT is useful with pupils in the normal achievement range, it is also suitable for use with pupils who are in the lower achievement range because of their non-standard dialect. In fact, it is particularly valuable in identifying just those pupils who are low achievers only because of their non-standard dialect.

General Test Considerations

Optimal testing conditions are obtained when there is a friendly, cooperative relationship between the child and the examiner. While teachers are usually well enough acquainted with their pupils to have suitable rapport in an individual testing situation, strangers to the classroom may have to exercise particular care in establishing a trusting relationship. Children new to the school system, especially the low achievers, are often threatened by the prospect of having to perform alone with a strange adult. Casual conversation about the child's favorite interests, (e.g., the playground, favorite foods, pets, hobbies, etc.) often are successful in putting the child at ease. A few words prior to reaching the testing room about the nature of the child's task may be helpful in allaying the child's possible suspicions about going to the nurse's or principal's office. For example, explain that you would like to show him some pictures and talk with him about them. Mention that other children (or name a classmate) like to look at the pictures, and you think he will too. Often, interest in the examiner

and test is generated in the class as word of the pictures spreads.

The examiner must also consider the physical comfort of the child in establishing optimal testing conditions. Testing rooms should be quiet, well-lighted and ventilated. It is best to use tables and chairs suited to the child's size. The picture booklet should be positioned at right-angles to the child's line of sight so that he can comfortably see and point to the pictures. The examiner should be alert for signs of fatigue or restlessness, since these factors lower the validity of the test. A brief pause between subtests to get a drink or stand and walk may be required.

Specific Administration Procedures

The test is divided into four formats, each with 15 items. The first two items of each format are demonstration items for the purpose of teaching the child how to respond to the format. Performance is not scored on these items. In each format, the two demonstration items are followed by three math, five science, and five social studies items in that order. Thus, there are 52 scored items out of the 60 itmes in the booklet.

Since it is essential that the child knows the nature of the task for each format, much attention and explanation should accompany the demonstration items. If the child does not seem to understand the standard stimulus question, the examiner should use other words and gestures to elucidate the nature of the task, e.g., pointing to each picture and asking or telling how it is the same or different from the others. The examiner should also elaborate the correct verbal answer for the demonstration items, whether or not the child has responded correctly. In this manner, the child will also learn the nature of the required verbal response. It may be necessary to rehearse the

demonstration items several times before going on to the test items. Once the test items have been started, of course, no further help may be given.

The COLT is an untimed test; however, reasonable time limits may be used in pacing the items. If the child does not respond after about 15 seconds, repeat the stimulus question for encouragement. Generally, if a child has not responded after one or two repetitions, he is not likely to respond at all without guessing.

The examiner should encourage the child to respond to the test, but this encouragement must not be construed as a reward for correct answers, nor the absence of such encouragement as implied judgement of wrong responses. The sensitive process of maintaining rapport without cuing success or failure is often accomplished by using such non-committal phrases as "You're doing fine", "Let's look at another one", "That was a hard one, wasn't it?", or words to that effect.

The first format is Differentiation. Each item is introduced with the following words: "Point to the picture that doesn't go (belong) with the others." The alternative the child points to is recorded as his non-verbal response. Immediately thereafter, the examiner asks for the verbal response as follows: "Can you tell me why?", or, "Tell me why you chose that picture." The verbal response is then scored according to the criteria explained below.

The second format is Classification, beginning with item 16. The following stimulus words are used: (pointing to the picture in the margin) "What goes with this ... (pointing in turn to each of the four alternatives) ... which one of these?" The verbal stimulus question is the same on all four formats, and is given immediately after the non-verbal response to each item.

The Seriation format begins with item 31. It is introduced as follows: (pointing in turn to the series of four frames) "These pictures are telling a story, but ... (pointing to the blank) ...one is missing." (pointing to the three alternatives) "Can you find it here?" The verbal stimulus is given, then, after the non-verbal response.

The final format, Analogies, begins with item 46. The stimulus words are: (pointing to the upper, then lower picture of the vertical set of two pictures) "If this goes with this, then ... (pointing to the upper picture, then the blank of the other vertical frame) ... "this goes with what?"... (pointing to the three alternatives) ... "Which one of these?" The verbal stimulus, of course, follows.

The verbal responses are scored on a three-point scale ranging from 0 to 2. Two criteria are employed in judging the adequacy of the response: a) the generality of the concept; and, b) the appropriateness of the response in standard, "classroom" English. To receive a score of 2 for any verbal response, <u>both</u> criteria must be judged as 2. A score of 1 is given if <u>both</u> criteria are judged as 1, or if one is judged 1 and the other 2. A verbal response is scored 0 if <u>either</u> or <u>both</u> of the criteria are judged 0.

The generality of the concept expressed by the child is scored from 0 to 2, as indicated in the examples below. Particular care must be given to scoring only the level of the words the child uses, <u>not</u> the concept implied by the words. Often a child will respond correctly to the non-verbal task, and apparently comprehends completely the nature of the item. However, the words he uses to express his understanding are not of the highest conceptual power. The extent to which the child does, in fact, use more generalized, conceptual words

is precisely what the verbal scale is intended to measure. Thus, in this case it is not just "the thought that counts".

2- Abstract, or categorical words which subsume a group of pictures or an entire sequence of action under one category. e.g.,

a) "It's a car, "It's newer (faster)." (9)

b) "They're both in the same position." (22)

c) "They're all the same size." (23)

d) "It should start falling here." (38)

e) "She needs food to cook." (45)

f) "The bottom ones are closer." (51)

g) "A finger is part of a hand." (58)

1- Descriptive or functional words which focus on a particular, distinguishing attribute of the category, or more global, imprecise expressions for the criterion dimension; a complete action sequence implied but not identified explicitly. e.g.,

a) "It has a motor (steering wheel)." (9)

b) "You blow that one." (14)

c) "Both upside-down." (22)

d) "They are all big, and these are all big." (23)

e) "it's still on the tree." (38)

f) "She doesn't have any food, so she buys some." (45)

g) "it's still coming." (51)

h) "Fingers go with hands." (58)

0- Idiosyncratic, simple labels, non-unique, or irrelevant expressions of description or sequence. e.g.,

a) "It has wheels." (9)

b) "It's a trumpet." (14)

c) "Flower is next to the tree." (22)

d) "There's three of them." (23)

e) "It's on the tree." (38)

f) "She's shopping for food." (45)

g) "It's close." (51)

h) "They're both fingers." (58)

The verbal responses must be expressed in standard English; however, minor deviations in grammar or pronunciation may appear in acceptable answers (e.g., subject-verb disagreement). Deviations are considered when they render the meaning more vague. e.g.,

2- Concise, well-constructed expression of the concept. Should be a complete sentence. (See 2 a.-g. above.)

1- Grammatically acceptable but verbose or indirect, elliptical expression of the concept. Short phrases or single words which convey the essential meaning of the item criterion. e.g.,

a) "A horse pulls these, and you pull that, but that one goes by itself." (9)

b) "You use your mouth to play that one." (14)

c) "These are all big and these are all big." (23)

d) "She doesn't have any food, then she buys some, then she cooks it and here they eat it." (45)

e) "These are coming down the road." (51)

0- One-word labels or broken phrases. e.g.,

a) "Fast." (9)

b) "A horn." (14)

c) "The same." (22)

d) "They're big." (23)

e) "No food." (45)

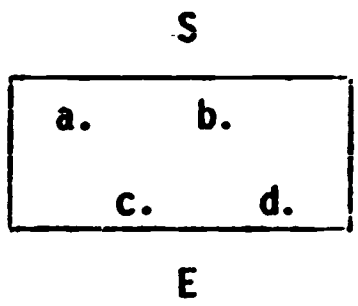
f) "Fingers." (58)

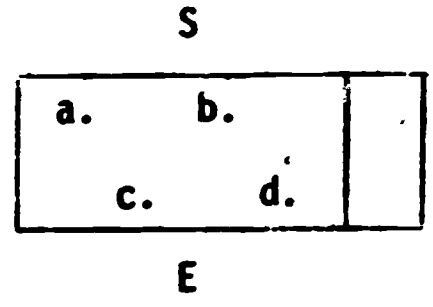
Before administering the COLT, examiners should study the examples and the criteria of each item in order to learn thoroughly the scoring system. The verbal responses accompanying each item are intended only as general guides and reminders, but do not exhaust the possible range of answers.

Recording Answers

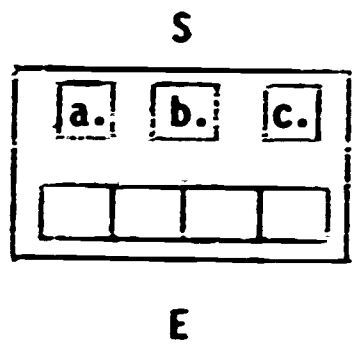
The format of the COLT is simple enough to allow objective recording of response on IBM sheets. For this purpose, the arrangement of the pictures has been designated as follows.

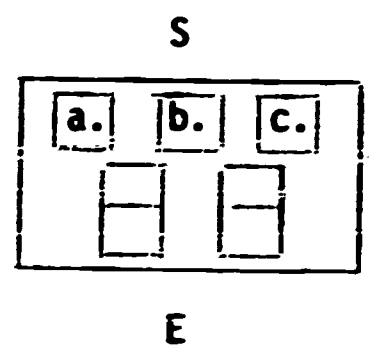
For the Differentiation and Classification subtests, the pictures are lettered in the order of a written page as viewed by the examiner.





For the Seriation and Analogies subtests, the alternatives are again lettered in the order of a written page as viewed by the examiner.





Care should be taken not to confuse these designations of the alternatives. Verbal scores can be recorded as judged on an IBM sheet by designating alternative (a) as 1 point, alternative (b) as 2 points, and alternative (e) as 0 points.

Part Two

Technical Report

VALIDATION OF THE CONCEPTUAL ORAL LANGUAGE TEST

(Research Edition)

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Because of several inadequacies in existing measures of early educational development, the Conceptual Oral Language Test was developed to assess basic cognitive processes in three content areas (math, science, and social studies) with both verbal and non-verbal scores. The construct validity of the test was analyzed by two methods: a) a multitrait-multimethod matrix; and b) correlation with a standardized group IQ test and an oral productive test. Results indicate that while the part-scores are not sufficiently reliable to be diagnostically useful, the total non-verbal and verbal scores are meaningful. The higher correlation of the verbal than the non-verbal scores with the IQ test, together with the significant difference between the verbal and non-verbal scores in favor of the non-verbal, suggest a verbal response bias against bilingual and non-standard dialect speakers in tests of conceptual ability.

With the rise of national interest in educating culturally different minority groups, there came a proliferation of compensatory preschool and primary programs. The innovative Project Headstart and Title III programs brought with them a need for new educational evaluation instruments (Turnbull, 1967). However, most standardized IQ tests and achievement batteries were inadequate to meet this new need for several reasons. Barritt (in press) has argued that the single score IQ test, even though it may predict future school success, "does not provide information about intra- and inter-individual differences, and their interactions with various learning programs". Also, intelligence is not specifically defined, thus an IQ score can easily be misinterpreted.

Many standardized achievement batteries fare little better as measures of early elementary curriculum. The cognitive abilities

required for these tests are too often confined to factual recall rather than productive comprehension of basic concepts. Scores are typically given for math and language with little attempt to assess learning in science, and virtually no scores for social studies in the early grades. The only major standardized achievement battery to assess social studies in the lower primary grades provides a vocabulary test of words drawn from geography, economics, and science, but it is not designed for use before grade level 2.5.

The greatest single inadequacy of both standardized IQ and achievement batteries for assessing compensatory early education curricula is their reliance on the verbal mode of response, either in reading, writing, listening or speaking. Since most of the compensatory programs are designed for non-standard-dialect or bilingual populations, any attempt to measure the cognitive development of such students should discriminate between conceptual functioning and verbal communication ability as suggested by Glick, (1968). The absence in these standardized tests of non-verbal response modes restricts their usefulness in measuring early educational development.

Rationale of the Test

The Conceptual Oral Language Test (COLT) was designed as an individual test for the lower primary level to assess basic thought processes in three content areas; math, science, and social studies. With a verbal and non-verbal scoring method for each item, it is suitable for use with compensatory programs for bilingual and non-standard-dialect populations.

Four basic cognitive processes are operationally defined in four item formats. The first, differentiation, requires discrimination

between four pictures to determine the "one that doesn't belong with the others." The second, classification, requires grouping a stimulus picture with one of four other pictures which shares a common attribute, or "goes with" the stimulus picture. The third format, seriation, is essentially a picture arrangement task. It requires a process of induction to infer which of three alternative pictures is missing from a series of pictures. The fourth, analogies, requires the inference and transfer of a common relationship between two sets of pictures.

Evidence for the primacy of these basic cognitive processes is suggested by several sources. While there is no clear agreement about what constitutes basic cognitive processes, there is a convergence on the four general areas outlined above. Bruner (1956) has explored the classification activity of children as a basic, elementary method of processing data. Similarly, Lenneberg (1967) has characterized the ability to form stimuli equivalences as basic to conceptualization. He also notes that stimulus generalization and stimulus discrimination are complementary processes. Thus, there is some justification for the notion of differentiation and classification as basic cognitive processes.

Other considerations suggest that the more complex inference processes may, in some sense, be basic to cognitive functioning. Stimuli which are discriminated and classified must somehow be interrelated or systematized if the person is to function successfully in the environment. The process of interrelating categories can be thought of as induction and deduction. Guilford (1959) has conceptualized convergent and divergent processes as two of five general cognitive operations. While the existence of these operations has

not been validated across all age levels, they appear to have some descriptive value in accounting for cognitive functioning. In addition, the existence of inference processes in young children has been hypothesized by McNeill (1966) to account for the infant's ability to systematize the language he hears into syntactic rules.

Piaget (Flavell, 1963) has characterized the cognitive development of the child from "pre-logical" to "concrete-operational" between 4 years and 7 years of age. With his "transductive" logic, the 4-year-old relates particulars to particulars where no necessary relationship exists, while the more systematic 7-year-old can relate particulars according to logically necessary relationships. The difference between transductive and deductive reasoning seems to be more in content than form, however, if the same basic, inferential cognitive processes are seen to operate in both cases, though upon more logically primitive data in the younger child. (In this sense, content is interpreted as the sum total of factual knowledge and logical organization available to the child.) Thus, basic cognitive processes can be seen to include induction and deduction in addition to differentiation and classification.

In a review of a body of research on cognitive variables, Gallagher (1964) has noted some convergence on the conceptual styles which Kagan, Moss, and Sigel (1963) have called <u>analytic-descriptive</u>, <u>inferential categorical</u>, and <u>relational</u>. These three styles refer respectively to: (a) the ability to differentiate the environment; (b) the ability to draw conceptual similarities between perceptually different stimuli; and (c) the ability to develop functional relationships between stimuli. Stemmler (1967) reports having developed a Language-Cognition Test for educational purposes. For the conceptual scoring system she focused

on three categories; inductive, deductive, and analogical reasoning. While these categories are not isomorphic with those of the COLT, there is considerable overlap in their meaning.

Since the COLT was intended for use in the first three primary grades, the content for the basic cognitive processes was selected from the general elementary curriculum of math, science, and social studies. Thus, the test scores reflect basic thinking processes in these three content areas rather than factual recall. The math content is defined as number sets, number series, operations (addition and subtraction), and proportions. The science content is defined as physical dimensions (size and shape), spatial dimensions (distance, direction, and position), and temporal-spatial relations. The social studies content is defined in terms of personal-social relations, namely: characteristics (age, sex); social roles (teacher, mailman, etc); and resources (from home, school, and community).

Construct Validity

Several hypotheses regarding the construct validity of the COLT can be derived from the rationale explained above. The hypotheses stated below refer to two separate areas: a) the internal organization of the test itself; and b) its correlation with outside criteria.

The item specification chart (table 1) of the COLT contained 12 cells in a two-way table of 4 basic processes by 3 content areas. The set of hypotheses outlined below was developed to validate this structure, using a variation of the multitrait-multimethod matrix reported by Campbell and Fiske (1959). Essentially, this matrix indicates the tendency for several methods of measurement to converge upon a single trait. Also, it indicates the degree of discrimination between traits. For this

purpose, eight groups of correlation coefficients were analyzed and compared. The hypotheses concern the rank order of these groups, as illustrated in table 2.

H_1: The reliabilities of the 12 non-verbal and 12 verbal cells ($\bar{r}_1$) are higher than all other coefficients in the matrix.

H_2: The convergent validity of each of the 12 cells measured across methods ($\bar{r}_2$) is significantly greater than zero.

H_3: The groups of seven covergent and discrimination coefficients in table 2 are of decreasing homogeneity. Thus, they are rank-ordered as follows:

$$\bar{r}_2 > \bar{r}_3 > \bar{r}_4 > \bar{r}_5 > \bar{r}_6 > \bar{r}_7 > \bar{r}_8$$

TABLE 1

COLT Item Specification Chart

Content Areas	Basic Processes			
	Differentiation	Classification	Seriation	Analogies
Math	3,4,5	18,19,20	33,34,35	48,49,50
Science	6,7,8,9,10	21,22,23,24,25	36,37,38,39,40	51,52,53,54,55
Social Studies	11,12,13,14,15	26,27,28,29,30	41,42,43,44,45	56,57,58,59,60

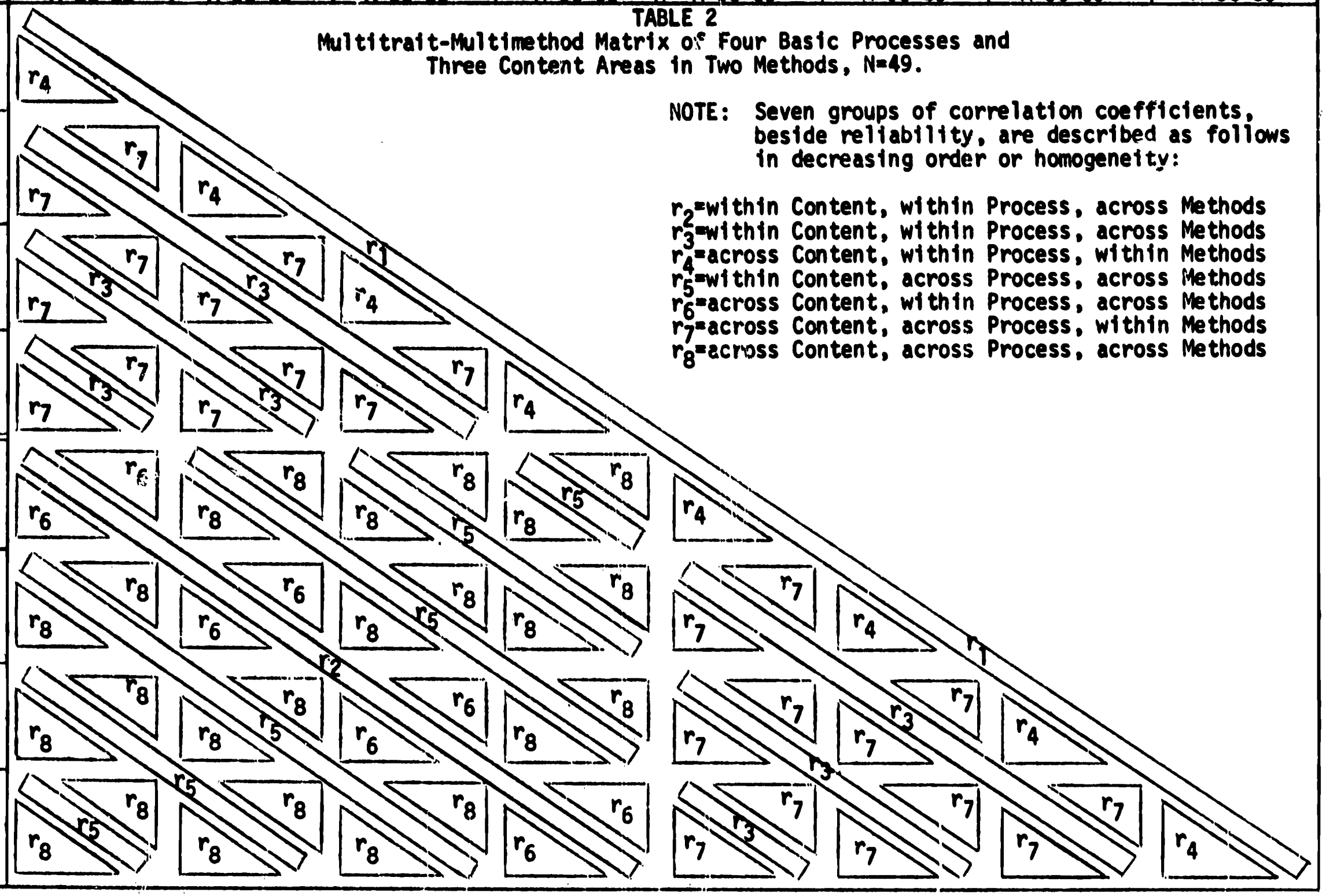
NOTE: Numbers in the cells refer to the item numbers on the final version of the COLT.

TABLE 2

Multitrait-Multimethod Matrix of Four Basic Processes and Three Content Areas in Two Methods, N=49.

NOTE: Seven groups of correlation coefficients, beside reliability, are described as follows in decreasing order or homogeneity:

r_2=within Content, within Process, across Methods
r_3=within Content, within Process, across Methods
r_4=across Content, within Process, within Methods
r_5=within Content, across Process, across Methods
r_6=across Content, within Process, across Methods
r_7=across Content, across Process, within Methods
r_8=across Content, across Process, across Methods



For each item on the COLT there is a non-verbal and a verbal score. The non-verbal scoring system should be relatively free from influences due to dialectal or language differences between the examiner and the subject. Since the criteria for the verbal scoring system require the subject to express the concepts in standard "classroom" English, subjects with non-standard dialects should obtain higher non-verbal scores than verbal scores.

H_4: With subjects identified as having a non-standard dialect, non-verbal score is greater than verbal score.

H_5: COLT verbal scores correlate higher with a test of oral language production in standard English than COLT non-verbal scores.

Since most group IQ tests available for classroom use are hypothesized to have a strong verbal factor, the student with a non-standard dialect is at a disadvantage in displaying his conceptual ability because of the verbal response style. Thus,

H_6: COLT verbal scores correlate higher with a standardized group IQ test than COLT non-verbal scores.

The COLT was designed to measure basic cognitive processes. It is hypothesized that the cognitive structure of the individual develops out of an interaction of these basic processes with environmental data. It is also hypothesized that language develops out of interaction with environmental data. If the linguistic environment varies between, or within, cultures more than the non-linguistic environment, the development of non-verbal processes should be more uniform with age than the development of any <u>particular</u> verbal processes. Thus,

H_7: COLT non-verbal scores correlate higher with chronological age than the standard English COLT verbal scores.

Method

Test Design

Table 1 illustrates the item specification chart for the COLT. Items were developed for each of the 12 cells according to the definitions of the content and process noted above. Given these definitions, the test is designed to obtain a balance of content areas within the four processes, and a balance of processes within each content area.

Non-verbal scores were obtained by the subject's pointing to the alternative of his choice. The verbal scores for each item were based on two criteria: a) generality of concept; and b) adequacy of communication in standard English. Each of these categories was judged on a three-point scale ranging from two to zero. The two-point level of generality required expression of an abstract or generalized word or idea, e.g. "it's a car". One point was scored for more concrete, descriptive terms, e.g. "it has wheels," "you ride in it". Irrelevant concepts were scored zero. A two-point score for adequacy of expression was given for a concisely stated, economical expression of the concept. While grammatical usage was not scored, the expression had to be a complete sentence, e.g. "He's running around the bases". One-point scores were given for more elliptical, imprecise expressions of an acceptable concept, e.g. "First he's here, then he runs there, then there, and he runs there". Idiosyncratic expressions were scored zero.

In general, to be scored "2", a response had to reflect the two-point level of both criteria. Responses were scored "1" if they reflected the one-point level of both criteria, or two points in only one of them. Responses which reflected the zero-level on either criterion were scored zero.

Two field trials and revisions were conducted in developing the final version of the COLT. For the first draft, 104 items were designed and divided into two equivalent forms to keep the administration time within approximately one-half hour. One form was given to 23 subjects, the other to 18 subjects. The subjects were selected randomly from first grade classrooms in schools generally characterized as lower-middle-class. On one of the forms, however, eight third-grade subjects were tested. Items were redesigned or deleted according to their difficulty level and power of discrimination.

The second draft, containing 52 items, was administered to 30 first-grade subjects from the same schools as the first group. Since the final version of the COLT was intended to measure first-, second-, and third-grade performance, the items of the first and second drafts were adjusted to yield approximately 30 percent passing for the first-grade population. The final version of the COLT contained 52 test items, distributed as indicated in table 1, together with two practice items at the start of each of the four item formats. Typical administration times for all 60 items ranged from 25 to 35 minutes.

Research Design

The subjects for the present study were drawn from 12 first-grade classrooms, two of them from a rural school and the rest from urban schools. The subjects generally came from lower-middle- to lower-class families. Since the COLT was being administered in conjunction with a language development curriculum, the subjects were selected from the lower half of the achievement range in the classrooms, as judged by the teachers. Consequently, many of the subjects had language interference problems due to non-standard dialect or bilingualism (Spanish). Twenty-

eight females and 21 males were selected. Mean chronological age = 87.9 months, S.D. = 8.3 months. Mean IQ = 89, S.D. - 12.96 as measured by the Cognitive Abilities Test, primary I, form 1 (Thorndike, Hagen, and Lorge, 1968).

Two other tests were administered concurrently with the COLT; the Cognitive Abilities Test, primary level I, form 1 (CAT); and the Michigan Oral Language Productive Test (MOLPT). The CAT was selected as a well-standardized, group test of general ability in school achievement. The MOLPT was selected as a measure of general speaking ability in standard English. The total score of the MOLPT is the sum of several parts testing grammatical performance and pronunciation. The three tests were administered in randomized order.

Results

Construct Validity

The internal orgainiztion of the COLT was investigated by use of a multitrait-multimethod matrix (Campbell and Fiske, 1959). Evidence for the validity of a trait is inferred when two different methods designed to measure the same trait converge in a significant correlation coefficient. Discrimination between various traits is inferred when their intercorrelations are significantly lower than their reliabilities. Traits measured by the same method should intercorrelate higher than if measured by two different methods. Thus, further evidence for the validity of the traits and the methods is inferred from the rank order of correlations in decreasing degrees of homogeneity from the monotrait-heteromethod discrimination, to the heterotrait-heteromethod discrimination.

The matrix in table 2 represents an extension of the two-way matrix reported by Campbell and Fiske. The methods are composed of non-verbal

and verbal scores. The two traits are composed of the four basic processes and three content areas. Thus, there are seven discernable groups of homogeneity in addition to the reliability coefficients. It was hypothesized that the methods were more homogeneous than any of the traits. The difference between methods is primarily one of the response style which would appear more superficial than the distinctions between cognitive processes and content areas. It was further hypothesized that the cognitive processes would be more homogeneous than the content areas. While the three content areas bear no necessary relationship according to their definitions, the basic cognitive processes should reflect at least a psychological association. Thus, the seven correlation groups should be rank-ordered as indicated in table 2.

The obtained correlations in table 3 indicate that reliability for the individual cells of the item specification chart is lacking in both the non-verbal and verbal methods. The mean coefficient (KR-20) for the 12 non-verbal cells was .12, and for the 12 verbal cells .25. Thus, H_1 must be rejected since the cells are not sufficiently homogeneous to constitute a meaningful unit of measurement.

The homogeneity of each of the 12 non-verbal and 12 verbal cells (reliability) must exceed the square of the validity coefficient in order to infer measurement of the distinct domains hypothesized in the item specification chart (Cronbach, 1949). This condition, however, was not met, as can be seen by a comparison of the reliability coefficients (r_1) with their convergent validity coefficients (r_2) in table 3. Yet, the fact that the 12 validity coefficients are, with one exception, significantly greater than zero suggests that the verbal and non-verbal methods do converge on the unitary traits designed in the item specification chart. Thus, H_2 is not rejected.

		Basic Processes: Non-Verbal												Basic Processes: Verbal											
		Differ.			Class.			Ser.			Anal.			Differ.			Class.			Ser.			Anal.		
		Content Areas: Non-Verbal												Content Areas: Verbal											
		M	Sc	Ss	M	Sc	Ss	M	Sc	Ss	M	Sc	Ss	M	Sc	Ss	M	Sc	Ss	M	Sc	Ss	M	Sc	Ss
D	M	05																							
	Sc	17	18																						
	Ss	01	26	39																					
C	M	23	-02	23	00																				
	Sc	20	05	17	27	40																			
	Ss	15	25	26	25	03	14																		
S	M	26	-03	33	55	18	14	09																	
	Sc	24	26	15	44	04	30	23	09																
	Ss	17	29	30	10	13	15	09	-01	21															
A	M	-01	-08	19	58	15	20	40	28	-03	-07														
	Sc	-05	07	16	11	-03	05	07	27	-19	07	10													
	Ss	03	-11	-01	13	18	13	03	15	16	00	-04	-12												
D	M	59	36	18	20	25	06	26	34	16	05	-18	-05	27											
	Sc	44	65	35	19	14	26	08	28	23	00	14	12	48	38										
	Ss	27	30	62	43	34	21	24	27	31	18	15	05	32	55	21									
C	M	36	16	-06	12	05	27	-07	25	03	-13	10	05	37	32	19	00								
	Sc	25	24	20	22	67	-05	31	11	32	14	15	00	43	34	32	16	52							
	Ss	23	39	43	25	06	48	24	25	28	05	05	04	26	49	44	40	26	18						
S	M	38	04	14	44	11	23	51	25	-06	38	23	-01	37	23	31	39	35	28	00					
	Sc	24	17	33	34	07	34	38	42	24	22	22	05	26	41	42	18	24	56	31	56				
	Ss	21	13	28	15	00	27	09	08	44	-06	-04	32	16	38	21	31	17	51	18	43	41			
A	M	11	05	17	48	-03	06	37	33	04	43	16	06	05	20	32	22	04	24	41	41	27	-14		
	Sc	25	22	15	06	-07	-02	22	24	13	05	36	11	27	39	10	26	25	38	25	45	41	32	27	
	Ss	16	-14	03	14	09	08	08	18	22	-10	-11	54	22	01	10	38	12	32	08	13	41	16	37	33

NOTE: Decimal points on the correlation coefficients have been omitted.

In spite of the low reliability of the cells, there was a significant ordering of the degrees of homogeneity of the correlation groups represented in table 2. First, an analysis of variance (table 4) was conducted on the seven groups to determine their heterogeneity ($F=10.79$, $p=.001$). The obtained rank-order of the seven groups was then compared to the hypothesized order as shown in table 5. Kendall's tau statistic (Hays, 1963) of .905 indicates that there is 90% agreement between the predicted and obtained

TABLE 4

Analysis of Variance on Seven Groups of Correlation Coefficients from Table 3

SOURCE	df	MS	F
Correlation groups	6	2285.45	10.79*
Error	269	211.70	

*$p \leq .001$

rank orders of the groups. H_3 is thus accepted as evidence for the validity of the internal structure of the COLT.

Since the usefulness of the 12 cells in the item specification chart was not reliably established, it was necessary to determine the significance of the four cognitive process scores as well as the three content area scores. These part scores should be reliably established to be of educational, diagnostic use. Consequently, the multitrait-multimethod matrix was repeated for both of these traits across verbal and non-verbal methods.

Table 6 represents the multitrait-multimethod matrix of the four cognitive processes and two methods. While the four processes demonstrate higher reliability than the individual cells, the reliabilities—

TABLE 5

Comparison of Predicted and Observed Rank-orders of the Seven Correlation Groups in Table 3*

Correlation Group	Predicted Rank	Observed Rank	Mean Correlation
r_2	1	1	.49
r_3	2	2	.27
r_4	3	3	.22
r_5	4	4	.202
r_6	5	6	.16
r_7	6	5	.200
r_8	7	7	.15

*Kendall's tau = .905

TABLE 6

Multitrait-Multimethod Matrix of Four Basic Processes and Two Methods, N=49

		Basic Processes: Non-Verbal				Basic Processes: Verbal			
		Differ.	Class.	Ser.	Anal.	Differ.	Class.	Ser.	Anal.
Non-Verbal	D	.45							
	C	.39	.17						
	S	.51	.31	.22					
	A	.04	.18	.33	.33				
Verbal	D	.74	.36	.47	.12	.61			
	C	.54	.44	.41	.23	.54	.67		
	S	.40	.33	.53	.28	.49	.55	.73	
	A	.20	.07	.38	.45	.28	.41	.47	.71

NOTE: Three groups of correlation coefficients, beside reliability, are derived as follows in decreasing degrees of homogeneity:

r_2=Monotrait-Heteromethod, mean r=.540

r_3=Heterotrait-Monomethod, mean r=.35

r_4=Heterotrait-Heteromethod, mean r=.32

of the non-verbal scores (mean =.29) are still too low to be useful. The verbal process score reliabilities approach greater significance (mean =.68). In fact, the reliabilities of each of the verbal processes exceeded their convergent validity coefficients. This was not true, however, for the nonverbal processes. As in table 4, the three groups representing decreasing degrees of homogeneity are significantly different, as indicated in table 7 ($F=3.49$, $p \leq .05$). The three groups also are rank-ordered as hypothesized in decreasing degrees of homogeneity. Thus, the validity of the construct of four processes as measured by two methods is supported by these results; however, the non-verbal process reliabilities are too low to be diagnostically useful.

Table 8 represents the parallel analysis of the three content areas

TABLE 7

Analysis of Variance on Three
Groups of Correlation Coefficients from Table 6

SOURCE	df	MS	F
Correlation groups	2	754.10	3.49*
Error	25	216.24	

*$p \leq .05$

as measured by the two methods. The mean reliabilities for the three content area part-scores are .47 in the non-verbal method and .64 in the verbal method. While this indicates some improvement in the non-verbal method, the part-score reliabilities are still too low to be diagnostically useful. As in table 7, table 9 supports the construct of three groups of correlations of decreasing degrees of homogeneity ($F=5.21$, $p \leq .025$). The three

TABLE 8

Multitrati-Multimethod Matrix of Three Content Areas and Two Methods, N=49

		Content Areas: Non-Verbal			Content Areas: Verbal		
		Math	Sci.	Soc. Study	Math	Sci.	Soc. Study
Non-Verbal	M	.44					
	Sc	.34	.43				
	Ss	.46	.28	.53			
Verbal	M	.69	.45	.27	.51		
	Sc	.46	.59	.35	.63	.73	
	Ss	.42	.33	.62	.55	.66	.67

NOTE: Three groups of correlation coefficients, besides reliability, are derived as follows in decreasing degrees of homogeneity:

r_2=Monotrait-Heteromethod, mean r=.63

r_3=Heterotrait-Heteromethod, mean r=.49

r_4=Heterotrait-Heteromethod, mean r=.38

groups are ordered as predicted. These data support the construct three content areas measured by two methods.

The obtained total score reliabilities were .714 non-verbal and .949 verbal. With standard deviations of 5.7 for the non-verbal and 7.19 for the verbal scores, the standard errors of measurement are 3.99 and 2.49 respectively. Thus, the non-verbal and verbal total scores of the COLT are considered educationally useful measures of general cognitive processes in the three content areas; however, the part-scores are not sufficiently reliable to be diagnostically significant.

TABLE 9

Analysis of Variance on Three
Groups of Correlation Coefficients From Table 8

SOURCE	df	MS	F
Correlation groups	2	652.25	5.21*
Error	12	125.29	

*$p \leq .025$

Concurrent Validity

As indicated above, the non-verbal and verbal total scores of the COLT were correlated with the CAT, (a standardized, group IQ test), the MOLPT (an individual test of oral production in standard English), and chronological age. The data in table 10 generally support the predicted pattern of correlations between these measures. As a measure of general ability, the COLT verbal scores correlate relatively well with the standardized group IQ test (.67). Yet, because of the strong verbal factor hypothesized to be present in the standardized IQ test, the COLT non-verbal scores correlate only .47 with the CAT. The difference between these correlations is significant at the .02 level of confidence. Thus, H_6 cannot be rejected. The mean for the COLT non-verbal scores was 20.8 (S.D.=6.02), while that of the COLT verbal scores was 17.22 (S.D.=7.89). The difference between the two COLT scores was significant at the .01 level (t=2.52, 96). Thus, H_4 cannot be rejected. This difference, together with the higher correlation of the COLT verbal scores with CAT, suggest a significant bias of response style against the bilingual and non-standard-dialect populations when their general ability is assessed with standardized group IQ tests.

The three tests were correlated with chronological age, under the hypothesis (H_7) that increases in the non-verbal COLT scores are associated with the progressive development of general cognitive structures across age, while increases in the verbal COLT scores are more associated with specific development in standard English in addition to cognitive development. The zero-order correlations of these scores with chronological age, indicated in table 10, do not support this hypothesis. These low correlations are probably most economically explained in terms of the narrow range of age relative to stages of cognitive development (Flavell, 1963).

TABLE 10

Intercorrelations of COLT Verbal and Non-Verbal Scores with Criterion Measures and Chronological Age (C.A.), N=44

	COLT N-V	COLT V	C.A.T. raw score	MOLPT	C.A. in months
COLT N-V					
COLT V	.666				
C.A.T.	.470	.669			
MOLPT	.299	.545	.448		
C.A.	.024	-.036	.179	-.21	

The pattern of correlations with chronological age is more interesting from another point of view. It is assumed that older subjects are retained in the first grade, where the data were collected, because of low school

achievement. Thus, variables which correlate negatively with chronological age at a given grade level are associated positively with school failure. It would appear, from the correlation of -.21 between the MOLPT and chronological age, th. school failure is due more to inadequacies in speaking standard English than to conceptual inadequacies. Conceptual ability as measured by the COLT seems to have essentially no correlation with school failure.

The final hypothesis considered (H_5) is that the COLT verbal scores correlate higher with standard English speaking ability than the COLT non-verbal scores. The difference between the non-verbal (.30) and verbal (.55) correlations with the MOLPT is significant at the .03 level. Thus, the testing of the conceptual ability of bilingual or non-standard-dialect speakers by both non-verbal and verbal response modes seems justified.

Discussion

In its present form the COLT does not function as intended. The most serious problem is the part-score reliabilities, in both verbal and non-verbal methods, of the four basic processes and three content areas. The low part-score reliabilities prohibit diagnosis and treatment of specific deficits in the student's learning. With adequate reliability only in the verbal and non-verbal total scores, the use of the COLT is restricted to assessing summative effects of school learning.

Future improvement of the COLT is indicated in several areas. The present analysis is based upon data from only the lower half of the first-grade ability range. Since the COLT is intended for a criterion measure of school achievement in the first-, second-, and third-grades, the performance of the test in its present form should be determined across these three levels.

Given data from the three grade levels, reliability can be improved, of course, through appropriate item revisions. An additional change in format, however, may also improve the reliability. The first-grade subjects often gave indications of fatigue toward the end of the half-hour testing period. Rather than subjecting every pupil to every item, error variance due to fatigue could be partially controlled by using a basal-ceiling system to cut short each of the four item formats after a series of failures. With items from the three content areas tested alternately one after the other at increasing levels of difficulty, each of the three content areas could still be equally sampled within each basic process before the ceiling is reached. A basal-ceiling system of scoring would also allow for a greater range of difficulty of the part-scores with no increase in testing time.

From data gathered over a wider age range, the items should demonstrate an age gradient of decreasing difficulty. The four basic processes are intended to assess developmental changes in the individual's cognitive structure across time. White (1965) has summarized from a wide range of theories a number of changes in the child's cognitive functioning between the ages of 5 and 7 years. These changes should register on the cognitive processes measured by the COLT.

It should be noted that the verbal scores used in this analysis were based on a two-point scoring system rather than the intended three-point scale. Comments from the examiners after the testing had been completed indicated that there was some difficulty in discriminating one- and two-point responses for many items. Little difficulty was reported, however, in distinguishing the zero-point from the one-point responses. Thus, the one- and two-point verbal responses were combined

for a value of one. The three-point verbal scoring system should be tested further at the second- and third-grade levels to determine its usefulness in the upper ability range of the test.

The results support the hypothesis that pupils identified with language handicaps relative to standard English are penalized on tests of conceptual ability because of the response style required. This hypothesis should be cross-validated with a sample of children identified as having no handicap relative to standard English. Results should indicate no significant difference between their conceptual score and their ability to express their reasoning in standard English.

As a test of basic cognitive processes in three content areas, the COLT was designed to be a summative, criterion measure of school achievement. For any such test, predictive validity is essential. Particularly of interest is the relationship of future school achievement of the conceptual score with the verbal score held constant, as well as the predictive validity of the verbal score with the conceptual score held constant. These relationships may vary with the grade level. For example, verbal skills may be more important in the earlier grades, and conceptual skills later when the curriculum is more complex. Such information is valuable for curriculum planners as well as classroom teachers.

A test such as the COLT, with the refinements indicated above, has several implications for the field of educational measurement. Deutsch and Fishman, et al. (1964) have underlined the problems associated with testing minority group children. Included in their list of factors which reduce the validity of standardized achievement and ability tests are the mode of response and the speed factor. Glick (1968)

has characterized the same problems under three issues: 1) the distinction between capability and performance; 2) the distinction between process and achievement; and 3) the nature of developmental change. The answer to what a test really measures cannot accurately be determined without the test being sensitive to these factors. Results from testing with the COLT indicate that it is, in fact, measuring two separate areas with minority group children, depending upon the response style used.

Several other instruments for assessing general ability are available which do not rely upon a verbal response style; however, their use in classrooms for minority group children is restricted by at least two factors. The Peabody Picture Vocabulary Test was designed to measure general ability through a non-verbal, pointing response to pictures. While no oral productive skills are required of the subject, the score is clearly affected by the subjects passive exposure to nouns and gerunds in standard English. The Wechsler Intelligence Scale for Children and the Wechsler Preschool and Primary Scale of Intelligence provide both verbal and non-verbal measures of general conceptual ability. In addition, however, to the problems noted by Barritt (in press) in using such tests to measure educational progress, there is the difficulty of defining the difference between non-verbal and verbal scores which are based on different items. There would appear no clear way to discriminate the effects of response style alone when the item content also varies between the verbal and performance scales.

In closing, one final issue relevant to elementary curriculum and achievement criteria is raised by the COLT. Deutsch and Fishman, et al. (1964) have stressed the importance of measuring <u>capacity for development</u> in the education of minority group children. It is clear that a curriculum

composed of a static inventory of facts and vocabulary is no longer adequate for a society in which the sum total of knowledge doubles every ten years. Basic cognitive processes as means of dealing with inter-disciplinary concepts must become the criteria of modern education. However, if the COLT is a measure of these basic cognitive processes, the results of the present study suggest that the retention of older students in the first grade is not related to their conceptual ability, but more to their ability to express themselves in standard English. As material and financial resources become more and more available for the development of compensatory education programs, it is essential that the criteria of the curriculum clearly reflect the needs of our modern, changing society.

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CONCEPTUAL ORAL LANGUAGE TEST

Michigan Migrant Primary
Interdisciplinary Program

MICHIGAN MIGRANT PRIMARY INTERDISCIPLINARY PROJECT
3800 Packard Road, Ann Arbor, Michigan Tel. (AC 313) 971-5313

Ralph F. Robinett
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Michigan Oral Language Productive Test: Conceptual

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John C. Larson

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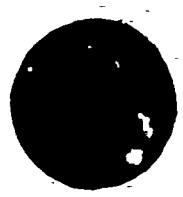
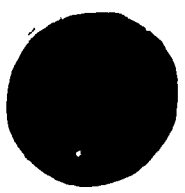
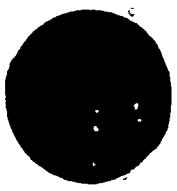
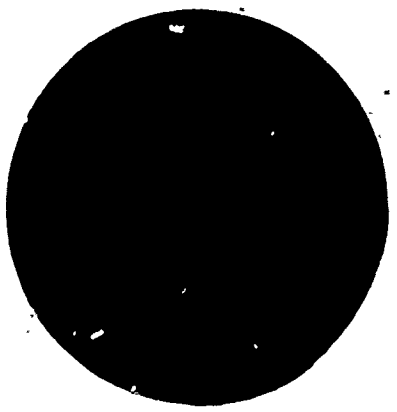
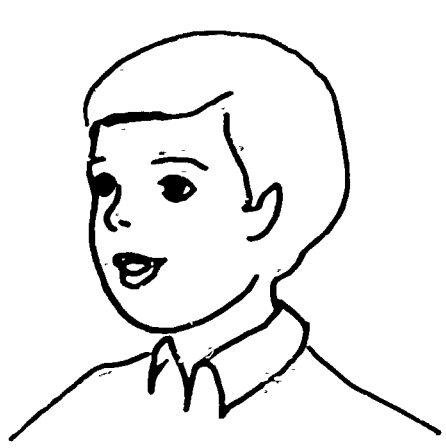
A language curriculum development project sponsored by the
Michigan State Department of Education





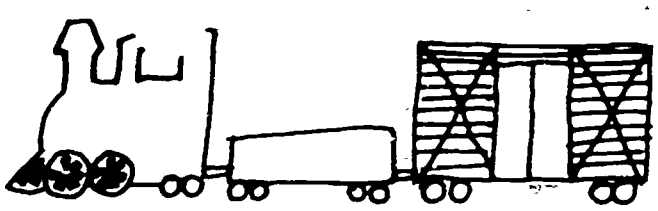


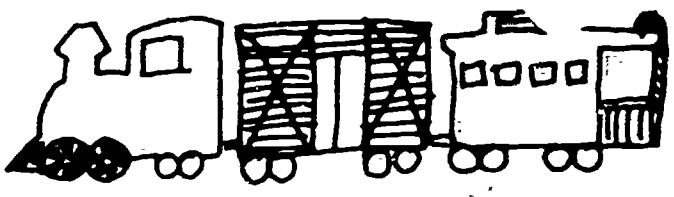


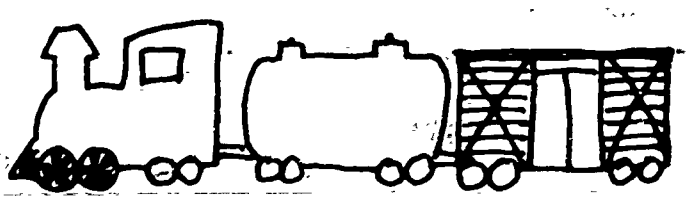


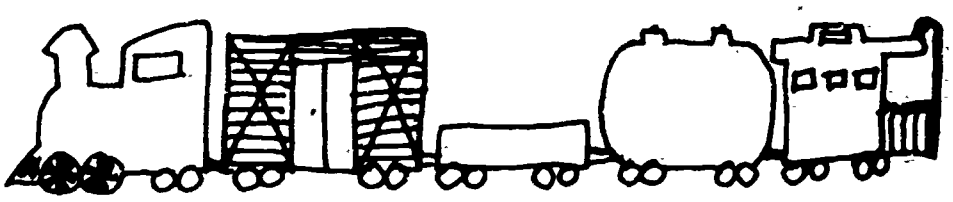
3.

0- insufficient: Has flat car. Has oil car. Has caboose.
1- descriptive: Has five (three) cars. It's bigger (smaller).
2- categorical: Has more (less). It's longer (shorter).









4.

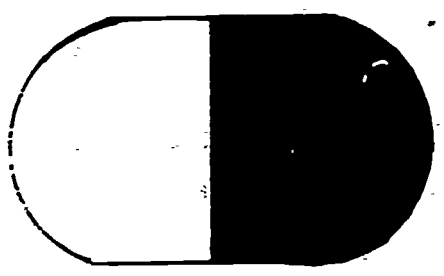
0- insufficient: It's longer. It's more. Starts with 3.
1- descriptive: It's the only one with 7 (2) in it. Only one without 5.
2- categorical: The 2 is missing.

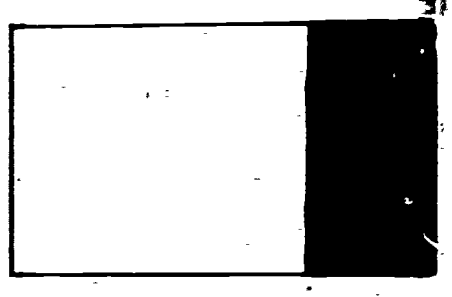
4...5...6...7 1...3...4...5

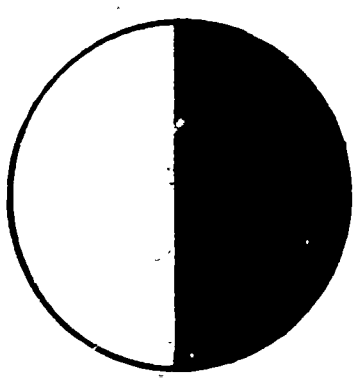
1...2...3...4 3...4...5...6

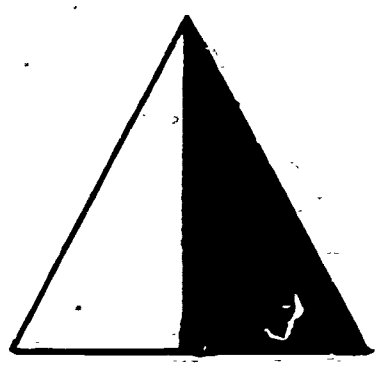
5.

0- insufficient: Shape (round, triangle)
1- descriptive: less, skinnier, littler, longer part.
2- categorical: half, not half.







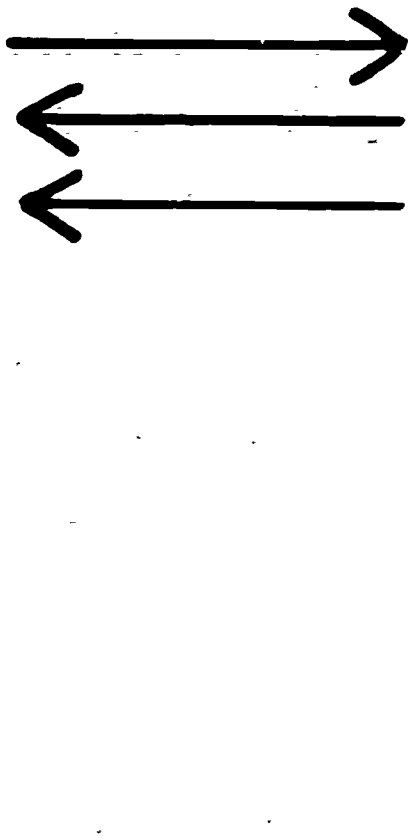


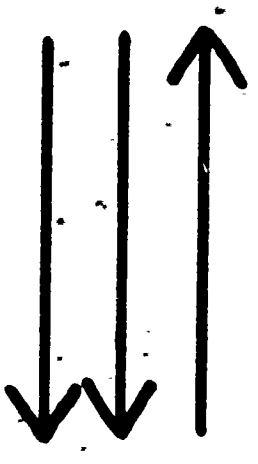
6.

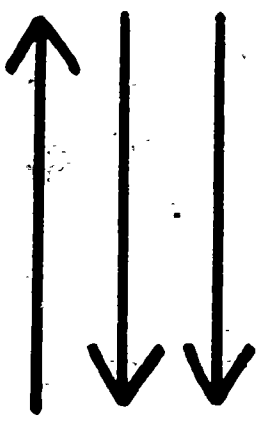
0- insufficient: They point that way.

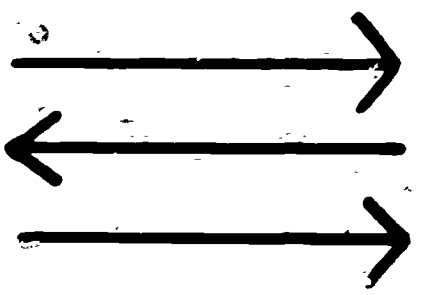
1- descriptive: The middle arrow is wrong.

2- categorical: The two outside ones point the same way. The middle one points the opposite way.

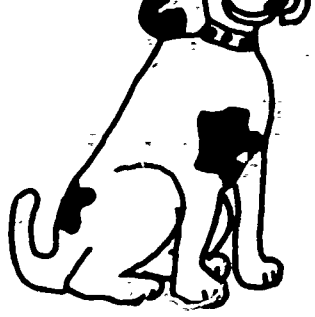


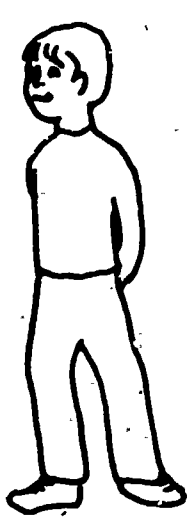


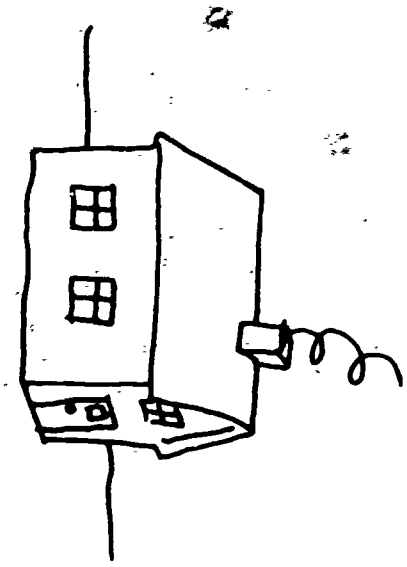




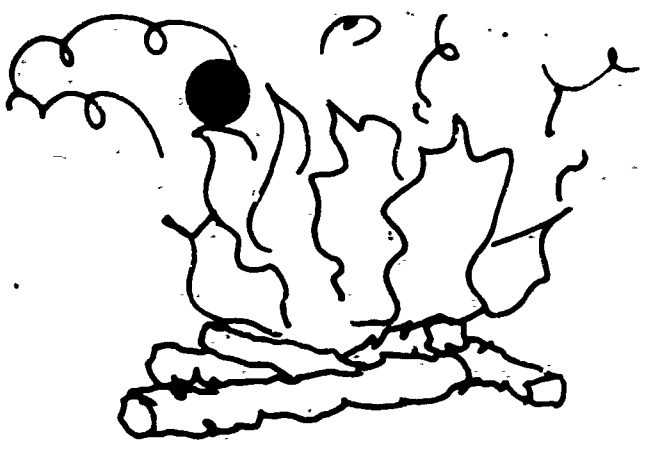
7.
0- insufficient: That's a boat, a dog, and a boy. You live in it.
1- descriptive: It's sitting the wrong way.
2- categorical: That's on it's side. Those are right-side-up.

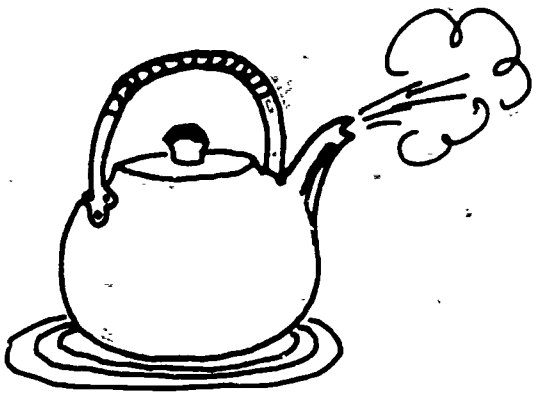


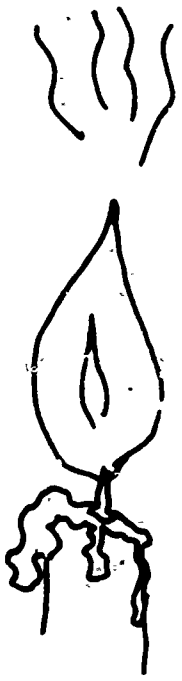


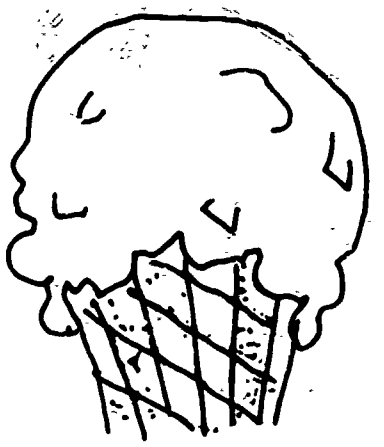


8.
0- insufficient: It's an ice cream cone. It's round.
1- descriptive: This one (cone) doesn't have any lines over it. These use fire.
2- categorical: This is food, others aren't. Those are hot, this is cold



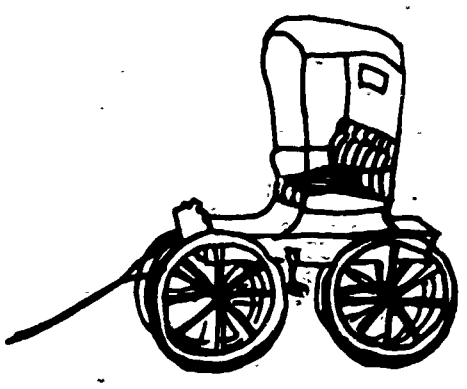


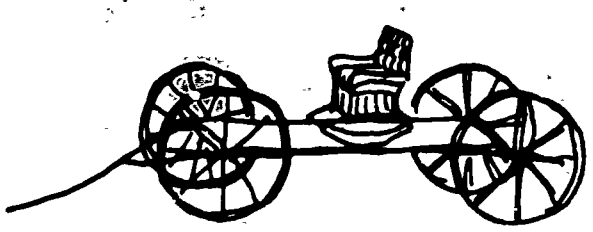


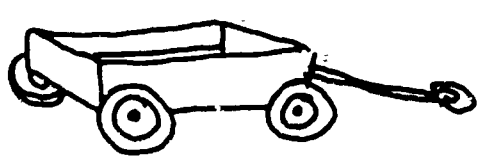


9.

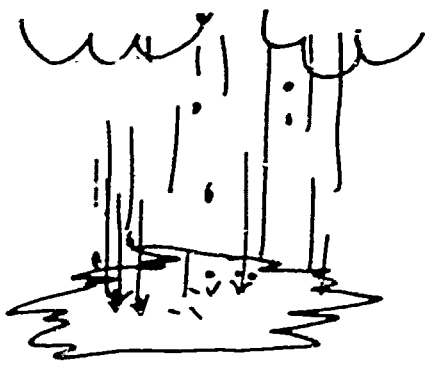
0- insufficient: You drive it. It has wheels.
1- descriptive: It has a motor. Has a steering wheel. You pull these.
2- categorical: It goes faster. It's newer (more modern).

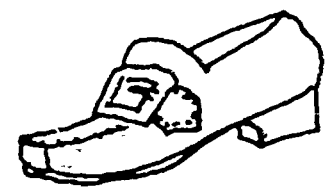


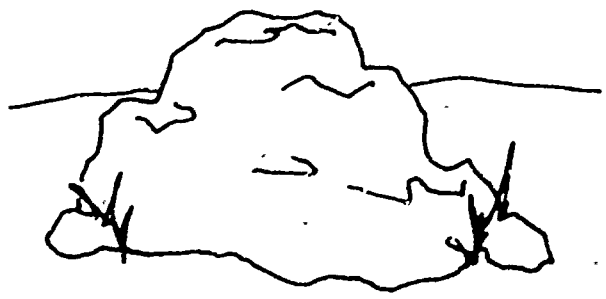


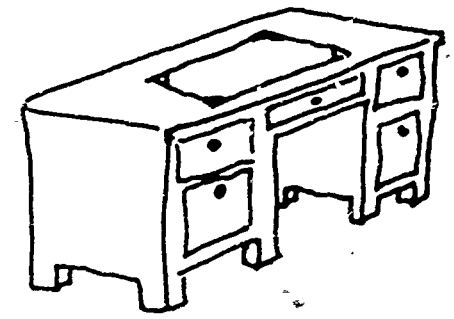


10.
0- insufficient: it's made of metal (wood).
1- descriptive: Rain is soft, those are hard. Water is runny, those aren't.
2- categorical: The others are solid. Water is wet, those are dry.
Those are all man-made.







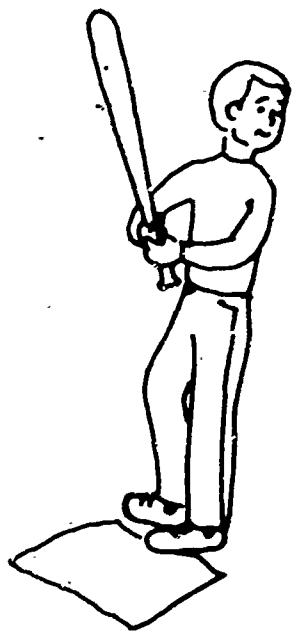


11.

0- insufficient: That one has a clothesline. He's bigger.

1- descriptive: She's hanging clothes, she's raking, and he's digging, but he's playing ball.

2- categorical: He's playing, they're working.



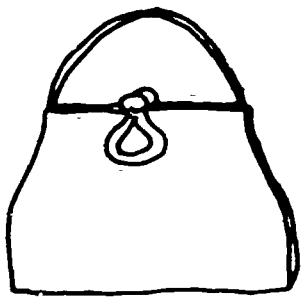
12.

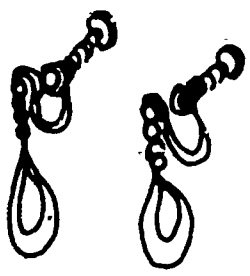
0- insufficient: It doesn't have a point. It's a paint brush.

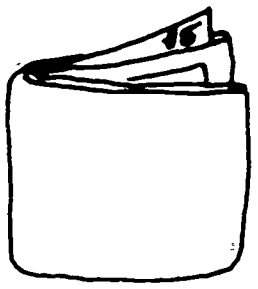
1- descriptive: The end (point) is bigger. That's for art class, those are for writing.

2- categorical: You draw with these, paint with that.
You write with these, paint with that.

13.
0- insufficient: You wear it. That one has money.
1- descriptive: That belongs in your pocket, those don't.
2- categorical: That's a man's (for Daddy), those are a lady's (for Mommy).





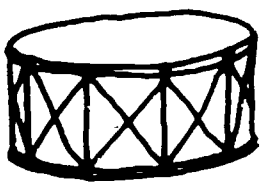


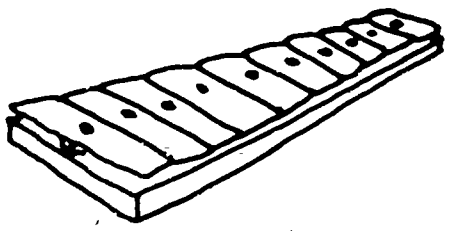
14.

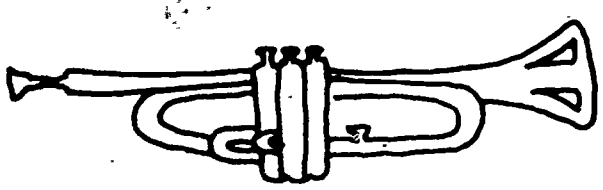
0- insufficient: That one uses sticks. You hit it.

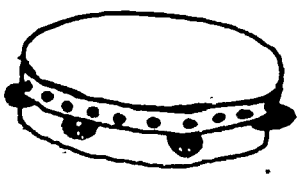
1- descriptive: You blow that one. You hit all these.
You use your mouth on that one. These are flat, that isn't.

2- categorical: That's a brass instrument, those aren't.



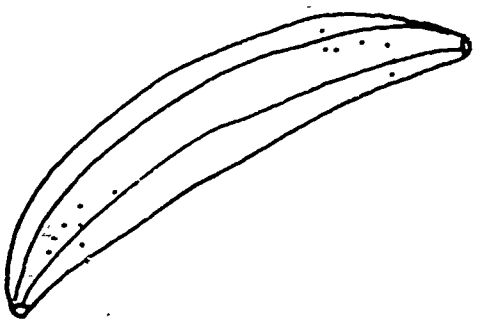


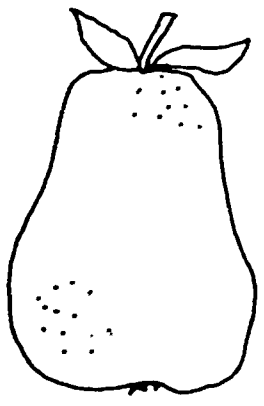


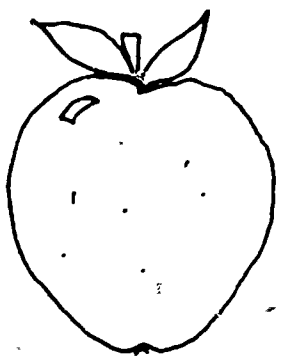


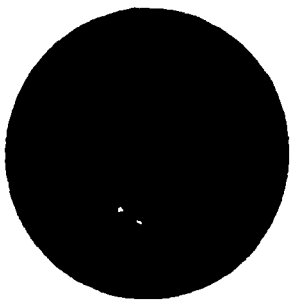
15.
0- insufficient: I like that more. You buy it.
1- descriptive: They all have skins. That one melts. They grow on trees. It's colder.
2- categorical: It's a treat. Those are fruit. That's man made

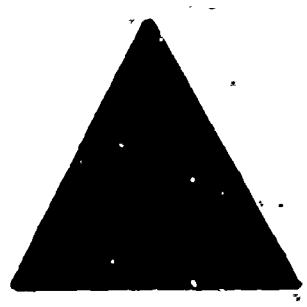
15.

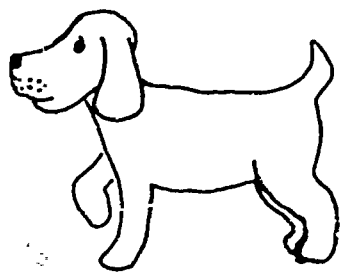


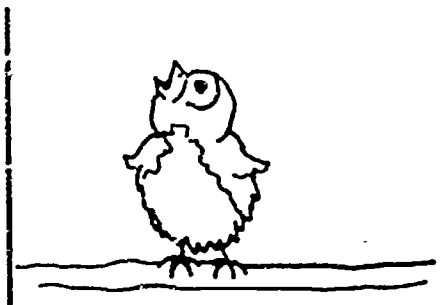


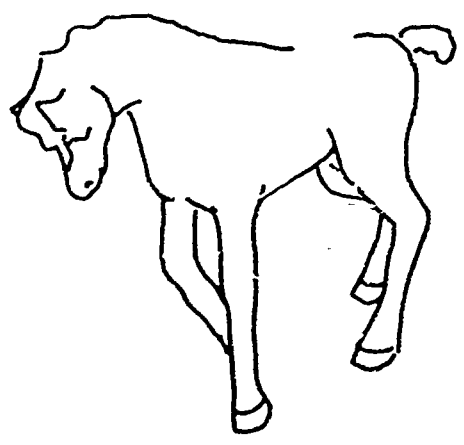


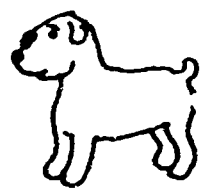






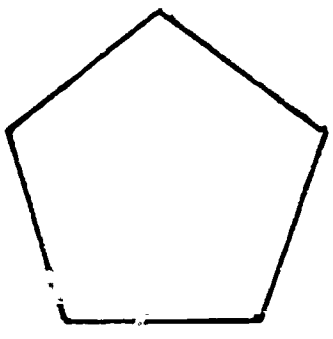


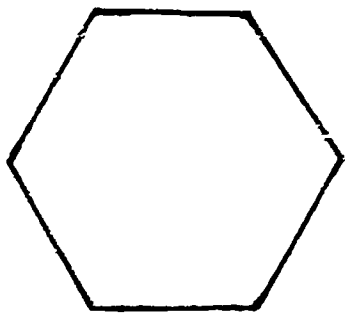


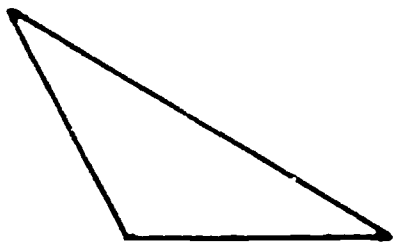


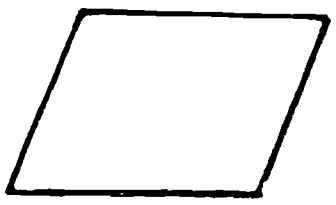
18.

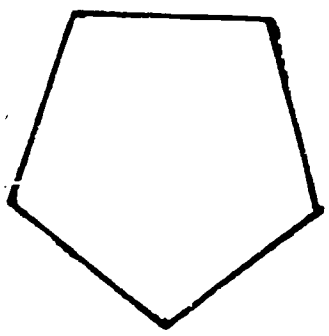
0- insufficient: It has the most points. Both like a box.
1- descriptive: Both shaped like a house. Both have 5 sides (points).
2- categorical: It's upside down Both have same number of sides.











19.
0- insufficient: Should start with "1". 7 comes before 8.
1- descriptive: They both have a "5" ("2").
2- categorical: They go up by "2's". Each number is 2 more than the last.

1...4...7...10

3...6...9...12

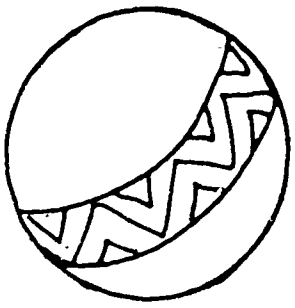
...4...6...8

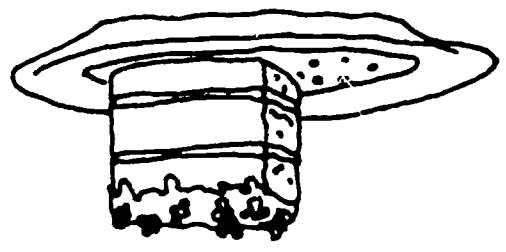
1...2...3...4

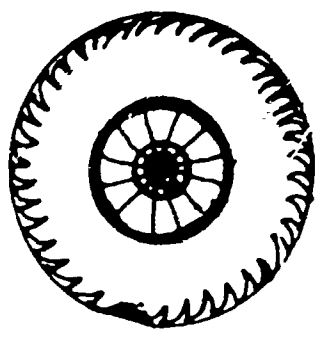
1...3...5...7

20.

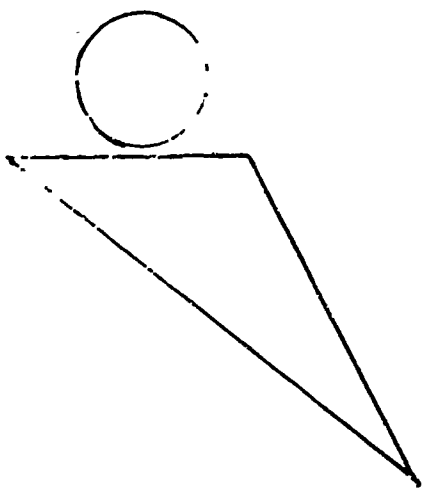
0- insufficient: Both round. You buy the cake with the penny.
1- descriptive: They both have only part.
2- categorical: They both show half. Half is missing from both.

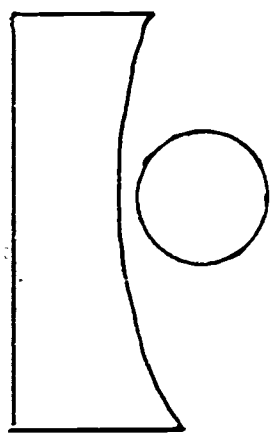


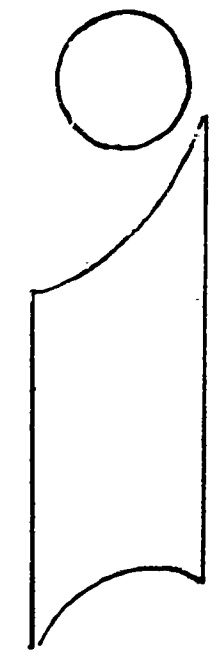


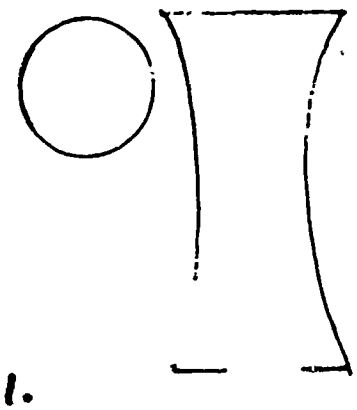


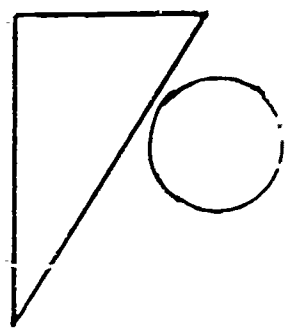
21.
0- insufficient: They're both like squares. Both big.
1- descriptive: Both balls are under.
2- categorical: The balls are in the same position (place).







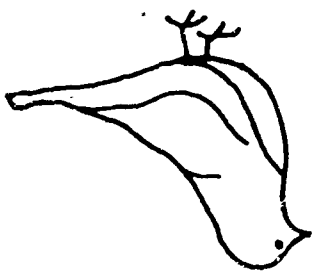


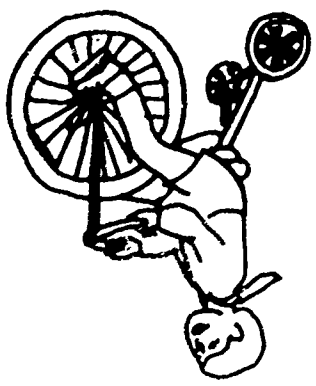


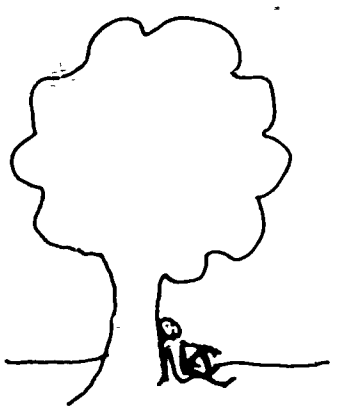
21.

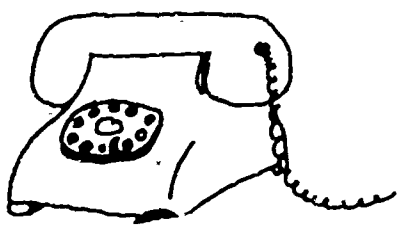
22.

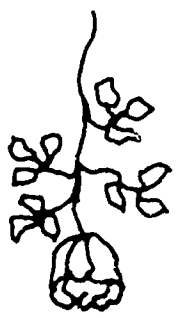
0- irrelevant: Flower next to tree.
1- description: Have leaves. Both grow. Both upside-down.
2- categorical: They're in the same position.



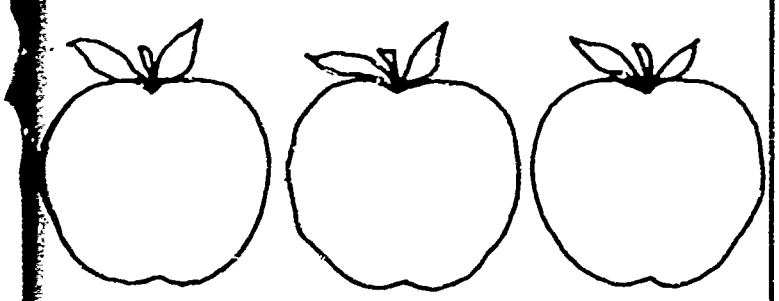


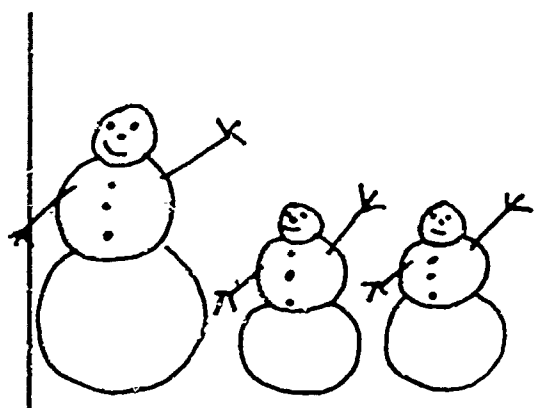


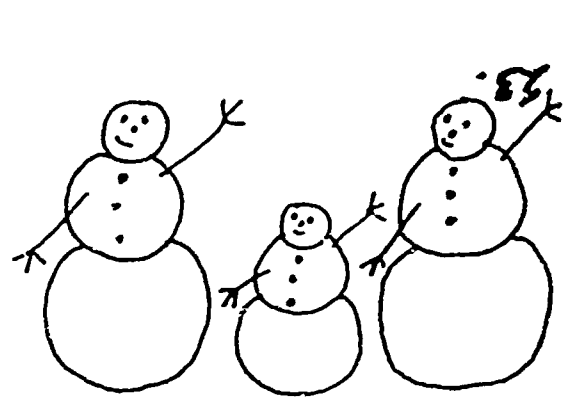


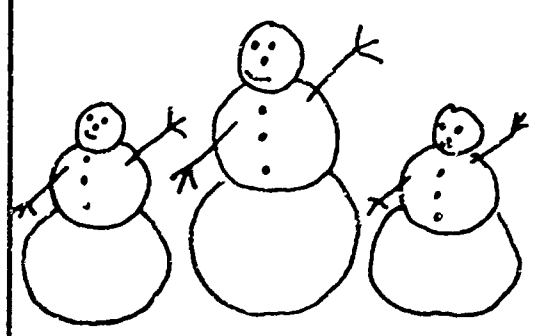


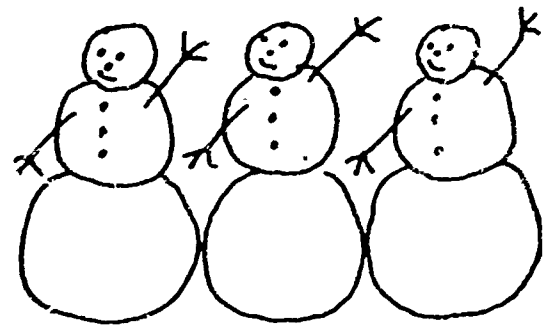
23.
0- irrelevant: There's 3 of them.
1- descriptive: These are all big and these are all big.
2- categorical: The same size.



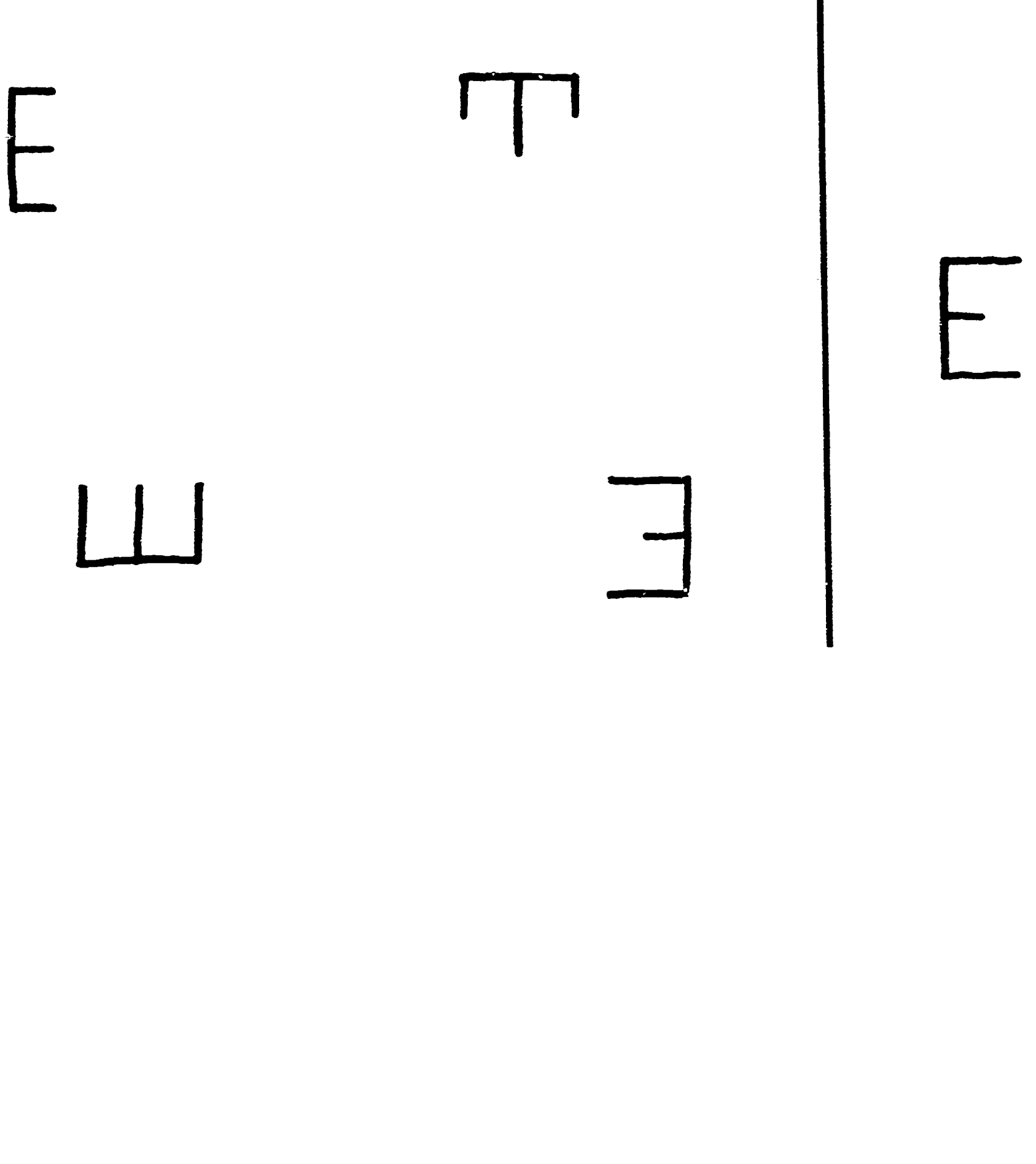




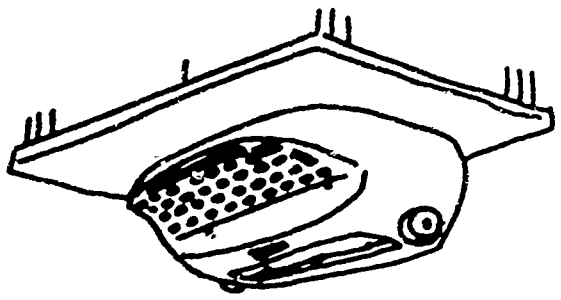


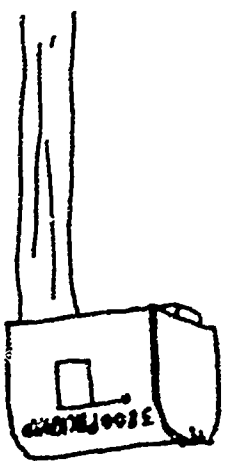


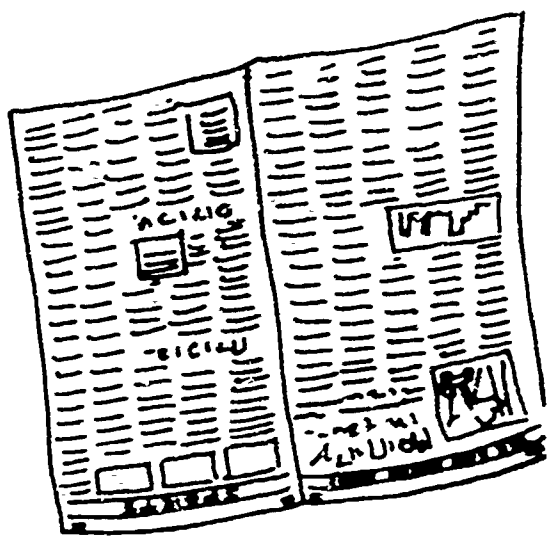
24.
0- insufficient: Pointing that way. The same.
1- descriptive: The middle part is little.
2- categorical: It's the same shape.

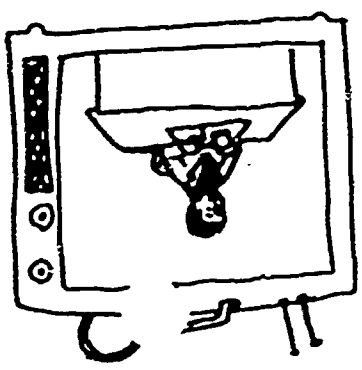


25.
0- insufficient: You write the paper with a typewriter.
1- descriptive: You have to look at both. The paper comes in the mailbox.
2- categorical: They both tell the news.

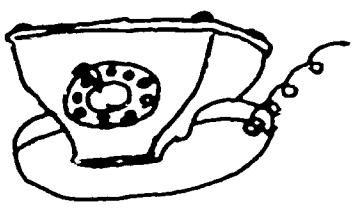




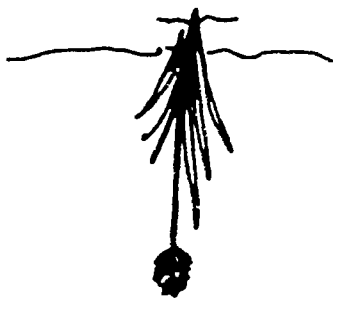


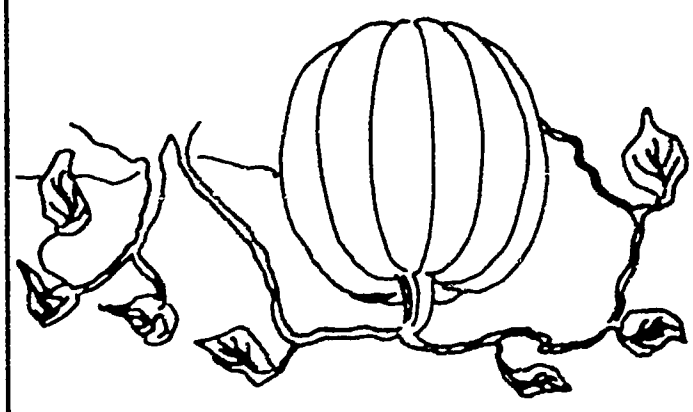


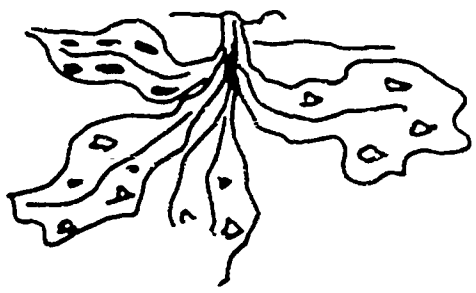
25.

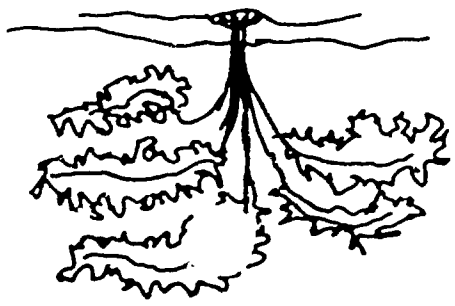


0- insufficient: They both grow. Both have leaves. Both in garden.
1- descriptive: Both ready to eat. Can eat them both.
2- categorical: They're both ripe. Both have fruit (vegetable).

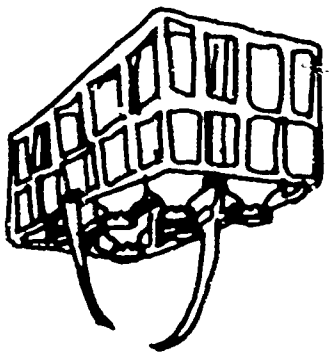








27.
0- insufficient: He carries milk.
1- descriptive: Both come from the post office.
2- categorical: The mailman delivers (gives, carries) packages.

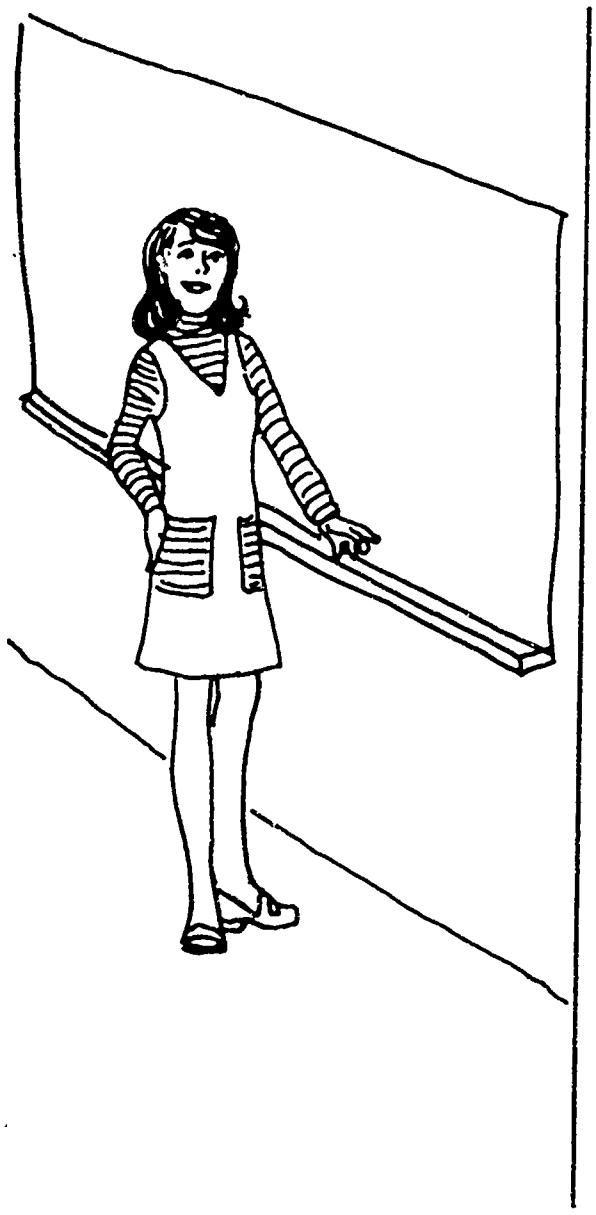


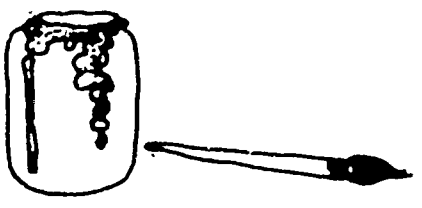
28.

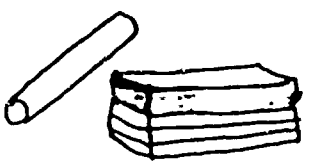
0- insufficient: Two girls go together. That's the teacher's desk.

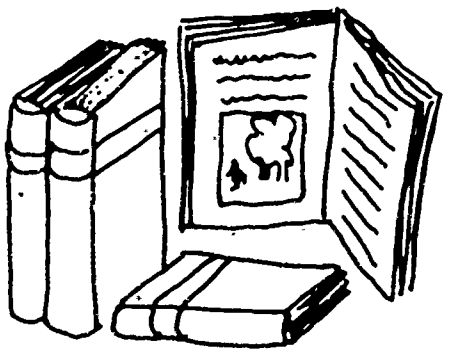
1- descriptive: Teacher sits at her desk. She reads from the book. Chalk is missing.

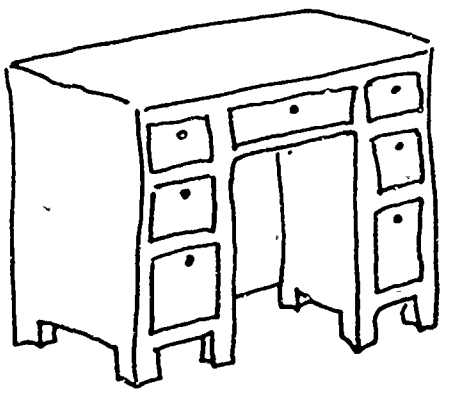
2- categorical: Needs chalk to write.





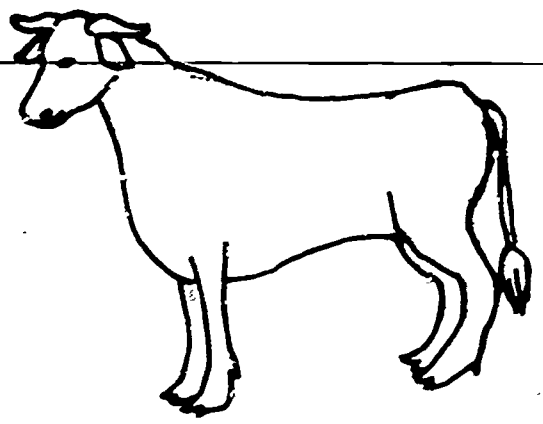




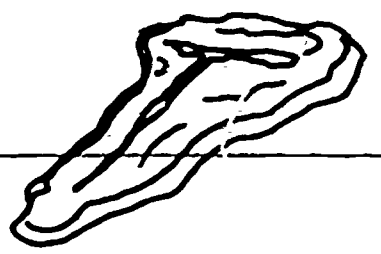


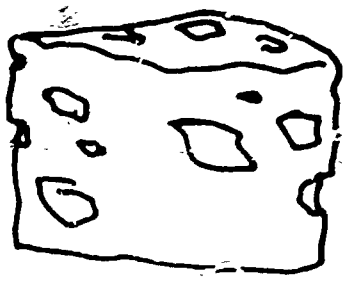
29.

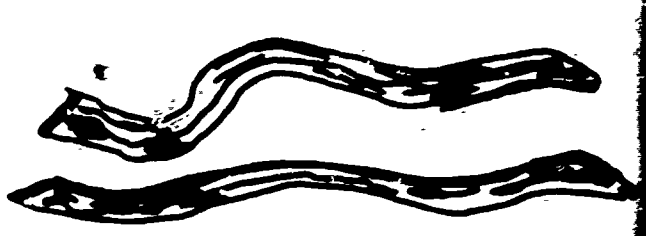
0- insufficient: They're both from a farm.
1- descriptive: Milk (cheese) comes from cows.
2- categorical: Meat (steak) comes from steers (cattle).



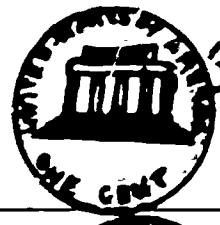

MILK

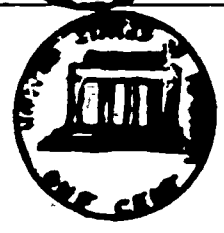


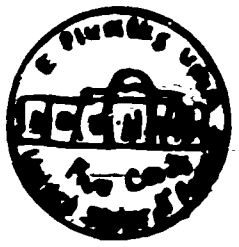


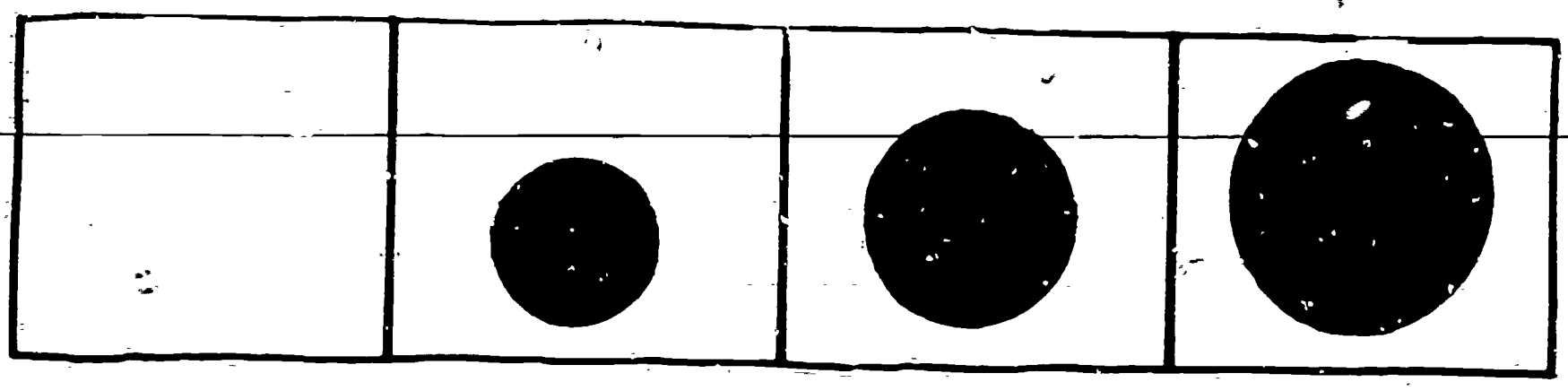


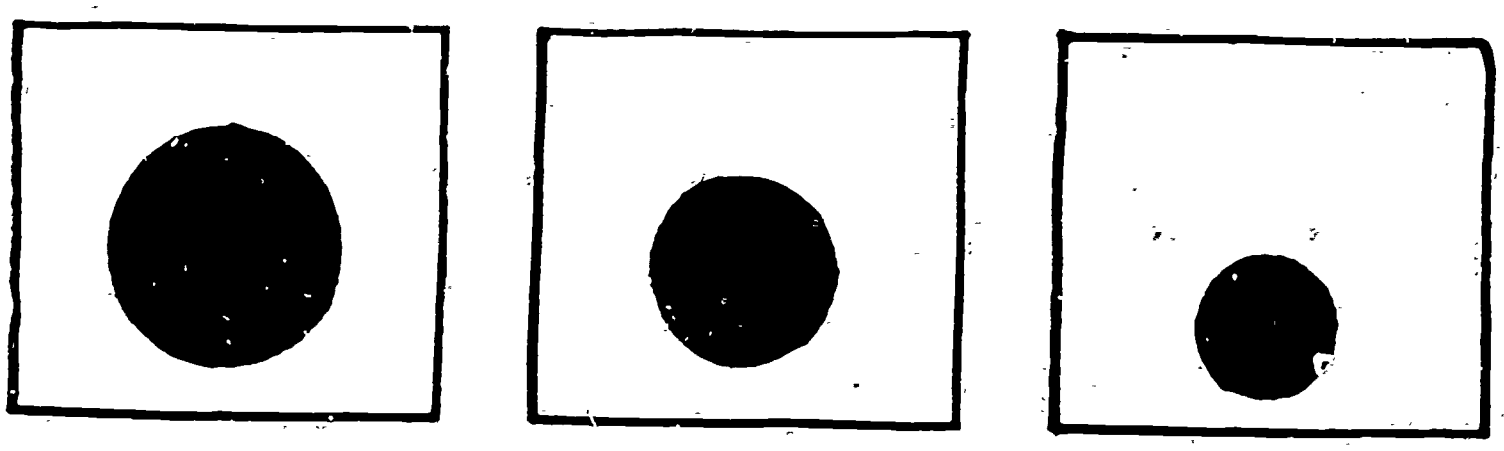
30.
0- insufficient: Same size.
1- descriptive: That's five cents and that's five cents, (a nickel).
2- categorical: Same amount of money. Five pennies are a nickel. Both five cents.

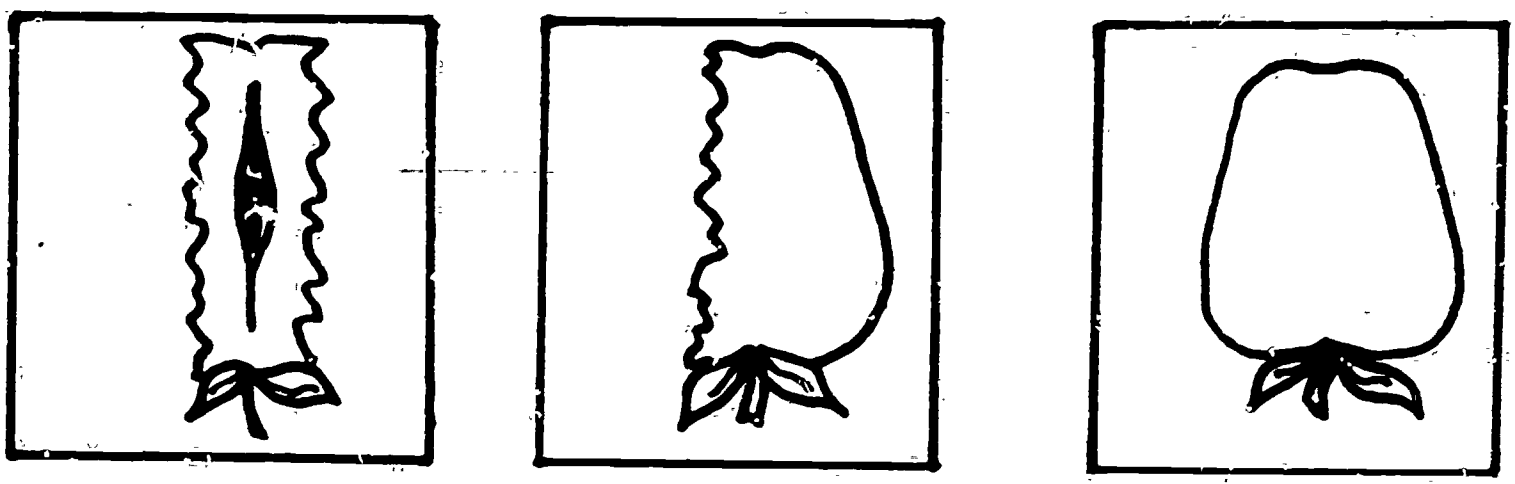


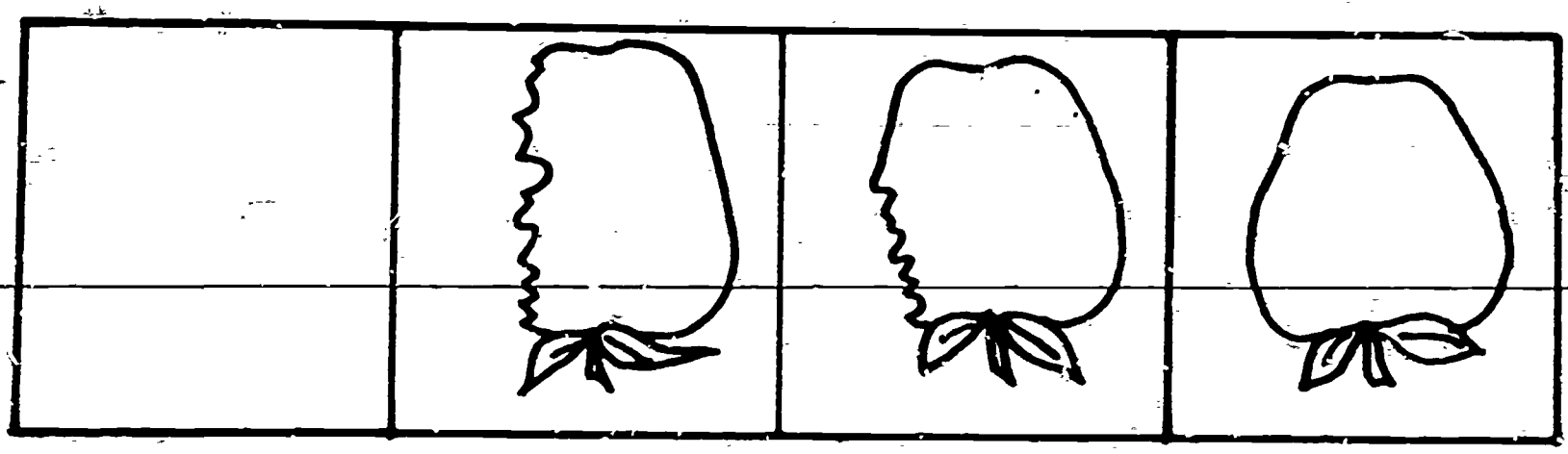












32.

33.

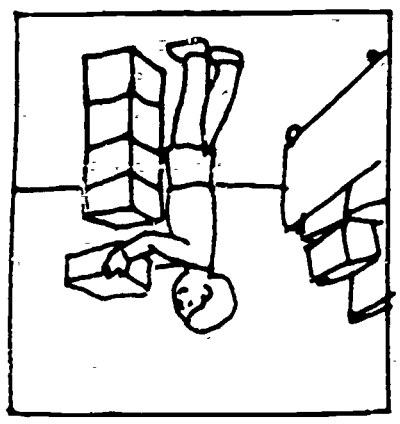
0- insufficient: 5 comes after 4. 7 comes before 8. Has to be 6.
1- descriptive: They're all even numbers.
2- categorical: It's counting by 2's. 4 plus 2 equals 6.

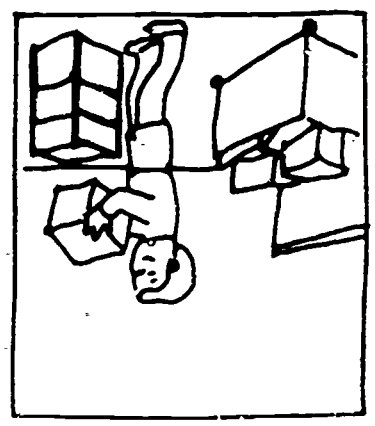
2	4		8

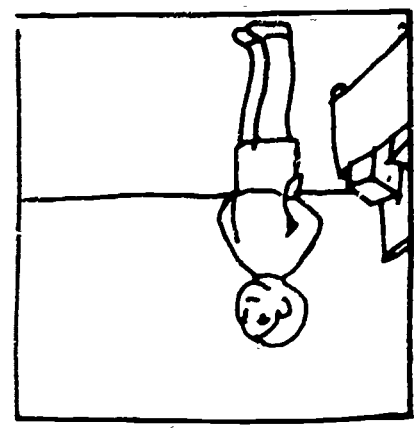
5	7	6

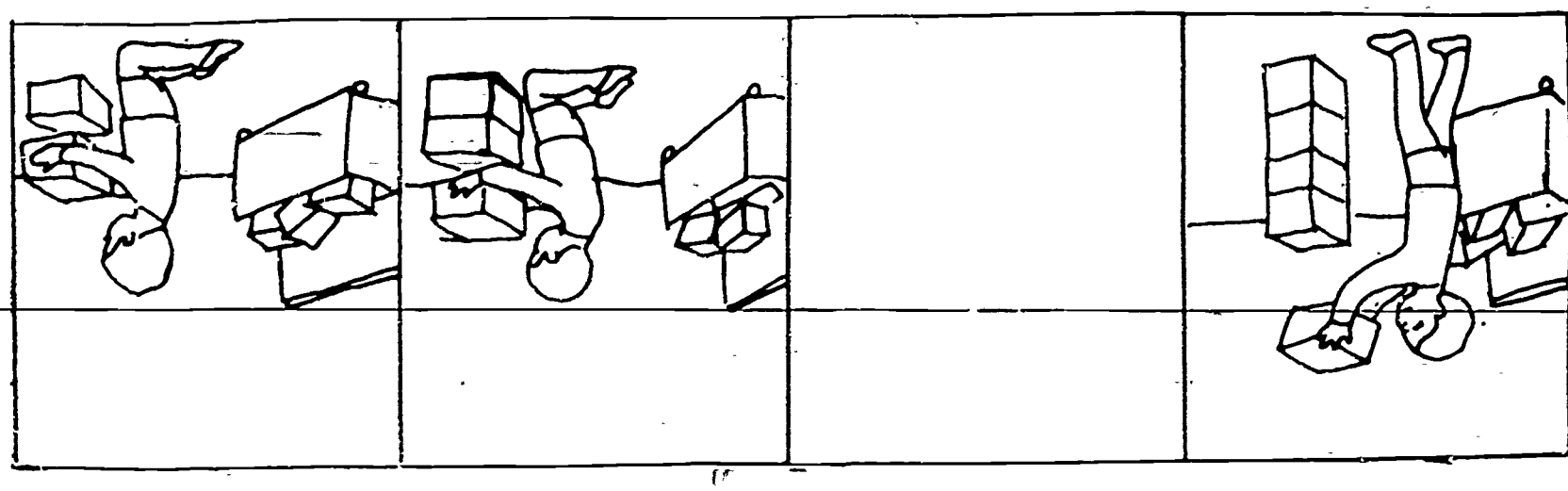
34.

0- insufficient: He took them all down. It's little. He's taking it apart.
1- descriptive: He's building it up (knocking it down). That has 4, that has 3....
2- categorical: He's subtracting. He's taking one off each time. There's less on the pile. It's getting shorter.





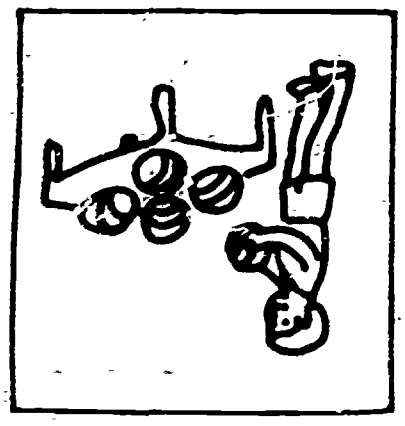


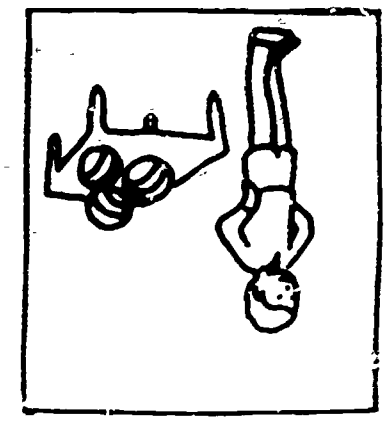


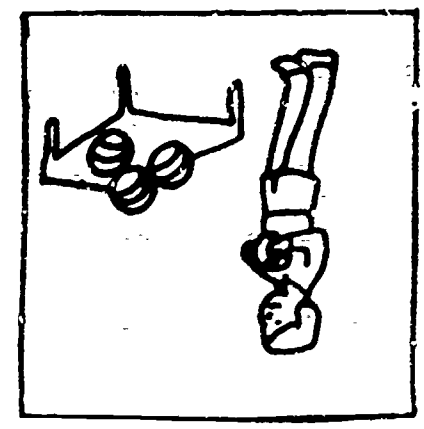
0- insufficient: He's got one there. There's three.

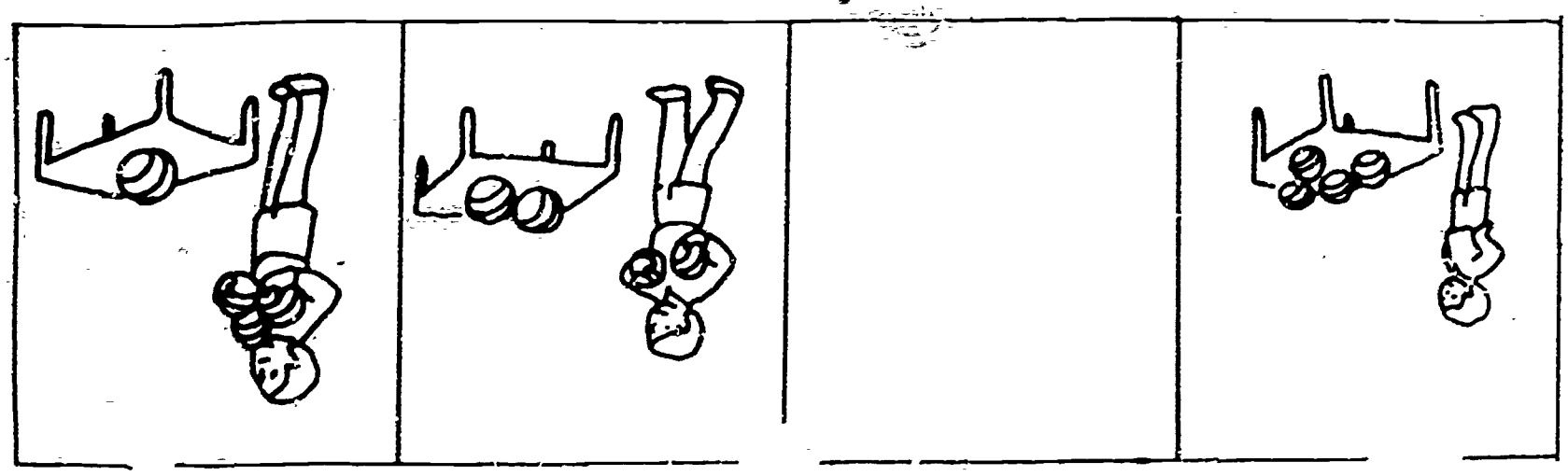
1- descriptive: He's got none there and one there 3 is less than 4. There's 4 there and three there.

2- categorical: He keeps on getting more. It keeps on getting less.

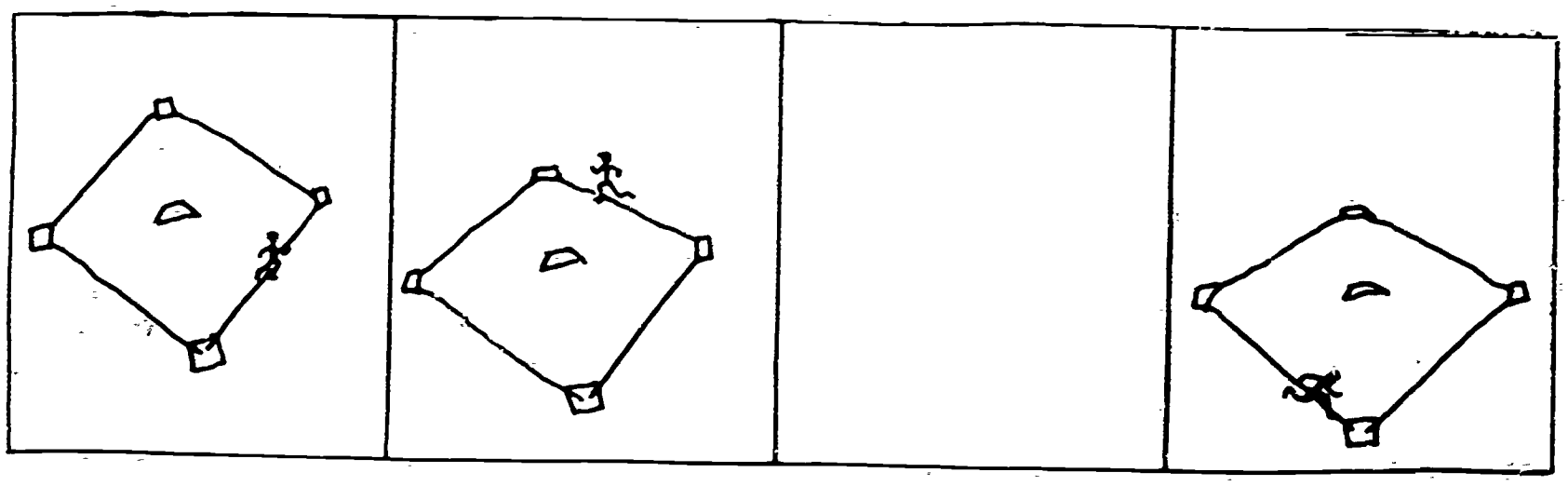


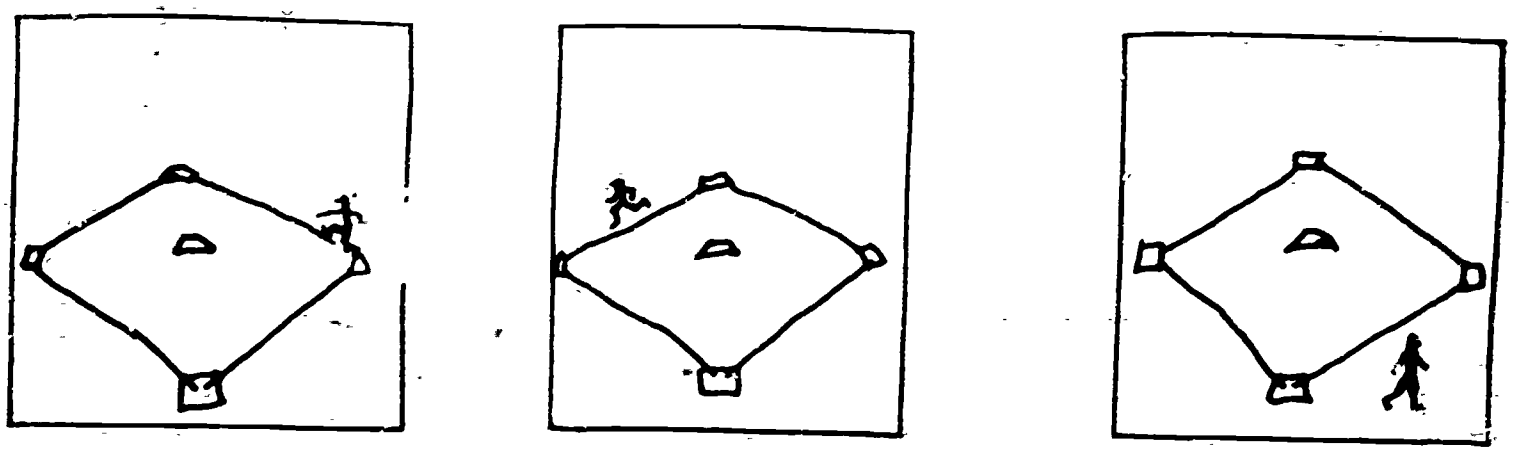






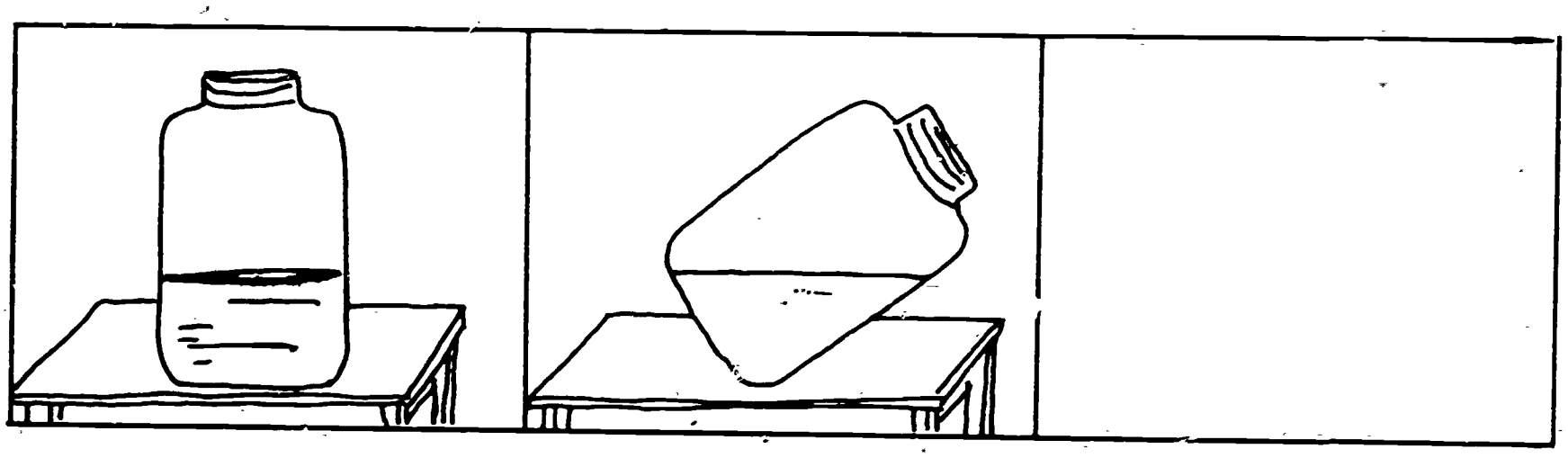
0- insufficient: Almost home. Running up.
1- descriptive: Running around the bases.
2- categorical: 3rd comes next. 3rd is after 2nd base (before home). Has to touch 3rd.

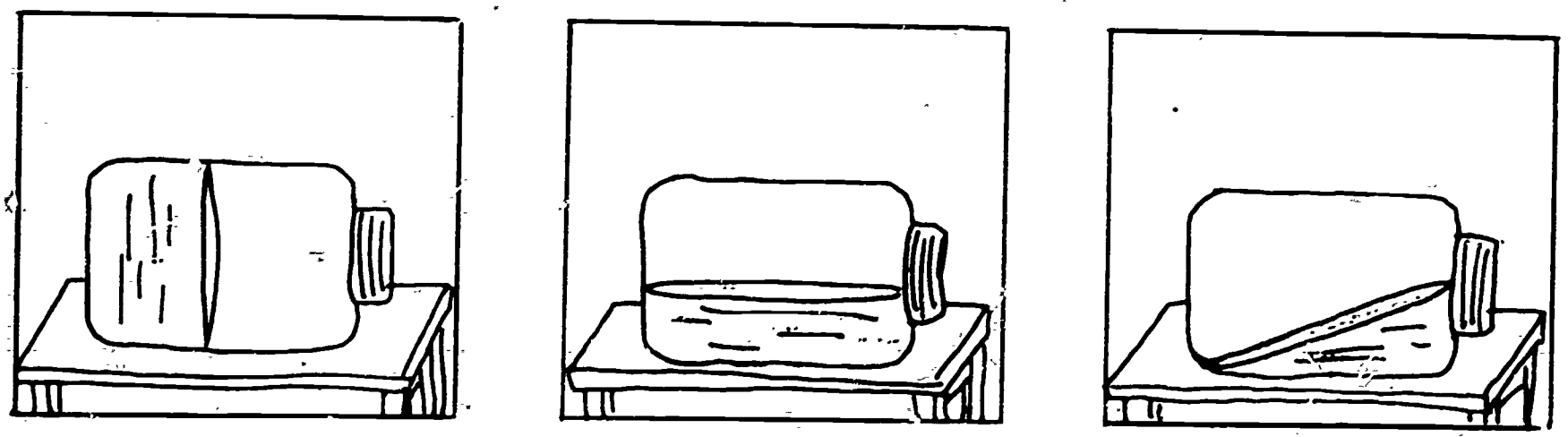




37.

0- insufficient: There's more (less) water).
1- descriptive: It's tipping over. It fell over.
2- categorical: Water should stay flat (level).



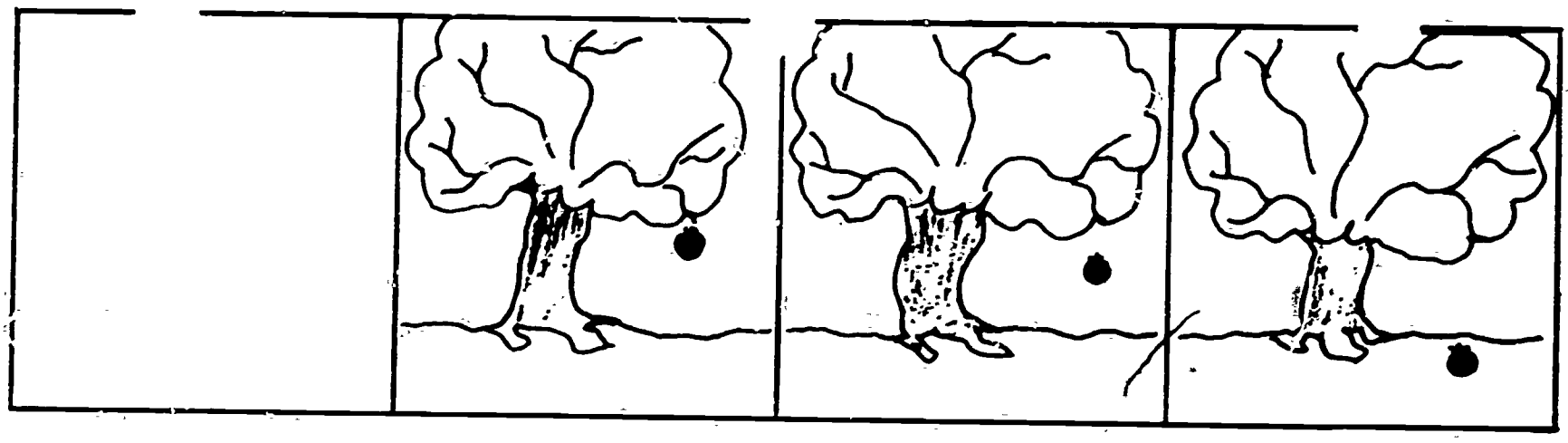


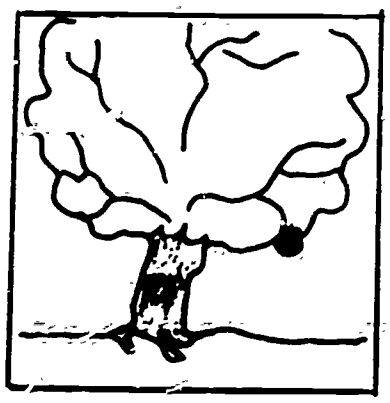
38.

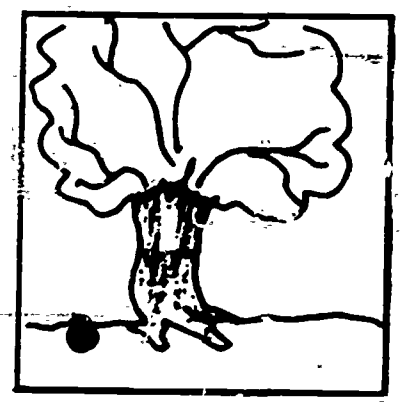
0- insufficient: Big one. It's on the tree.

1- descriptive: It's on the same side. It's still on the tree. Should start here.

2- categorical: It starts falling here.



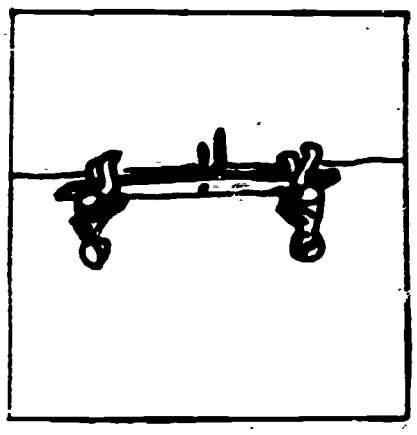


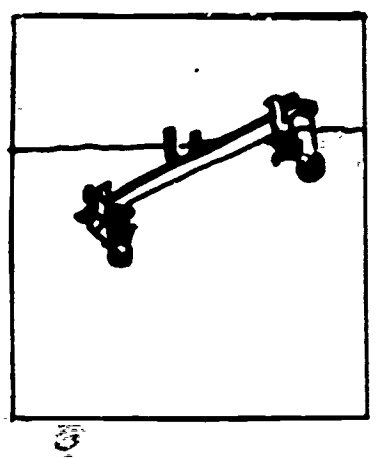


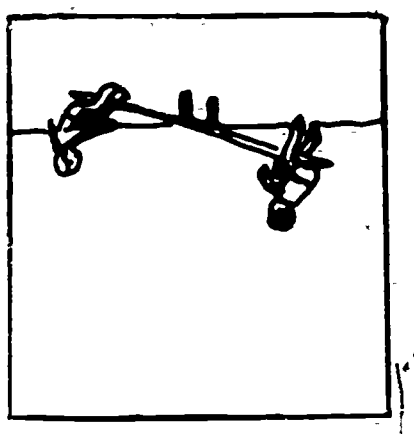
0- insufficient: Cuz they're sideways. They're going up.

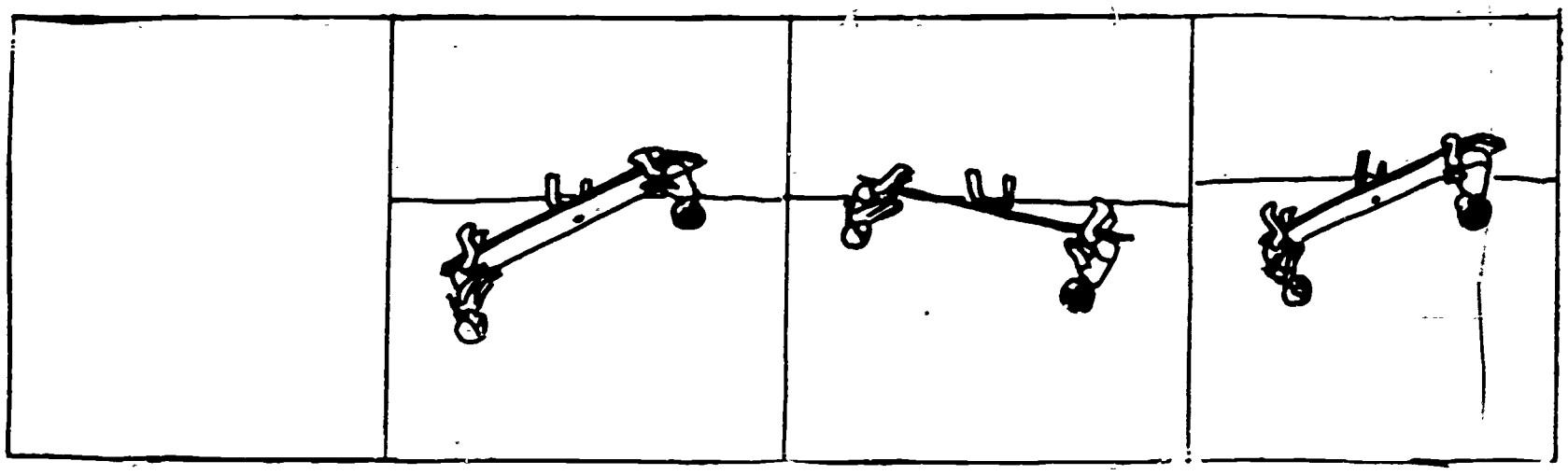
1- descriptive: The girl's up, now she's down. They stopped playing. She's suppose to be going up. First she's up, then she's down.

2- categorical: The teeter-totter (seesaw) goes up and down. They take turns going up.



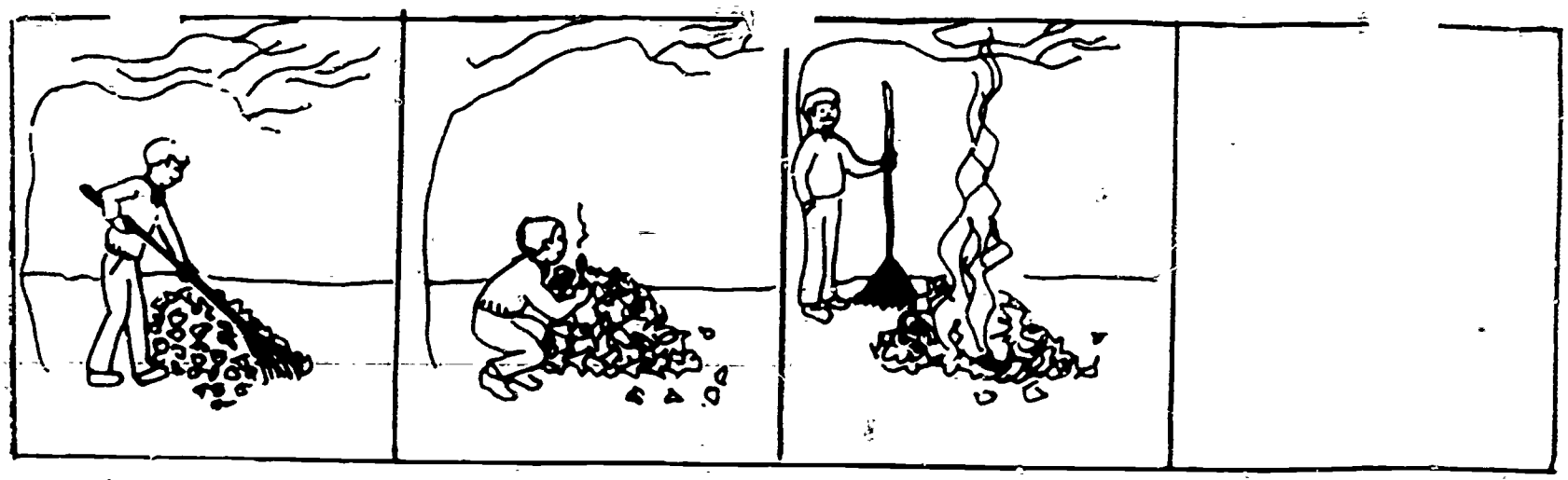


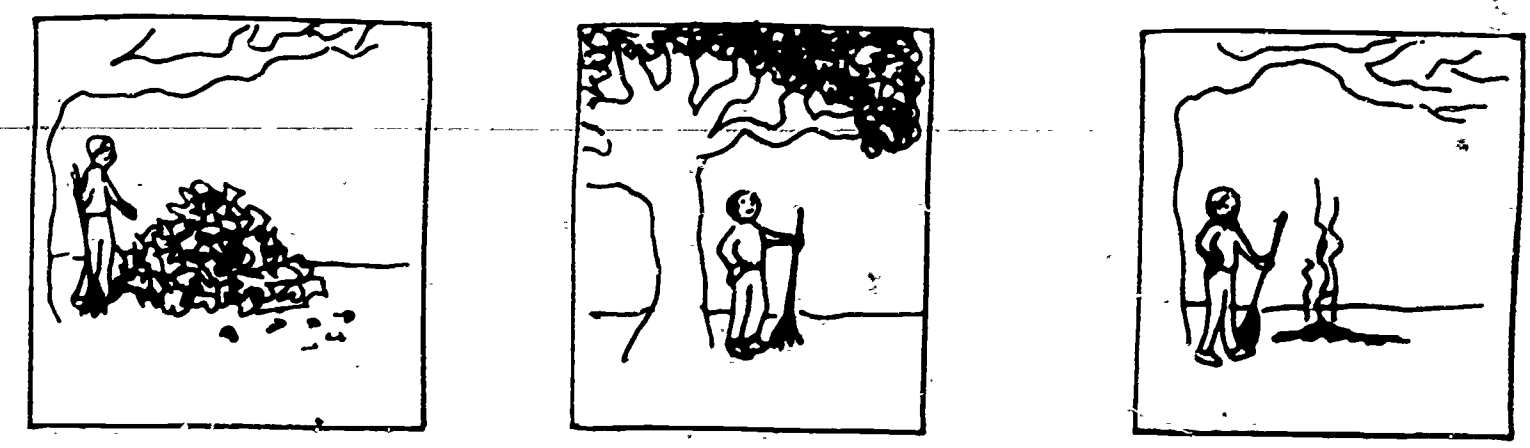




40.

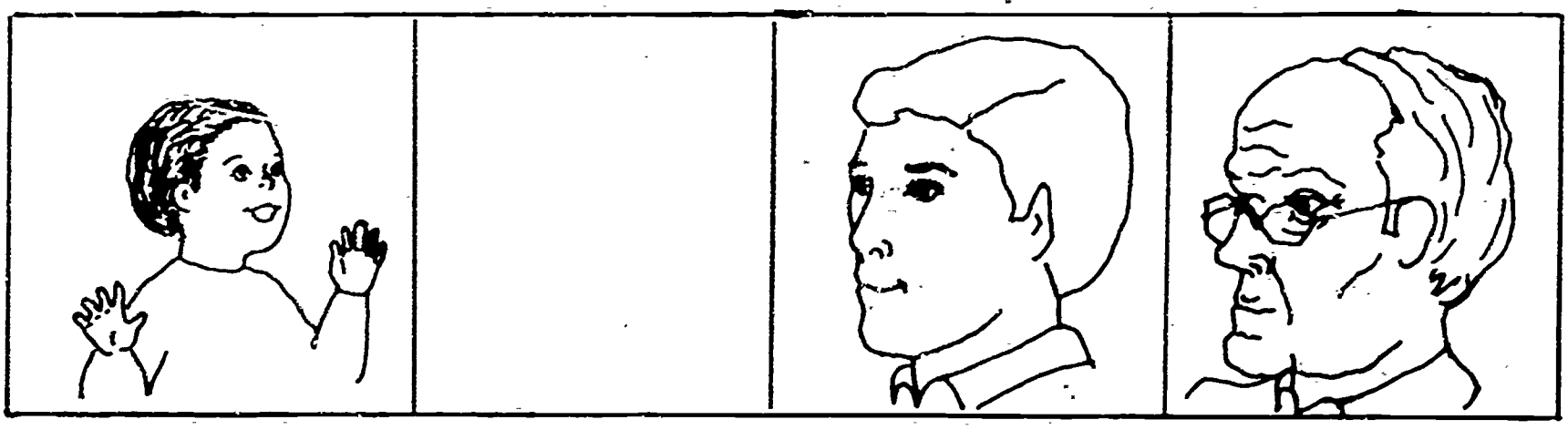
0- insufficient: They're all gone.
1- descriptive: Here they're ashes. He's all finished. He got them on fire.
2- categorical: He's burning them. Going to burn them.

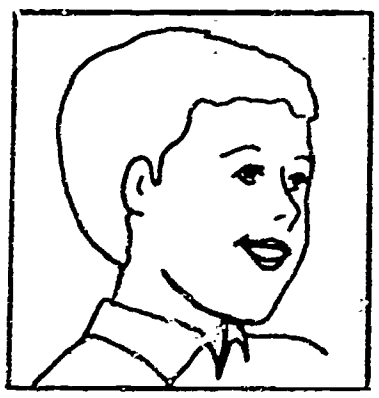




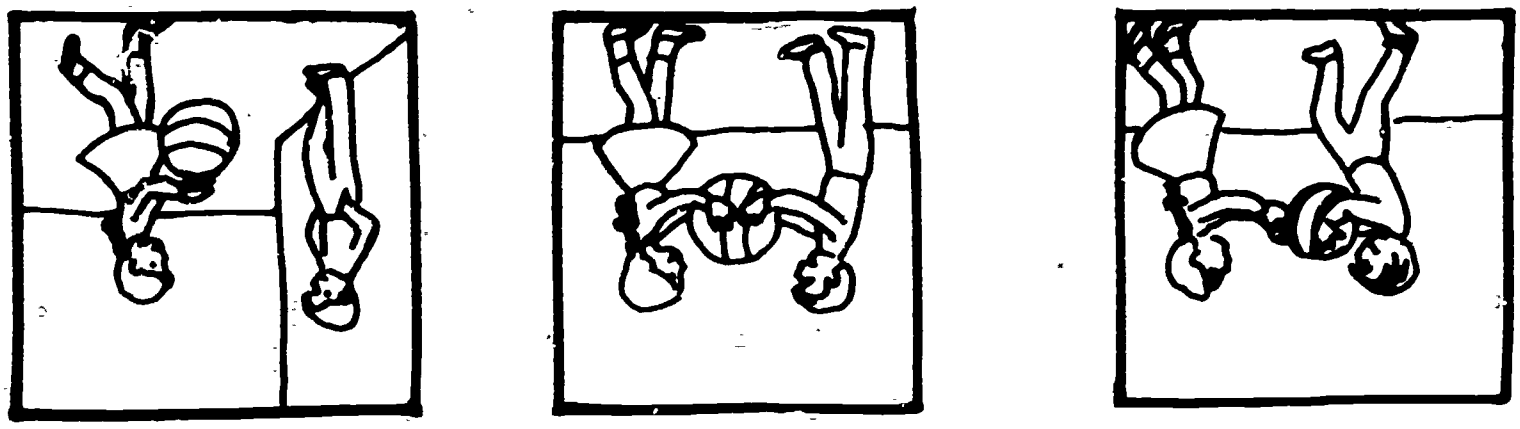
41.

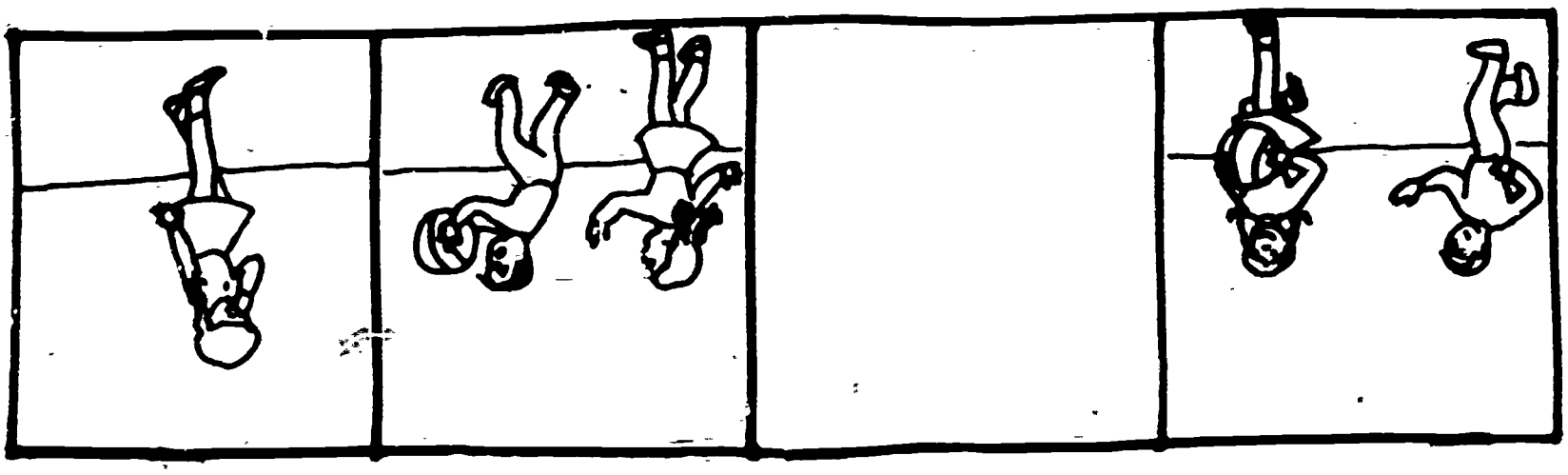
0- insufficient: It's a boy. Have to have a mother.
1- descriptive: He's getting bigger. Boy comes after baby (before man).
2- categorical: He's older than the baby (younger than the man).





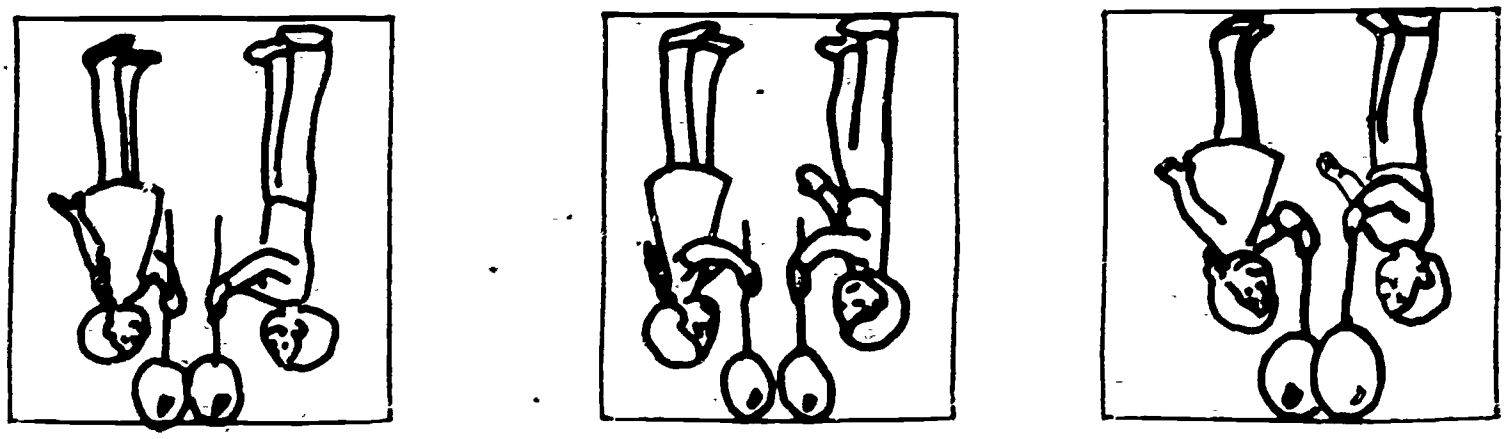
0- insufficient: They're sharing the ball. She has the ball. She's bouncing it.
1- descriptive: They're fighting over it. He (she) wants the ball.
2- categorical: He took it from her (stole it). He's selfish. She wanted the ball, but he took it back.





43.

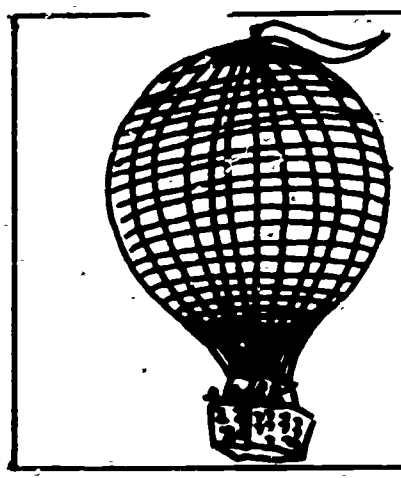
0- insufficient: They each have one.
1- descriptive: They're both happy now. They're happy and they each have one.
2- categorical: She's happy cuz' he shared. She's mad cuz she wanted the other.

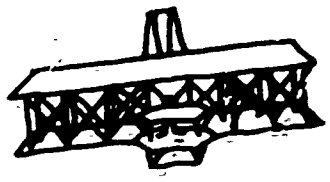


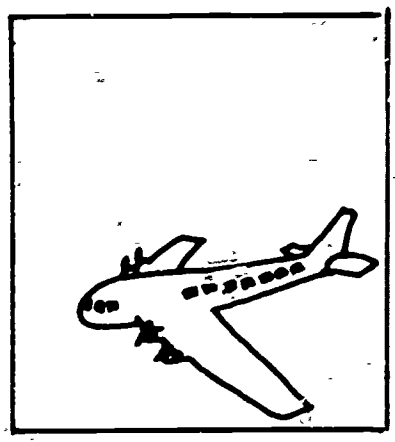
43.

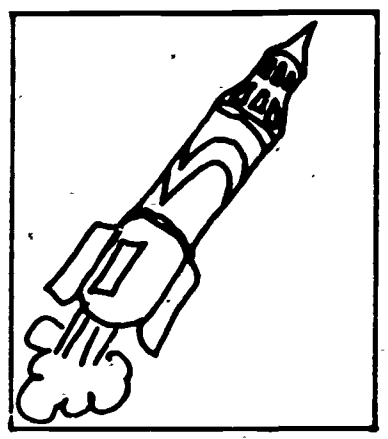
44.

0- insufficient: They all fly. It's a plane too.
1- descriptive: This came first, then that, now this.
2- categorical: It comes later than that. It's newer than that. Goes faster than that.







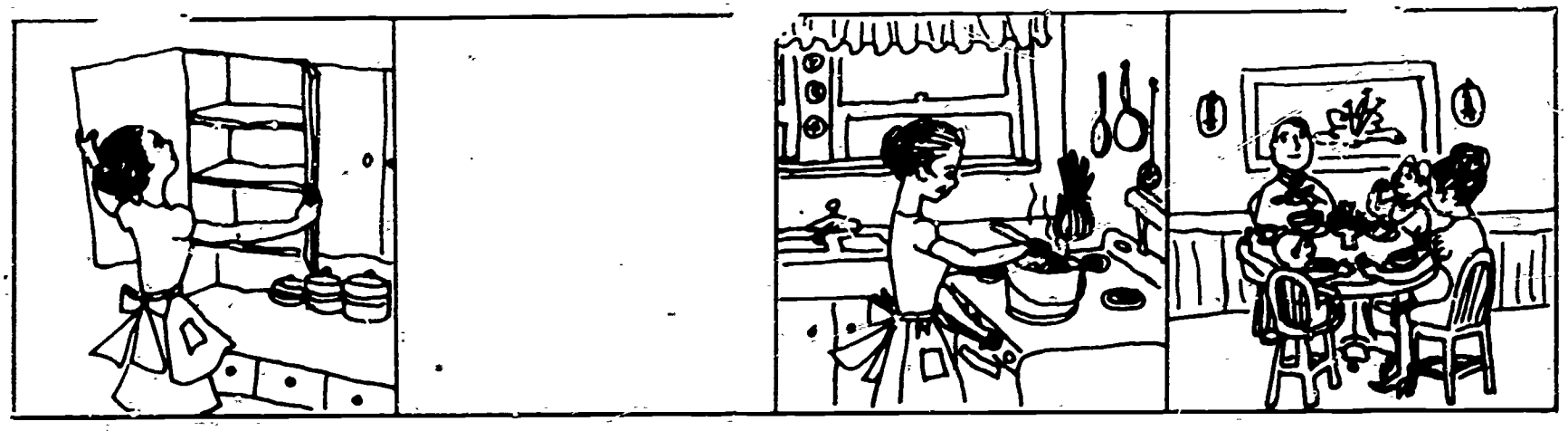


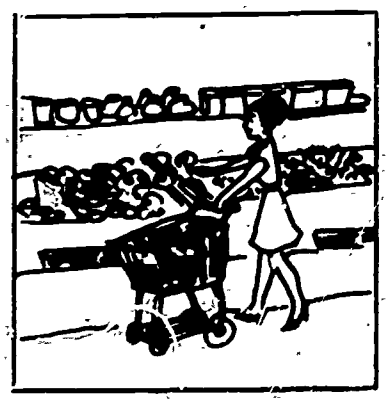
45.

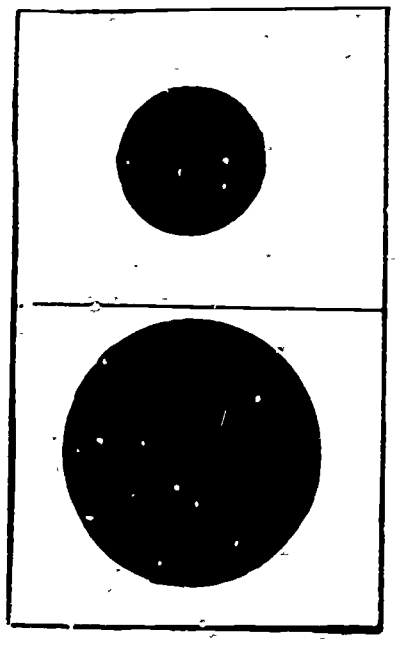
0- insufficient: She's shopping for food. She's putting food on the table.

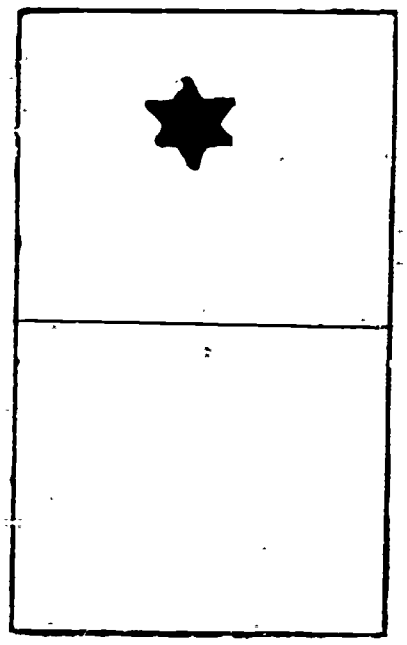
1- descriptive: She doesn't have any food, then she buys some, then she cooks, then they eat.

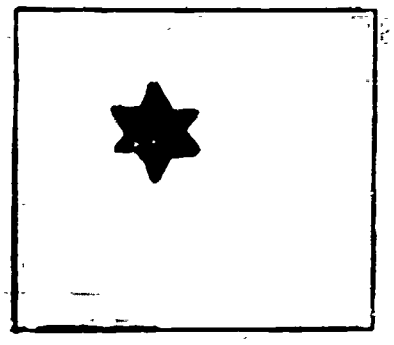
2- categorical: Have to buy food before you cook it. She needs food to cook (eat).

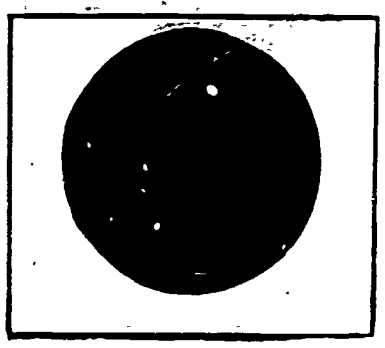


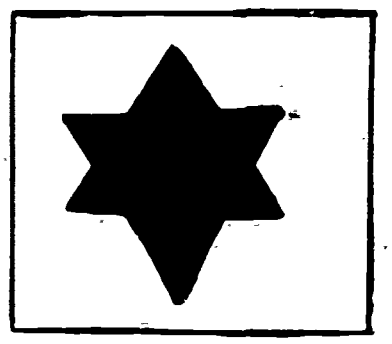


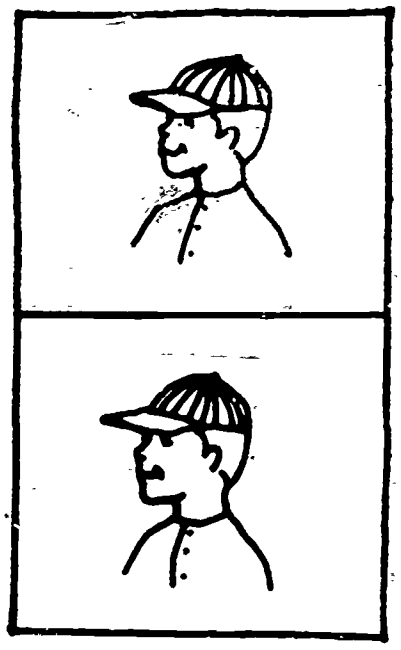


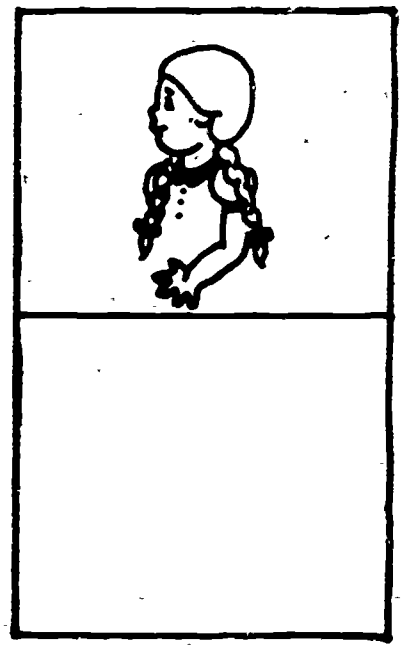








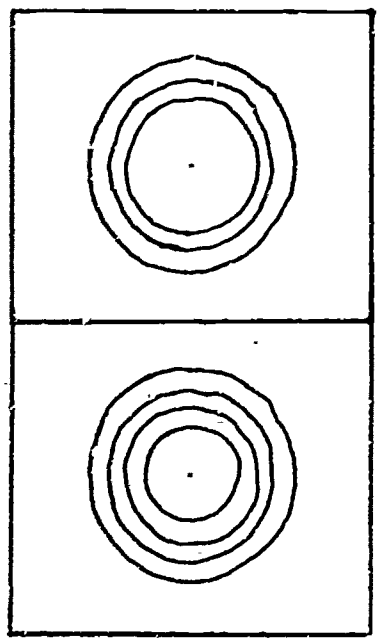


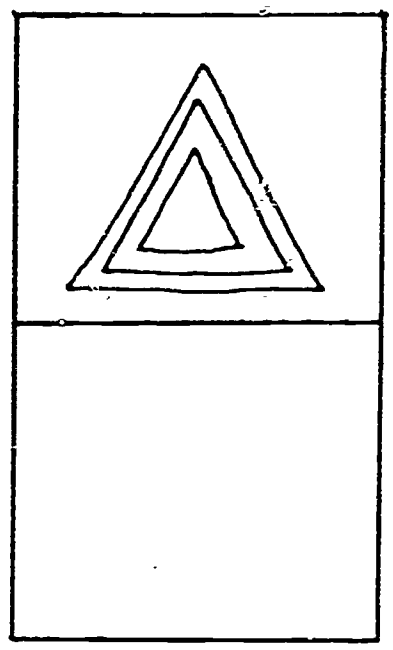


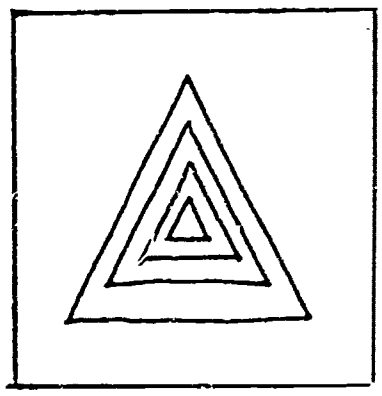
0- insufficient: It has a lot of lines. It's fuller.

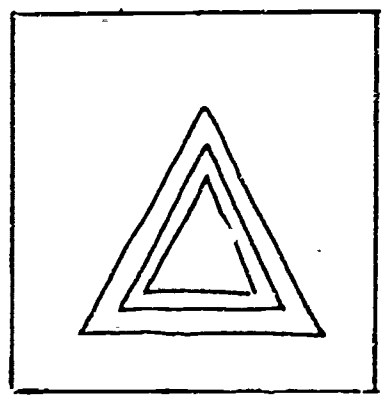
1- descriptive: The middle is smaller on the bottom ones. Top have 3 parts, bottom have four.

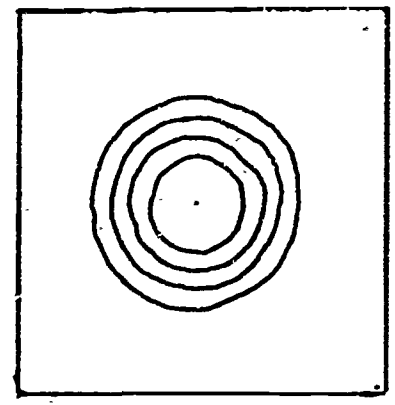
2- categorical: The bottom ones have more lines (parts).











49.

0- insufficient: It's plus. That goes with this.
1- descriptive: One equals 3 plus 2.
2- categorical: You have to subtract. It's subtraction.

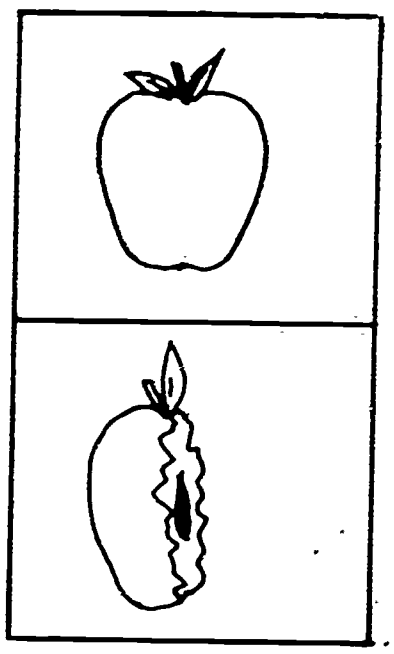
5	1
3+2	

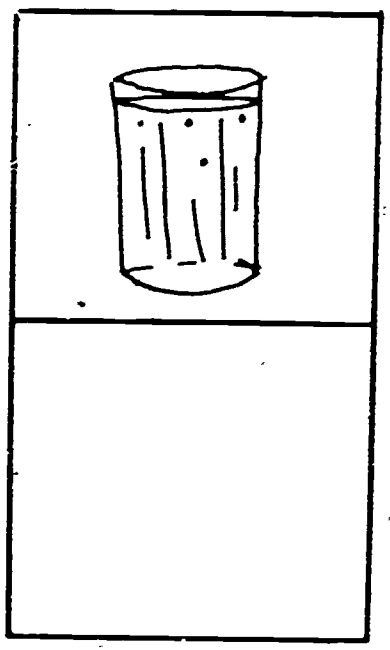
3×2	3÷2	3-2

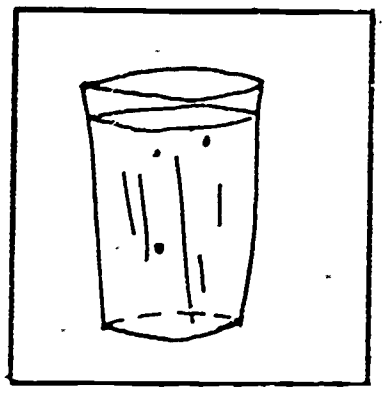
0- insufficient: Bottom ones are used. It's all gone. He ate that one and drank that one.

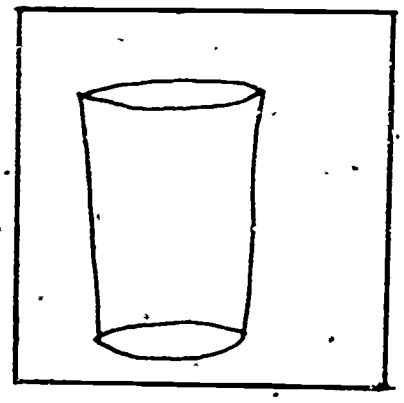
1- description: The bottom ones are part of the top.

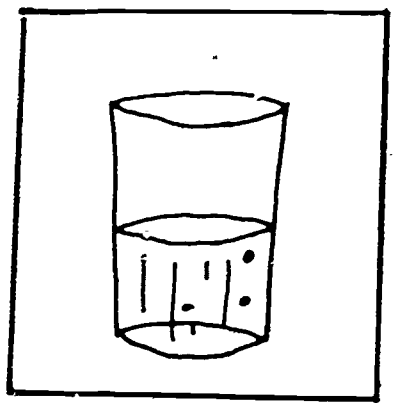
2- categorical: The bottom ones have half as much.





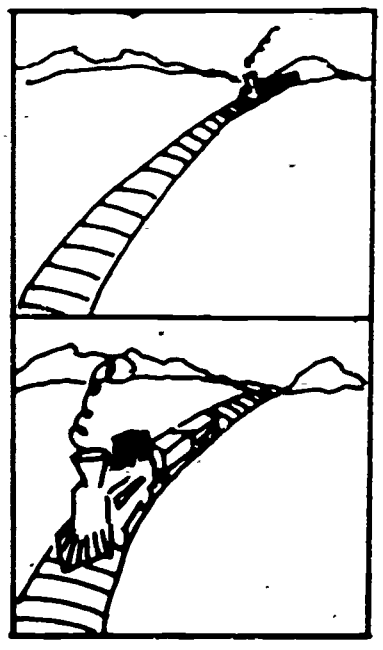


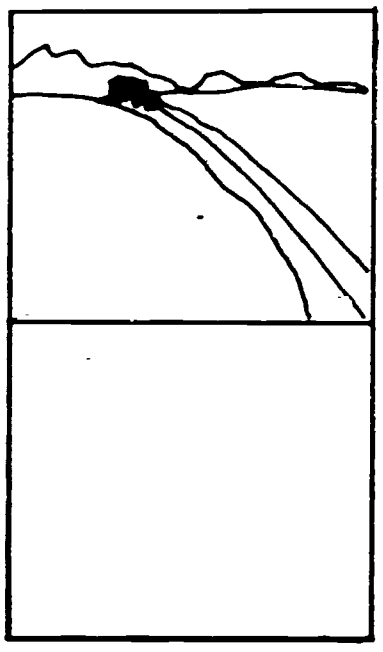


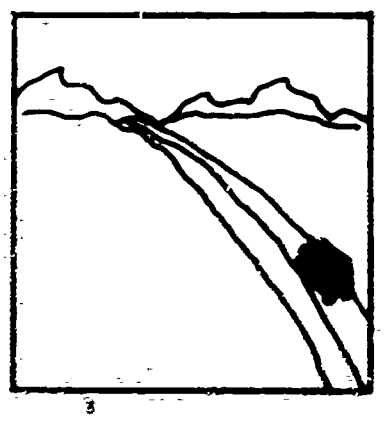


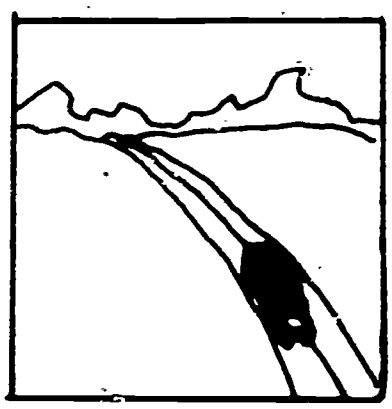
51.

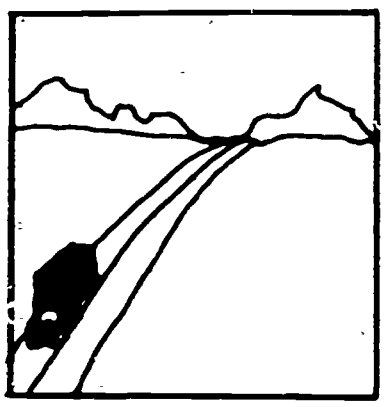
0- insufficient: It's close. It turned around. It's going back.
1- descriptive: It's more near. It's still coming.
2- abstract: The bottom ones are closer.



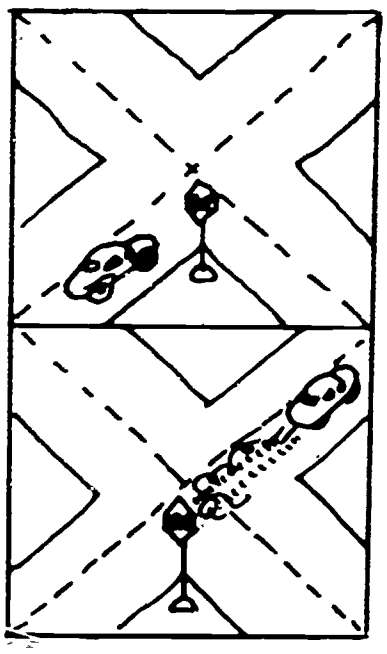


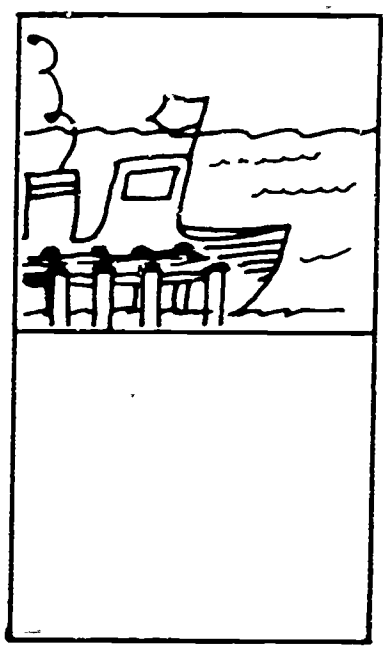


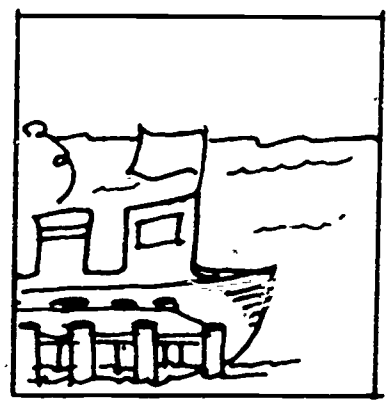


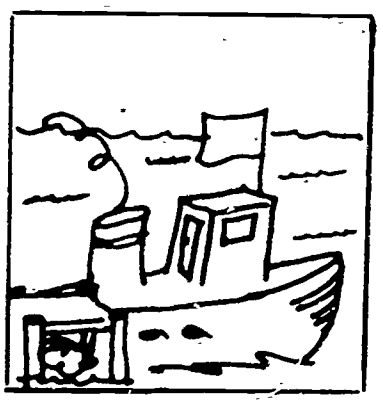


0- insufficient: That one's there, so this one should be here.
1- descriptive: The bottom ones are moving.
2- categorical: The bottom ones are leaving (starting off, going away).

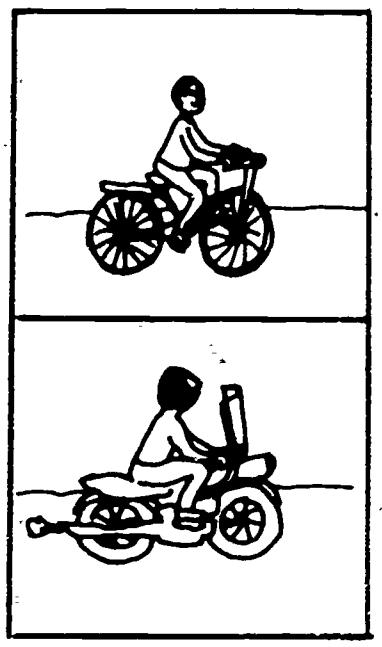


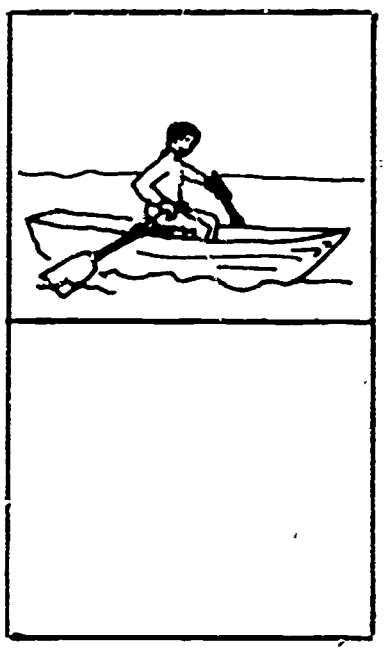


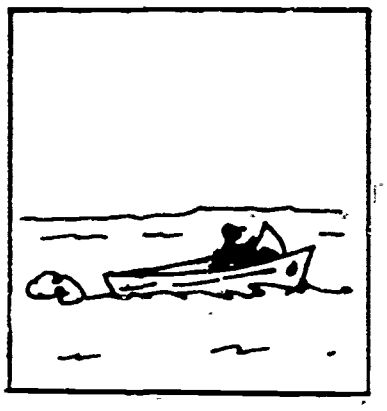




0- insufficient: They both go in water.
1- descriptive: They have motors. Bottom ones make noise.
2- categorical: Bottom ones are faster (motor driven).





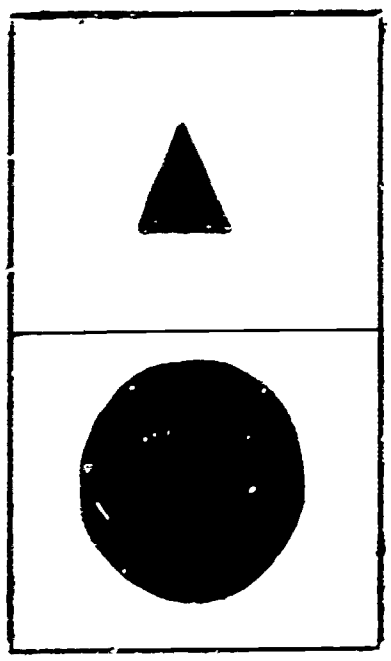


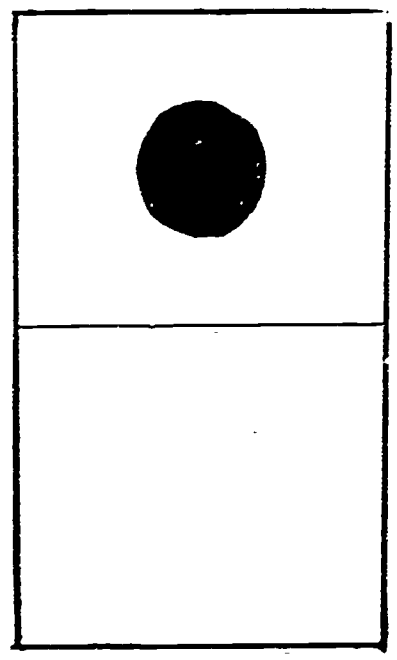
54.

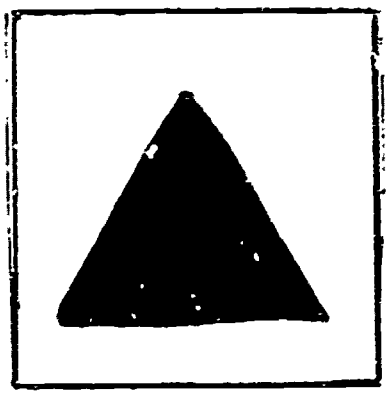
0- insufficient: It's a triangle. It's big.

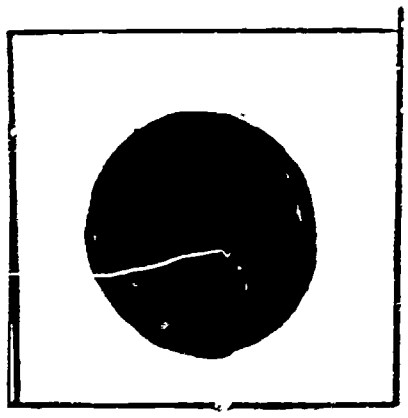
1- descriptive: little and big ones together. Bottom ones are big. It's the other shape. It's bigger.

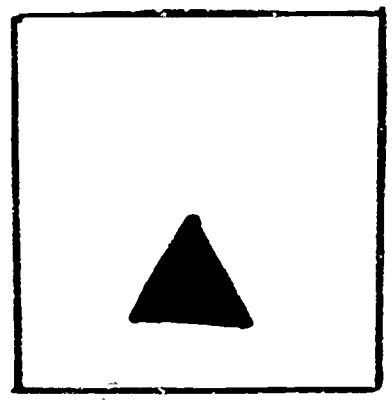
2- abstract: Little triangle goes with big circle, so little circle goes with big triangle. It changes size and shape.









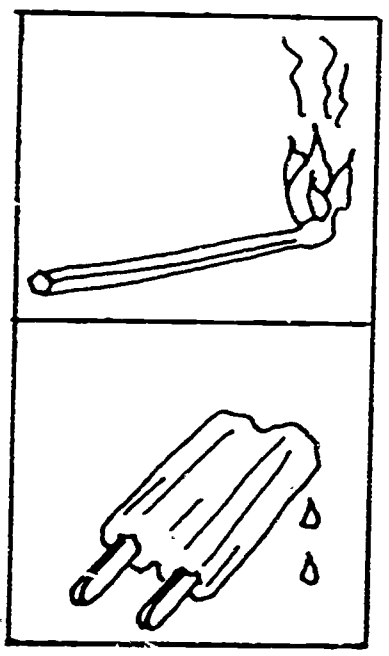


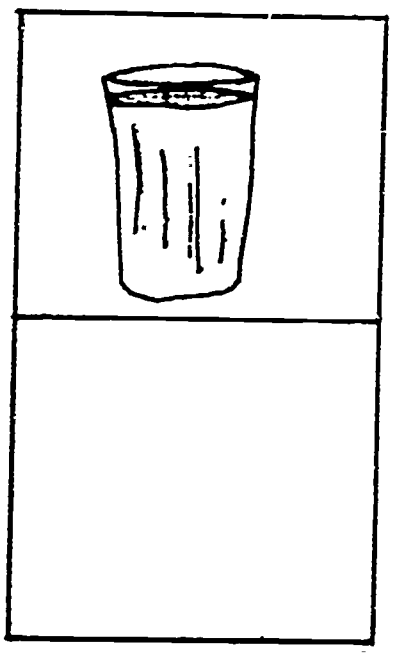
55.

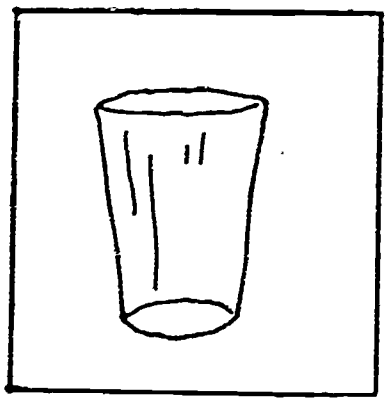
0- insufficient: You eat both of those. They're both wet.

1- descriptive: That's hot and that's cold, so that's full and that's empty.

2- abstract: The bottom ones are opposite.





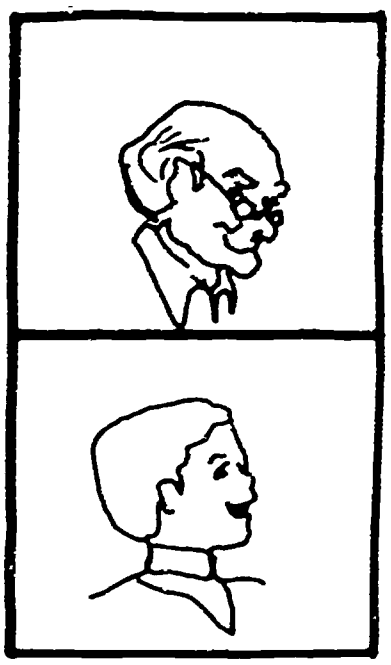


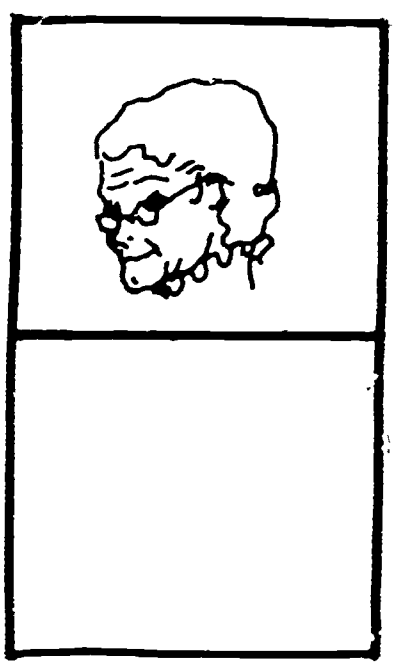
56.

0- insufficient: cuz' she's old. It's a girl. Both older.

1- descriptive: They're looking that way (direction). She's older than the baby. It's got to be a little girl.

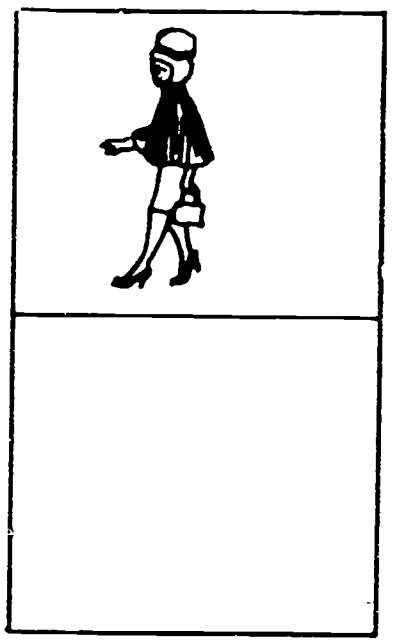
2- abstract: Girl goes with old lady (grandmother). Bottom ones are younger.

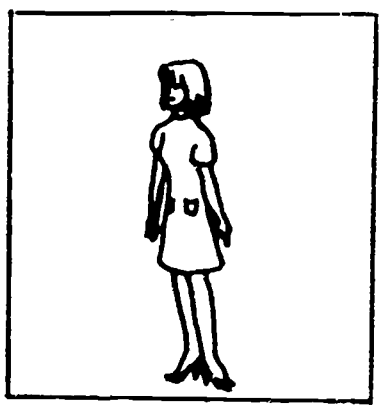




57.

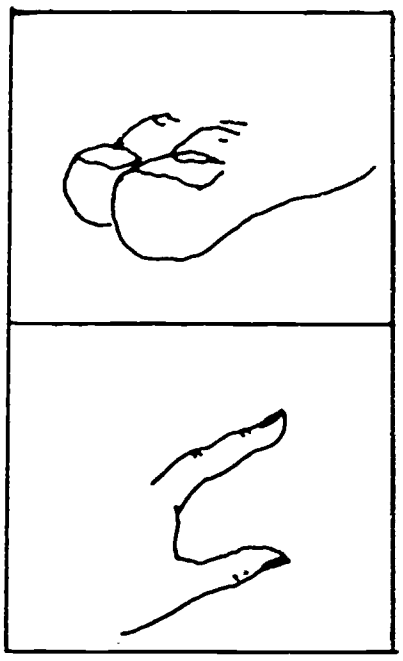
0- insufficient: She's a girl. They are girls.
1- description: Big one goes with little one. Bottom ones are younger.
2- abstract: She is younger. Daughter goes with mother.

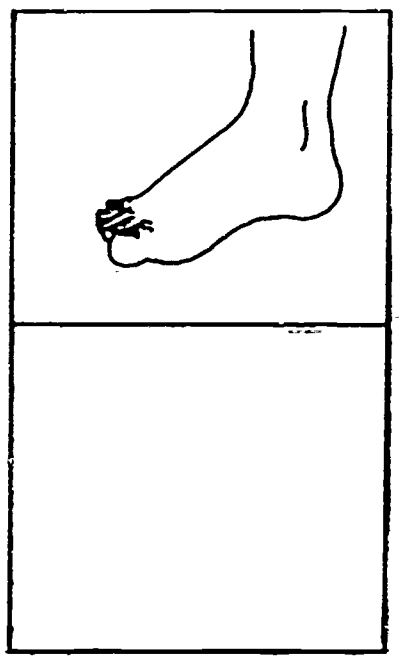


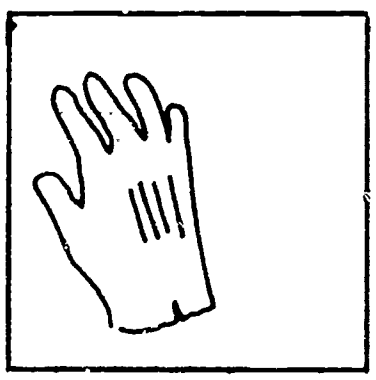


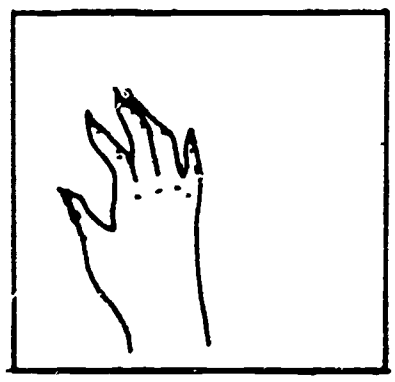
58.

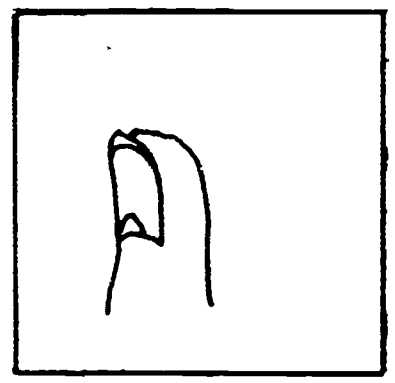
0- insufficient: Finger goes in a glove. Both fingers.
1- descriptive: A hand has fingers. Fingers go with hands.
2- categorical: A finger is part of a hand.





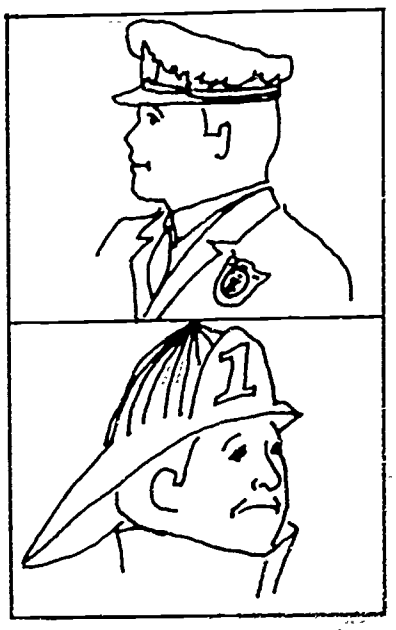


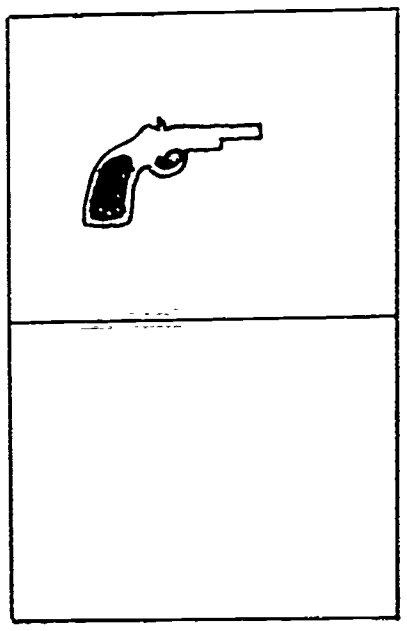


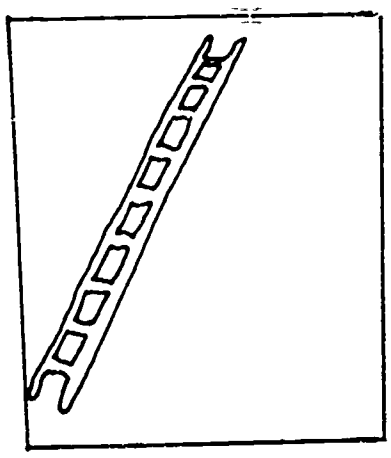


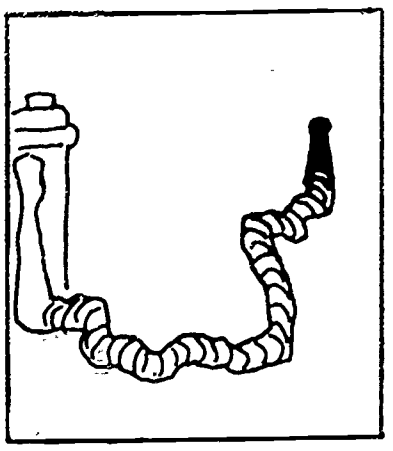
59.

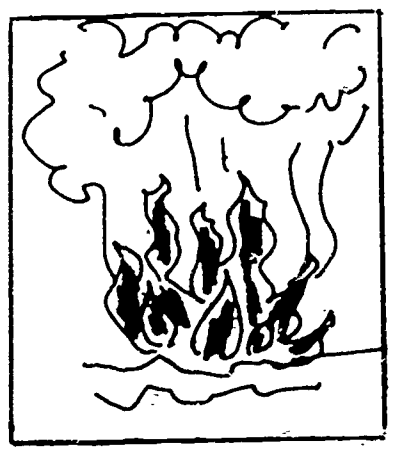
0- insufficient: He fights the fire. He climbs the ladder.
1- descriptive: The fireman (holds, fights with, carries) a hose.
2- categorical: It's the fireman's tool (weapon).











59.

0- insufficient: It's a foot. You wear a sock in a shoe.
1- descriptive: Foot goes with shoe.
2- categorical: shoe goes on foot. You wear shoe on your foot.