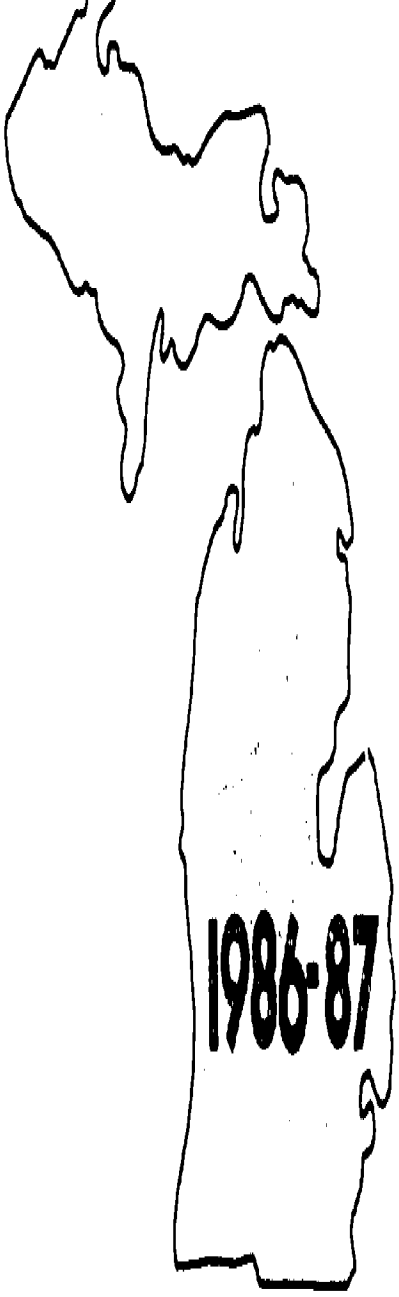
The Michigan Educational Assessment Program (MEAP) is a statewide testing program in reading and mathematics, with other subject areas tested on a sampling basis. The MEAP tests are administered every fall to all fourth, seventh and tenth graders. This handbook was developed to assist educators in analyzing, using, and reporting MEAP test results. It includes an overview of the program and the description of the tests; numbers of objectives and test items for each skill area; suggested methods; techniques and strategies for using the results at the school, student, and district levels; and a discussion of the appropriate uses of the test results. Appendices include: (1) illustrated examples of how to read each of the report forms, (2) test objectives and example items for each subject and grade level, (3) a list of items measuring each grade objective, (4) variables that make a difference, (5) a flyer entitled "Understanding and Using the Individual Student Report," (6) special notes for adult educators, and (7) a listing of resource materials which can help educators use and report MEAP results. (JAZ)

Handbook



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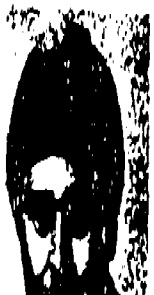


Betty L. Stevens
Consultant
Michigan Educational Assessment Program

MICHIGAN DEPARTMENT OF EDUCATION

intermediate district educators in the use and reporting of MEAP results. The instructional specialist staff will continue to train educators in the use of effective instructional strategies and in curriculum review and revision processes.

The MEAP Handbook presents ways to use the MEAP test results. Because these activities are based on methods that worked in schools and because the techniques acknowledge the resource constraints of local schools, they can be used in schools and districts of various sizes and types. Whether they are applied is the choice of local staff.

Learning the basic skills is essential, but not sufficient. Educators must increase efforts to provide a well rounded curriculum, adjusted to specific needs of their community. Challenging the high achieving students is equally as important as motivating the lower achieving students. Basic skills instruction should not take the place of other effective school programs, but rather, should serve as a cornerstone.

Phillip E. Runkel
Superintendent of Public Instruction

APPENDIX

techniques, and strategies for using the results (Section II), and a discussion of the appropriate uses of MEAP test results (Section III).

Also provided is an illustrated explanation of how to read each of the report forms, and explanation of the Proportions Report (Appendix A). The objectives tested, with example test items and a list of item numbers measuring each objective, can be found in Appendix B and Appendix C.

As in the past, not all of the essential performance objectives for reading or mathematics are tested. Appendix B contains only

to help explain the test results to individual students and parents.

"Special Notes for Adult Educators" are provided in Appendix F. These notes highlight the specific sections of the Handbook which will help adult educators read and use their MEAP test results.

Finally, a large number of resources have been developed to help local educators use and report MEAP results. A list of these resources and instructions for ordering them can be found in Appendix G.

students from highest to lowest in each of four subject areas (vocabulary, reading comprehension, English usage, and arithmetic). The information provided by these tests did not adequately serve the purpose of MEAP to provide information on the status and progress of Michigan basic skills education. An alternative method of assessing student achievement was needed.

In the fall of 1971, referent groups were formed to develop specific performance objectives in the basic skills areas. The groups were composed of local, state, and higher education curriculum specialists and teachers from throughout Michigan. Groups submitted draft objectives for statewide review by grade level commissions and the Elementary and Secondary Education Council. The final objectives were approved and adopted by the State Board of Education. Objective-referenced tests were developed by Michigan educators to measure specified basic skills attainment.

When the essential performance objectives were developed in 1972, no empirical evidence on the objectives was available and

Test Description

The current assessment tests are objective-referenced sets o items measuring selected essential performance objectives* in th subject areas of reading, mathematics, and science. Each objectiv (Appendix B) is measured by a set of three items. Objective attain ment is answering correctly at least two of the three item measuring each objective. The untimed tests allow students to worl at their own pace.

The tests were written by Michigan educators and field teste twice on a statewide sample of students. Following each tryout the tests were reviewed and refined. The revised tests wer

*Because of testing time limitations, not all of the essential performance objective for reading or mathematics are included in the annual educational assessment. A of the essential performance objectives for grades one through nine may be found i the Essential Performance Objectives for Communication Skills and Essentia Performance Objectives for Mathematics.

by the State Board of Education and administered on a basis in 1980-81.

MCTM and MRA helped supervise the test development ıd participated in the test review and revision processes, a review of the 1980-81 statewide tests and results. The est results provided a new baseline to which the 1981-82 e results can be compared.

s, as in the past, are reported both in terms of percentage ts attaining each objective and in terms of percent of falling in each category of achievement.

below are the number of objectives and test items used **ading** tests:

nitive Skills (Areas I-V)		Positive Responses to Reading (Skill Area VI)		Related Reading Activities
ber of ctives	Number of Test Items	Number of Objectives	Number of Test Items	Number of Test Items
25	75	4	12	3
23	69	4	12	3
24	72	4	12	3

ositive response test items are used to determine the which students read on their own, talk about what they quest additional reading materials. The related activities easure any specific objectives but are used to determine nt of time students spend doing homework, watching and reading just for fun. Because these items are n nature, they are listed separately here and are not n the proportions data. Objective attainment rates for ve response items are calculated and reported on the ıd School Summary.

The number of **mathematics** objectives and test items tested at each level are shown below:

	Core Test		Correlated Tests	
Grade	Number of Objectives	Number of Test Items	Number of Objectives	Number of Test Items
4	28	84	8	24
7	28	84	8	24
10	28	84	8	24

The mathematics tests are comprised of a core test of 28 objectives and a correlated test. Each grade level contains eight correlated objectives.

Individual student, classroom, school, and district results are calculated for each objective in the core test and in the correlated test. This provides districts with information on additional mathematics objectives and gives them more data with which to examine their instructional programs. Proportions data are calculated using the **core** objectives only; correlated objectives are not included. Statewide results are calculated for each objective in the core test and in the correlated tests.

Shown below are the number of objectives and test items used in the **science** tests:

Grade	Number of Objectives	Number of Test Items
4	30	90
7	31	93
10	32	96

The Technical Report provides more detail on the characteristics of the tests. Table I shows the skill areas tested in each of the reading, mathematics and science tests.

TABLE I

MEAP: THE SKILL AREAS ASSESSED

		GRADE FOUR		GRADE SEVEN		GRADE TEN	
		SKILL AREA	NO. OF OBJECTIVES	SKILL AREA	NO. OF OBJECTIVES	SKILL AREA	NO. OF OBJECTIVES
READING TEST		Vocabulary Meaning	6	Vocabulary Meaning	5	Vocabulary	5
		Literal Comprehension	5	Literal Comprehension	5	Literal Comprehension	5
		Inferential Comprehension	9	Inferential Comprehension	7	Inferential Comprehension	8
		Critical Reading Skills	1	Critical Reading Skills	2	Critical Reading Skills	3
		Related Study Skills	4	Related Study Skills	4	Related Study Skills	3
		Sub-Total	25	Sub-Total	23	Sub-Total	24
		Positive Response/Reading*	4	Positive Response/Reading*	4	Positive Response/Reading*	4
MATHEMATICS TEST	CORE	Numeration	9	Numeration	2	Whole Numbers	2
		Whole Numbers	12	Whole Numbers	8	Decimals	6
		Fractions	2	Decimals	3	Fractions	8
		Metric Measurement	2	Fractions	6	Ratio, Proportions & Percent	2
		Non-Metric Measurement	1	Metric Measurement	4	Metric Measurement	2
		Geometry	2	Non-Metric Measurement	2	Non-Metric Measurement	3
		Sub-Total	28	Geometry	2	Geometry	1
				Probability & Statistics	1	Probability & Statistics	2
				Sub-Total	28	Equations, Expressions & Graphs	2
						Sub-Total	28
	CORRELATES*	Numeration	1	Numeration	1	Whole Numbers	1
		Whole Numbers	5	Whole Numbers	2	Decimals	3
		Geometry	1	Decimals	2	Proportions	2
		Decision Making & Problem Solving	1	Fractions	2	Metric Measurement	1
		Sub-Total	8	Metric Measurement	1	Non-Metric Measurement	1
				Sub-Total	8	Sub-Total	8
SCIENCE TEST		Life Science	5	Life Science	6	Life Science	6
		Earth & Space Science	4	Earth & Space Science	5	Earth & Space Science	4
		Physical Science	6	Physical Science	7	Physical Science	7
		Science Process	13	Science Process	10	Science Process	12
		Science, Tech & Society	2	Science, Tech & Society	3	Science, Tech & Society	3
		Total	30	Total	31	Total	32

*Attainments on the Reading Positive Response objectives and the Mathematics correlated objectives are not included in the Proportions Report.

SECTION II

USING MEAP TEST RESULTS

s section the uses of MEAP results will be discussed. Since igan Educational Assessment Program is accepted as one of the achievement of Michigan students, many different s are interested in the test results. Therefore, it is t to understand the appropriate ways MEAP can be used rted. Appropriate use and reporting of MEAP results a coordinated effort at the classroom, school and district or the sake of convenience and to point out different l responsibilities, the coordinated district-wide process arbitrarily subdivided into school level use, individual se and district level use.

EFFECTIVE SCHOOLS

nain use of MEAP test results is to focus on student ent. By examining the results and developing and ting a curriculum plan, a school takes significant steps proving student achievement. This effort necessitates a involvement. Each staff member should be committed to ovement process and take responsibility for his or her ion in it. It is critical that the building principal be y involved and allow and encourage all teachers and taff to participate as well.

ving is a list of principles, each focusing on a variable that s student achievement. These principles evolved from a review of educational studies and research. The first part iew focused on those characteristics which educators can elp students learn. As a staff sets about to make changes, nt principles should be taken into account:

- The more time spent on instruction the greater the chievement gain.
- The greater the amount of parental involvement the greater the achievement.
- High expectations on the part of the principal are associated with greater achievement.
- High teacher expectations are associated with high achievement.
- Higher achievement gains are more likely to occur in classrooms characterized by a high degree of structure with teachers who are supportive.
- The use of positive feedback reinforcement by teachers is associated with greater achievement.
- The use of tutoring is related positively to achievement.
- Recitation promotes greater achievement gains. (See Appendix D for more information.)

Since schools interested in implementing some or all of the eight principles must go through a process of change, the second part of the literature review focused on this change process. It was concluded that educational change differs from change in other organizational settings. Following are five issues relevant to educational change:

- Meaningful change occurs as a process, not as an event.
- Continuous personal participation of the implementing staff is needed to firmly root and sustain change.
- Administrators play a crucial role in supporting a change process.

Material resources at the "how to" level are needed, particularly for changes in organization or instruction.

Direct personal intervention is by far the most potent technical support resource, and may be a necessary condition for many forms of change.

SCHOOL LEVEL USE

chool building is the key unit for change, school staff ers play key roles in determining the nature and direction of vement efforts. Therefore, use of the MEAP results at the ng level provides the best means for impacting student ement.

Use MEAP?

MEAP focuses on student achievement.

MEAP test results provide valuable information on the status of basic skills education in schools.

MEAP helps match skill needs with curriculum and instructional programs.

MEAP helps teachers plan group and individual instruction.

Should Be Involved?

The School Principal should provide the leadership and direction in this team effort.

School personnel should use MEAP test results to help:

* identify the skill needs of students tested;
* review the curriculum and instructional programs;
* establish instructional priorities for the school year;
* involve parents in the educational process.

- Parents can use the MEAP results to determine a chil progress in acquiring basic math and reading skills.

How Should the Principal Provide Leadership a Direction?

- The principal's major responsibilities are to:

  * hand out test results to staff promptly;
  * organize and direct the MEAP School Utilizati Team;
  * provide leadership for staff in their effort to enhar the school curriculum and instructional programs;
  * report school test results and a proposed plan of acti to parents;
  * maintain high expectations;
  * place a strong emphasis on accomplishment of obj tives; and
  * assume responsibility for meeting objectives.

How Should The School Team Use MEAP Results?

- The school team's major responsibilities are to:

  * explore staff expectations of the students;
  * examine test results to identify problems and nee
  * conduct a curriculum and instructional progr review to determine current strategies used to tea the skills that are tested; and
  * make decisions, set goals and devise a plan of action address needs (based upon findings).

Meaningful change will occur when there is continuous perso participation by the implementing staff.

- Two-way communication is essential. Everyone should aware of what everyone else is doing, in terms of wh where and when skills are taught, what needs ea perceives, and finally, how each can help the other.

esources are Available for the Staff Effort?

Iichigan School Improvement Project — M-SIP

I-SIP is a problem solving process designed to translate to practice the eight variables that influence student chievement and the five factors associated with educa-onal change. It is a structured process through which hool staffs can cooperatively identify and address their ost needed areas for improvement. The project inte-ates democratic principles of participation in decision aking with research on instructional and school effective-ess. There are facilitators at the state level and at the termediate school districts, available at little or no cost local districts.

laterials have been developed to help school staffs use EAP test results.

* Monograph #3 tells how to use MEAP test results for curriculum and program review. Major steps in the review process are given. For each step, the resources which are available are described and the procedures for implementing the step are explained: (1) determine staff expectations, (2) examine student performance, (3) set criteria at the school level, (4) examine the current delivery system, (5) make decisions and set goals, and (6) develop a plan of action. Examples of many of the resources are included in the appendices of this monograph.

* Monograph #4 provides ideas about ways to report MEAP test results to parents. A discussion of why MEAP test results should be shared with parents is provided. Persons who should be involved in the preparation for reporting and in the actual reporting are identified. Four models for parent reporting are described:

  — **Model A, Individual Parent/Teacher Conferences,** is recommended. It personalizes the results, for two-way communication, and gets parents involved.

  — **Model B,** to mail or send the Pamphlet for Parents home with the student is the least desirable method of reporting. However, something is better than nothing when communicating with parents.

  — **Model C, Group PTA Meetings,** has the advantage of putting MEAP into the larger context of the total school program.

  — **Model D,** to provide school level MEAP test results to the school community at large, is an important component of a total reporting program. Because of the general interest in test performance, reporting MEAP results within a total school context provides an excellent opportunity to report, not only the test results, but also the activities which will be done based on conclusions drawn from the test results.

Appendix G provides a complete list of available resource materials.

TEPS THE SCHOOL TEAM MAY WANT TO SIDER WHEN USING MEAP TEST RESULTS

sing the **School Summary Report,** examine objective tainment levels.

sing the **Feeder School Report,** examine the objecve attainment levels of students who are no longer in the uilding.

stablish an acceptable criterion level of attainment for e school.

st in priority order all objectives (from both the **School ummary Report** and the **Feeder School Report**) lling below the acceptable criterion level set in #3.

etermine where the MEAP objectives are currently ing taught in the instructional sequence in the building d what instructional materials are used.

entify the present needs.

ake decisions, set goals, and outline a plan of action. are the plan with the full staff.

itiate a plan of action.

t up an evaluation mechanism.

INDIVIDUAL STUDENT USE

How can MEAP Test Results Be Used to Help Individual Students Tested?

- Before using MEAP test results to help an individual student, the following questions should be answered:
  - * What are the MEAP objectives? (reading, mathematics, and science, grades four, seven and ten.)
  - * Are the objectives tested part of the curriculum in earlier or later grades?
  - * Where are the objectives introduced, taught, reviewed?
  - * Which objectives are most important, at this point in time, for this student?
  - * What is the best approach to instruction?
- Responsibility for using MEAP test results:
  - * In **elementary schools** this responsibility is most frequently that of the fourth grade teachers.
  - * In **secondary schools** responsibilities must be assigned to specific staff members.

What Resources are Available for Helping Individual Students Tested?

- Monograph #2 tells how MEAP test results can be used to identify and address individual student weaknesses on the skills tested. Major steps in the process are provided, along with identification of resources to assist in implementing each step.

The flyer, entitled "Understanding and Using the Individual Student Report" explains why the test was given, what the report means, and how the results can be used to identify skill weaknesses. It can be used by teachers in conferences with students and parents. It can also be used by students examining their Individual Student Report independently. The flyer can be removed from the handbook and duplicated (See Appendix E).

The instructional support materials can be used as a tool to inservice local personnel or as a resource by individual teachers.

* MATHEMATICS: Five areas of instruction (Fractions, Decimals, Ratio and Proportions, Percent and Whole Number Computation) have been addressed in two sets of mathematics materials. These materials were prepared to assist teachers whose students are having difficulties in one or more of these areas.

* READING: Support materials are available from the Michigan Reading Association. For information on ordering these, see Appendix G.

* **Other:** Materials have also been developed in other subject areas and specifically for secondary schools (see Appendix G).

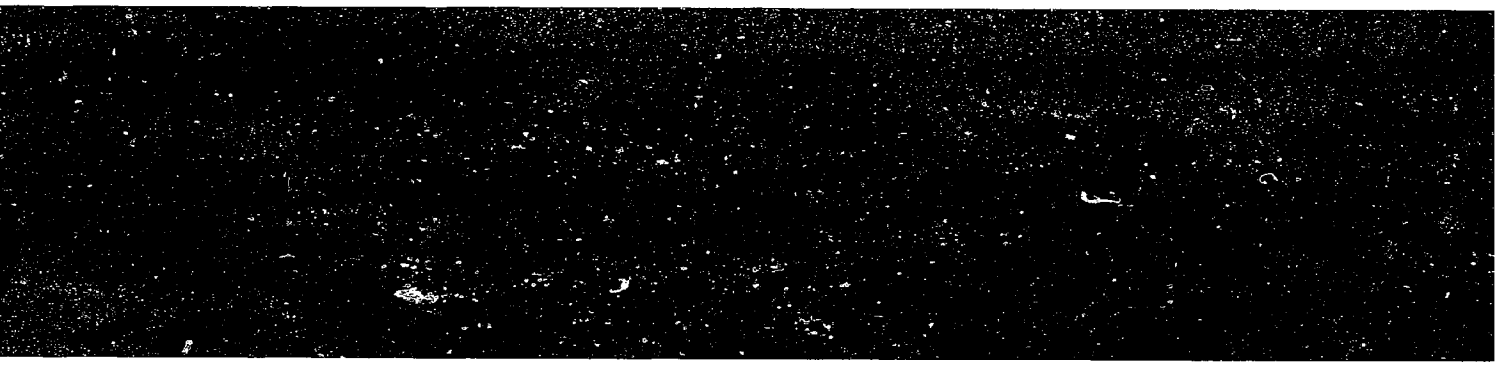
THINGS TO KEEP IN MIND WHEN HELPING INDIVIDUAL STUDENTS

1. Students want to know their test results as soon as possible.
2. Students appreciate explanations and interpretations of their results and usually respond positively to concern and encouragement.
3. Individual student characteristics should be kept in mind when interpreting test results.
4. Individual student needs may vary from school priorities.
5. The amount of instruction time is limited (remediation versus teaching new skills).
6. Individual students with the same needs can be grouped for instruction.
7. Some types of remediation can be integrated into on-going activities.
8. A plan of action to address needs must be developed and communicated to students and parents.
9. Test results and performance objectives should be related to the instructional materials and curriculum being used in the school.

The manner in which MEAP test results are shared by district officials will have a significant impact on the overall usefulness of the results.

The importance of interpretation cannot be overemphasized. The educational assessment program provides much information. Teachers, principals, and other district personnel should understand what the assessment data mean to them. With no "official" interpretation, media people, citizens, parents, and students may provide their own meanings of the data. If these interpretations are improper or based on limited information, they may be difficult for school personnel to correct.

- Examine district MEAP results to see how student performed.
- Compare MEAP results to other district-level measures c achievement.
- Prepare a report which includes the complete assessmen results. Highlight both strengths and weaknesses. Includ interpretations, implications, and the plan of action. Mak the report available to all interested persons.
- Construct a picture of the district's instructional an evaluation programs showing MEAP as part of othe testing done in the district.



APPENDIX A

THE EDUCATIONAL ASSESSMENT REPORT FORMS

educators will receive various reports from the Michigan al Assessment Program. These reports are returned to ndents, to principals in School folders, and to teachers in folders. The following reports (exceptions noted) are for grades four, seven, and ten:

dual Student Report
oom Listing Report
Summary Report (includes Proportions data)
t Summary Report (includes Proportions data)
tem Analysis — Classroom, School, District
Pamphlet
School Report (optional) — grade seven and grade ten
ch Code Report (optional)

Reading the Reports

llowing illustrations of the report forms are designed to iduals interpret the assessment data. The major sections trated forms are coded with capital letters which match planations in the narrative. However, reading the report ly the first step in using the assessment data. A detailed of how to use the assessment results can be found in the is **Handbook.**

vidual Student Report. The Individual Student esents a student's performance on each test item for all ives tested and indicates attainment or non-attainment jective. A student must correctly answer at least 2 of 3 ons to attain an objective. Two copies of this report are for each student who participated in the assessment. orts are available from the building principal. Figure 1 a Grade 4 Individual Student Report form.

n A, at the top of the report, contains identification n — name of report, grade, student name and number (optional), teacher name and class section number, district name, school name, student age and school year.

Section **B** gives the objective code which matches the objectives to the Michigan Department of Education set of Minimal Performance Objectives for Mathematics.

Section **C** gives the brief description of the mathematics objectives grouped by the mathematics skill area to which they belong.

Section **D** indicates the test item numbers that measure each mathematics objective and whether the student's response was correct or incorrect for each item. A correct response is indicated by a plus (+) sign. An incorrect response is shown by a letter (A-D) which indicates the student's incorrect answer choice. The letter "M" means that the student has marked more than one answer choice. An asterisk (*) is used to indicate that the student did not respond to an item, and a blank space indicates the student did not reach that item in the test.

Section **E** shows the number of items answered correctly for each mathematics objective.

Section **F** gives objective attainment. "Y" indicates attainment, "N" indicates non-attainment, and "O" indicates that the student did not progress far enough through the mathematics test for objective attainment to be reported. Students have to answer at least two of three items correctly to attain an objective.

Section **G** shows the total number of objectives tested and the total number of objectives attained, along with the student's Category of Achievement (1, 2, 3, or 4). This is based on the number of objectives attained and is further explained in the discussion of the Proportions Report.

The information described in Sections **A-G** is then repeated for the reading and science objectives tested. The Related Activities/ Reading items do not measure specific objectives. Although the student's response to each of these items is given, the "No. Corr." and "Obj. Att." columns will be blank.

strengths and weaknesses.

As areas for improvement are identified, preliminary plans for correcting deficiencies should be presented. The board can then identify priority areas and consider possible reallocations of district resources.

Plan and adapt your board presentation accordingly.

the community at large:

Capitalize on public interest—past experience has shown that the public reporting of MEAP test results generates a lot of interest. Take advantage of this excellent opportunity to improve public relations.

during the course of the entire year.

* Respond to all inquiries in a positive, honest manner. Even if the results are less than "glowing," acknowledge needs openly and indicate the plans for improvement or steps that are already underway to correct deficiencies. Be sure to mention areas which have shown improvement over a period of time.

* Use the MEAP presentation as an opportunity to generate parents' interest in their children's educational progress. Awareness of the larger school environment and the context in which testing is done helps to enlist school support.

FIGURE 1

MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM

INDIVIDUAL STUDENT REPORT
GRADE 4 MATHEMATICS

Student: SMITH HOWARD P — A → Student No:
Teacher: HEMFORD HOWARD — Section:
District: MICHVILLE — Age: 09-09
School: MIO-CITY ELEMENTARY — School Year: 1986-87

B → Obj Code	Skill Areas and Objectives	Item Numbers and Responses			No. Corr	Obj Att?
	NUMERATION					
10-5	ORDER SETS: FEWER	133 +	134 +	135 +	3	Y
10-7	ORDER SETS: FEWEST	169 +	170 +	171 +	3	Y
16-2	PLACE VALUE: HUNDRED CHART	97 +	98 +	99 +	3	Y
16-4	EXPAND 2-DIGIT NUMERAL	151 +	152 +	153 +	3	Y
16-7	EXPAND 3-DIGIT NUMERAL W/WORDS	121 +	122 +	123 +	3	Y
16-8	EXPAND 3-DIGIT NUMERAL	165 B	164 C	165 +	1	N
16-9	ABC > CBA OR ABC < CBA	112 +	113 +	114 +	3	Y
16-10	ORDER SET OF NUMERALS	109 +	110 +	111 +	3	Y
17-1	NEXT NUMBER IN SEQUENCE	124 +	125 +	126 +	3	Y
	WHOLE NUMBERS					
23-1	AB + C, NO REGROUPING	154 +	155 B	156 +	2	Y
23-3	AB + CD, NO REGROUPING	115 B	116 D	117 C	0	N
24-1	AB + C, WITH REGROUPING	118 +	119 A	120 +	2	Y
24-2	AB + CD, WITH REGROUPING	160 +	161 +	162 +	3	Y
29-2	SUBTRACTION: NUMBER SENTENCE	100 +	101 +	102 +	3	Y
30-1	AB - C, NO REGROUPING	166 +	167 +	168 +	3	Y
30-2	AB - CD, NO REGROUPING	148 B	149 +	150 +	2	Y
31-1	AB - C, WITH REGROUPING	145 +	146 +	147 +	3	Y
35-3	A + A + A... = A × B	130 +	131 B	132 B	1	N
35-6	A × B = A + A + A...	157 +	158 +	159 +	3	Y
36-1	A × 1 = ?	139 +	140 +	141 +	3	Y
36-3	A × B; A;B < 6	142 +	143 +	144 +	3	Y
	FRACTIONS					
79-4/6	IDENTIFY CONGRUENT PARTS	136 +	137 +	138 +	3	Y
79-13	SHADED REGIONS: 1/2, 1/3, 1/4	106 +	107 +	108 +	3	Y
	METRIC MEASUREMENT					
107-8	LENGTH: NEAREST CM	91 +	92 +	93 +	3	Y
143-2	TEMPERATURE	103 +	104 +	105 +	3	Y
	NON-METRIC MEASUREMENT					
147-6	TIME: NEAREST HOUR	94 +	95 +	96 +	3	Y
	GEOMETRY					
156-1	SHAPES	127 +	128 +	129 +	3	Y
163-1	PROPERTIES OF FIGURES	172 +	173 +	174 +	3	Y
	CORRELATED OBJECTIVES					
17-3	NUMERATION: ODD OR EVEN	175 +	176 +	177 +	3	Y
26-3	WHOLE NUMBERS: SUBTRACTION	190 +	191 D	192 C	1	N
29-4	WHOLE NUMBERS: A - B; A;B < 19	161 C	162 C	163 +	1	N
31-2	WHOLE NUMBERS: AB - CD	178 +	179 +	180 +	3	Y
35-4	WHOLE NUMBERS: 2 × A = ?	167 +	168 +	169 +	3	Y
36-2	WHOLE NUMBERS: A × D = ?	193 +	194 +	195 +	3	Y
48-5	WHOLE NUMBERS: WORD PROBLEMS	196 +	197 +	198 +	3	Y
156-3	GEOMETRY: SHAPES	184 +	185 +	186 +	3	Y

F → E

Summary of Student Performance

G →

	CORE	CORRELATED
Total Objectives:	28	6
Objectives Attained:	25	6
Category of Achievement:	4	

MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM

INDIVIDUAL STUDENT REPORT
GRADE 4 READING

Student: SMITH HOWARD P — Student No:
Teacher: HEMFORD HOWARD — Section:
District: MICHVILLE — Age: 09-09
School: MIO-CITY ELEMENTARY — School Year: 1986-87

Obj Code	Skill Areas and Objectives	Item Numbers and Responses			No. Corr	Obj Att?
	VOCABULARY MEANING					
IA	PREFIXES	1 +	2 +	3 D	2	Y
IB	SUFFIXES	20 +	21 +	22 +	3	Y
IC	MULTIPLE MEANINGS	52 +	53 +	54 B	2	Y
ID	SYNONYMS	4 +	5 M	6 +	2	Y
IE	ANTONYMS	37 M	38 +	39 +	2	Y
IF	CONTEXT	66 +	67 +	68 +	3	Y
	LITERAL COMPREHENSION					
IIB	MAIN IDEA	7 D	26 M	48 +	1	N
IIC	MAIN IDEA DETAILS	14 M	42 +	63 +	2	Y
IIE	SEQUENCE	18 +	30 +	46 +	3	Y
IIF	CAUSE/EFFECT	10 +	32 +	58 B	2	Y
IIG	LIKENESS/DIFFERENCE	9 D	28 +	50 +	2	Y
	INFERENTIAL COMPREHENSION					
IIIA	MAIN IDEA	13 M	41 +	62 +	2	Y
IIIB	CAUSE/EFFECT	17 M	29 +	45 +	2	Y
IIIC	PROBABLE OUTCOME	40 +	73 +	75 +	3	Y
IIID	MAIN IDEA DETAILS	8 D	27 +	69 B	1	N
IIIE	SEQUENCE	11 +	33 +	59 +	3	Y
IIIF	LIKENESS/DIFFERENCE	15 M	43 C	64 +	1	N
IIIG	CONCLUSIONS	12 +	36 M	60 +	2	Y
IIIH	ANALOGIES	69 +	70 +	71 +	3	Y
IIII	CHARACTERS	16 M	44 +	65 B	1	N
	CRITICAL READING SKILLS					
IVA	AUTHOR'S PURPOSE	61 +	72 +	74 +	3	Y
	RELATED STUDY SKILLS					
VA	REFERENCES, AWARENESS	23 +	24 M	25 M	1	N
VB	REFERENCES, USE	35 M	36 M	51 +	1	N
VD	SUMMARIZING	19 +	31 +	47 +	3	Y
VF	ALPHABETIZING	55 +	56 +	57 +	3	Y
	POSITIVE RESPONSE/READING					
VIA	READ IN FREE TIME	76 +	77 +	78 +	3	Y
VIB	VISIT READING PLACES	79 C	80 D	81 +	1	N
VIC	REQUEST EXTRA READING	82 +	83 +	84 +	3	Y
VIO	TALK ABOUT READING	85 C	86 D	87 O	0	N
RELATED	READING ACTIVITIES	88 O	89 A	90 A		

Summary of Student Performance

	CORE	POSITIVE RESPONSE/READING
Total Objectives:	25	4
Objectives Attained:	19	2
Category of Achievement:	4	

SECTION II

USING MEAP TEST RESULTS

scussed. Since
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herefore, it is
P can be used
MEAP results
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out different
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veloping and
nificant steps
necessitates a
committed to
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principal be
teachers and

a variable that
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The first part
educators can
make changes,

e greater the

- The greater the amount of parental involvement the greater the achievement.
- High expectations on the part of the principal are associated with greater achievement.
- High teacher expectations are associated with high achievement.
- Higher achievement gains are more likely to occur in classrooms characterized by a high degree of structure with teachers who are supportive.
- The use of positive feedback reinforcement by teachers is associated with greater achievement.
- The use of tutoring is related positively to achievement.
- Recitation promotes greater achievement gains. (See Appendix D for more information.)

Since schools interested in implementing some or all of the eight principles must go through a process of change, the second part of the literature review focused on this change process. It was concluded that educational change differs from change in other organizational settings. Following are five issues relevant to educational change:

- Meaningful change occurs as a process, not as an event.
- Continuous personal participation of the implementing staff is needed to firmly root and sustain change.
- Administrators play a crucial role in supporting a change process.

Material resources at the "how to" level are needed, particularly for changes in organization or instruction.

Direct personal intervention is by far the most potent technical support resource, and may be a necessary condition for many forms of change.

SCHOOL LEVEL USE

ool building is the key unit for change, school staff s play key roles in determining the nature and direction of ment efforts. Therefore, use of the MEAP results at the level provides the best means for impacting student ent.

se MEAP?

MEAP focuses on student achievement.

MEAP test results provide valuable information on the status of basic skills education in schools.

MEAP helps match skill needs with curriculum and instructional programs.

MEAP helps teachers plan group and individual instruction.

ould Be Involved?

The School Principal should provide the leadership and direction in this team effort.

School personnel should use MEAP test results to help:

* identify the skill needs of students tested;
* review the curriculum and instructional programs;
* establish instructional priorities for the school year;
* involve parents in the educational process.

- Parents can use the MEAP results to determine a child's progress in acquiring basic math and reading skills.

How Should the Principal Provide Leadership and Direction?

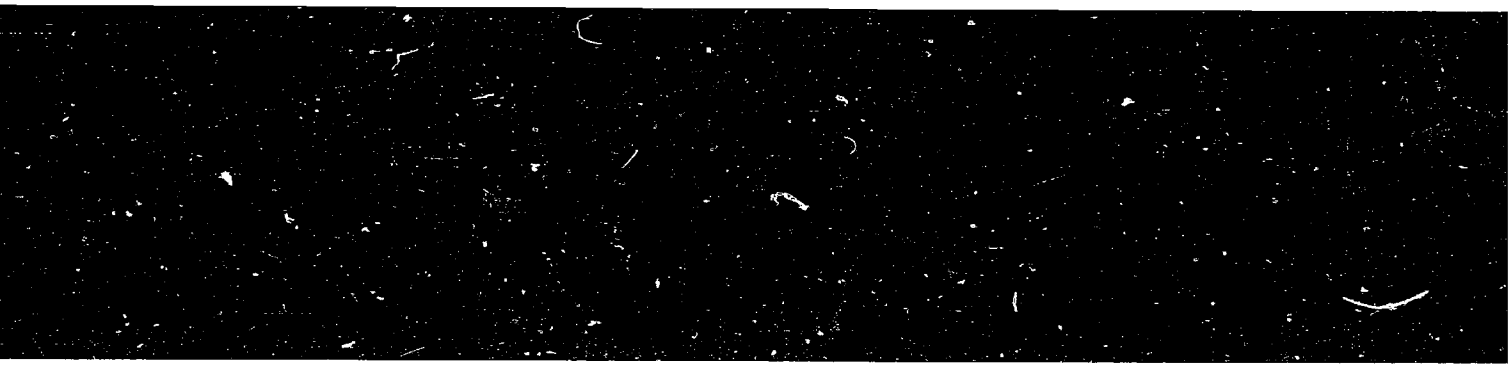
- The principal's major responsibilities are to:
  * hand out test results to staff promptly;
  * organize and direct the MEAP School Utilization Team;
  * provide leadership for staff in their effort to enhance the school curriculum and instructional programs;
  * report school test results and a proposed plan of action to parents;
  * maintain high expectations;
  * place a strong emphasis on accomplishment of objectives; and
  * assume responsibility for meeting objectives.

How Should The School Team Use MEAP Results?

- The school team's major responsibilities are to:
  * explore staff expectations of the students;
  * examine test results to identify problems and needs;
  * conduct a curriculum and instructional program review to determine current strategies used to teach the skills that are tested; and
  * make decisions, set goals and devise a plan of action to address needs (based upon findings).

Meaningful change will occur when there is continuous personal participation by the implementing staff.

- Two-way communication is essential. Everyone should be aware of what everyone else is doing, in terms of what where and when skills are taught, what needs each perceives, and finally, how each can help the other.



ources are Available for the Staff Effort?

higan School Improvement Project — M-SIP

IP is a problem solving process designed to translate practice the eight variables that influence student evement and the five factors associated with educa- al change. It is a structured process through which ol staffs can cooperatively identify and address their t needed areas for improvement. The project inte- es democratic principles of participation in decision ing with research on instructional and school effective- . There are facilitators at the state level and at the rmediate school districts, available at little or no cost cal districts.

erials have been developed to help school staffs use AP test results.

Monograph #3 tells how to use MEAP test results for curriculum and program review. Major steps in the review process are given. For each step, the resources which are available are described and the procedures for implementing the step are explained: (1) determine staff expectations, (2) examine student performance, (3) set criteria at the school level, (4) examine the current delivery system, (5) make decisions and set goals, and (6) develop a plan of action. Examples of many of the resources are included in the appendices of this monograph.

* Monograph #4 provides ideas about ways to report MEAP test results to parents. A discussion of why MEAP test results should be shared with parents is provided. Persons who should be involved in the preparation for reporting and in the actual reporting are identified. Four models for parent reporting are described:

— **Model A, Individual Parent/Teacher Conferences,** is recommended. It personalizes the results, for two-way communication, and gets parents involved.

— **Model B,** to mail or send the Pamphlet for Parents home with the student is the least desirable method of reporting. However, something is better than nothing when communicating with parents.

— **Model C, Group PTA Meetings,** has the advantage of putting MEAP into the larger context of the total school program.

— **Model D,** to provide school level MEAP test results to the school community at large, is an important component of a total reporting program. Because of the general interest in test performance, reporting MEAP results within a total school context provides an excellent opportunity to report, not only the test results, but also the activities which will be done based on conclusions drawn from the test results.

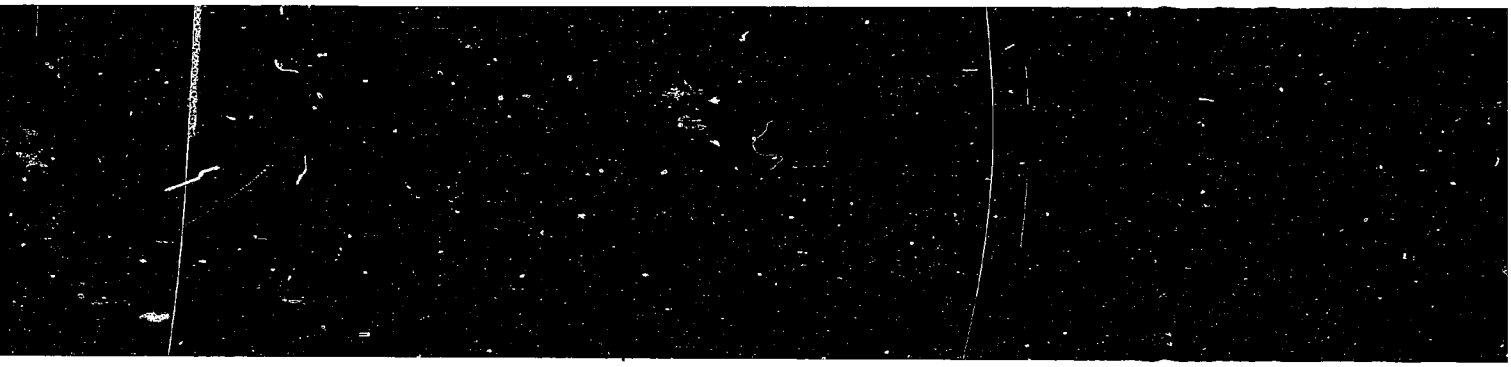
Appendix G provides a complete list of available resource materials.

vided is an illustrated explanation of how to read each rt forms, and explanation of the Proportions Report A). The objectives tested, with example test items and m numbers measuring each objective, can be found in 3 and Appendix C.

e past, not all of the essential performance objectives or mathematics are tested. Appendix B contains only

"Special Notes for Adult Educators" are provided in Appendix F. These notes highlight the specific sections of the Handbook which will help adult educators read and use their MEAP test results.

Finally, a large number of resources have been developed to help local educators use and report MEAP results. A list of these resources and instructions for ordering them can be found in Appendix G.



TEPS THE SCHOOL TEAM MAY WANT TO SIDER WHEN USING MEAP TEST RESULTS

sing the School Summary Report, examine objective ttainment levels.

sing the Feeder School Report, examine the objec- ve attainment levels of students who are no longer in the uilding.

stablish an acceptable criterion level of attainment for e school.

st in priority order all objectives (from both the School ummary Report and the Feeder School Report) lling below the acceptable criterion level set in #3.

etermine where the MEAP objectives are currently ing taught in the instructional sequence in the building d what instructional materials are used.

entify the present needs.

ake decisions, set goals, and outline a plan of action. are the plan with the full staff.

itiate a plan of action.

t up an evaluation mechanism.

INDIVIDUAL STUDENT USE

How can MEAP Test Results Be Used to Help Individua Students Tested?

- Before using MEAP test results to help an individua student, the following questions should be answered:
  - * What are the MEAP objectives? (reading, mathemat ics, and science, grades four, seven and ten.)
  - * Are the objectives tested part of the curriculum i earlier or later grades?
  - * Where are the objectives introduced, taught, re viewed?
  - * Which objectives are most important, at this point i time, for this student?
  - * What is the best approach to instruction?
- Responsibility for using MEAP test results:
  - * In **elementary schools** this responsibility is mos frequently that of the fourth grade teachers.
  - * In **secondary schools** responsibilities must b assigned to specific staff members.

What Resources are Available for Helping Individua Students Tested?

- Monograph #2 tells how MEAP test results can be used t identify and address individual student weaknesses on th skills tested. Major steps in the process are provided, alon with identification of resources to assist in implementin each step.

he information provided by these tests did not adeerve the purpose of MEAP to provide information on the d progress of Michigan basic skills education. An alterthod of assessing student achievement was needed.

e fall of 1971, referent groups were formed to develop erformance objectives in the basic skills areas. The ere composed of local, state, and higher education n specialists and teachers from throughout Michigan. bmitted draft objectives for statewide review by grade nissions and the Elementary and Secondary Education he final objectives were approved and adopted by the ard of Education. Objective-referenced tests were by Michigan educators to measure specified basic skills t.

the essential performance objectives were developed in empirical evidence on the objectives was available and

The current assessment tests are objective-referenced sets of items measuring selected essential performance objectives* in the subject areas of reading, mathematics, and science. Each objective (Appendix B) is measured by a set of three items. Objective attainment is answering correctly at least two of the three items measuring each objective. The untimed tests allow students to work at their own pace.

The tests were written by Michigan educators and field tested twice on a statewide sample of students. Following each tryout, the tests were reviewed and refined. The revised tests were

*Because of testing time limitations, not all of the essential performance objectives for reading or mathematics are included in the annual educational assessment. All of the essential performance objectives for grades one through nine may be found in the Essential Performance Objectives for Communication Skills and Essential Performance Objectives for Mathematics.

he flyer, entitled "Understanding and Using the ndividual Student Report" explains why the test was ven, what the report means, and how the results can be sed to identify skill weaknesses. It can be used by achers in conferences with students and parents. It can so be used by students examining their Individual tudent Report independently. The flyer can be removed om the handbook and duplicated (See Appendix E).

he instructional support materials can be used as a tool inservice local personnel or as a resource by individual achers.

- MATHEMATICS: Five areas of instruction (Fractions, Decimals, Ratio and Proportions, Percent and Whole Number Computation) have been addressed in two sets of mathematics materials. These materials were prepared to assist teachers whose students are having difficulties in one or more of these areas.
- READING: Support materials are available from the Michigan Reading Association. For information on ordering these, see Appendix G.

Other: Materials have also been developed in other subject areas and specifically for secondary schools (see Appendix G).

THINGS TO KEEP IN MIND WHEN HELPING INDIVIDUAL STUDENTS

1. **Students want to know their test results as soon as possible.**
2. **Students appreciate explanations and interpretations of their results and usually respond positively to concern and encouragement.**
3. **Individual student characteristics should be kept in mind when interpreting test results.**
4. **Individual student needs may vary from school priorities.**
5. **The amount of instruction time is limited (remediation versus teaching new skills).**
6. **Individual students with the same needs can be grouped for instruction.**
7. **Some types of remediation can be integrated into on-going activities.**
8. **A plan of action to address needs must be developed and communicated to students and parents.**
9. **Test results and performance objectives should be related to the instructional materials and curriculum being used in the school.**

APPENDIX A

THE EDUCATIONAL ASSESSMENT REPORT FORMS

educators will receive various reports from the Michigan al Assessment Program. These reports are returned to ndents, to principals in School folders, and to teachers in folders. The following reports (exceptions noted) are for grades four, seven, and ten:

dual Student Report
oom Listing Report
Summary Report (includes Proportions data)
t Summary Report (includes Proportions data)
tem Analysis — Classroom, School, District
Pamphlet
School Report (optional) — grade seven and grade ten
rch Code Report (optional)

Reading the Reports

llowing illustrations of the report forms are designed to iduals interpret the assessment data. The major sections strated forms are coded with capital letters which match planations in the narrative. However, reading the report nly the first step in using the assessment data. A detailed of how to use the assessment results can be found in the is **Handbook.**

vidual Student Report. The Individual Student esents a student's performance on each test item for all ives tested and indicates attainment or non-attainment jective. A student must correctly answer at least 2 of 3 ions to attain an objective. Two copies of this report are for each student who participated in the assessment. orts are available from the building principal. Figure 1 a Grade 4 Individual Student Report form.

n **A**, at the top of the report, contains identification on — name of report, grade, student name and number (optional), teacher name and class section number, district name, school name, student age and school year.

Section **B** gives the objective code which matches the objectives to the Michigan Department of Education set of Minimal Performance Objectives for Mathematics.

Section **C** gives the brief description of the mathematics objectives grouped by the mathematics skill area to which they belong.

Section **D** indicates the test item numbers that measure each mathematics objective and whether the student's response was correct or incorrect for each item. A correct response is indicated by a plus (+) sign. An incorrect response is shown by a letter (A-D) which indicates the student's incorrect answer choice. The letter "M" means that the student has marked more than one answer choice. An asterisk (*) is used to indicate that the student did not respond to an item, and a blank space indicates the student did not reach that item in the test.

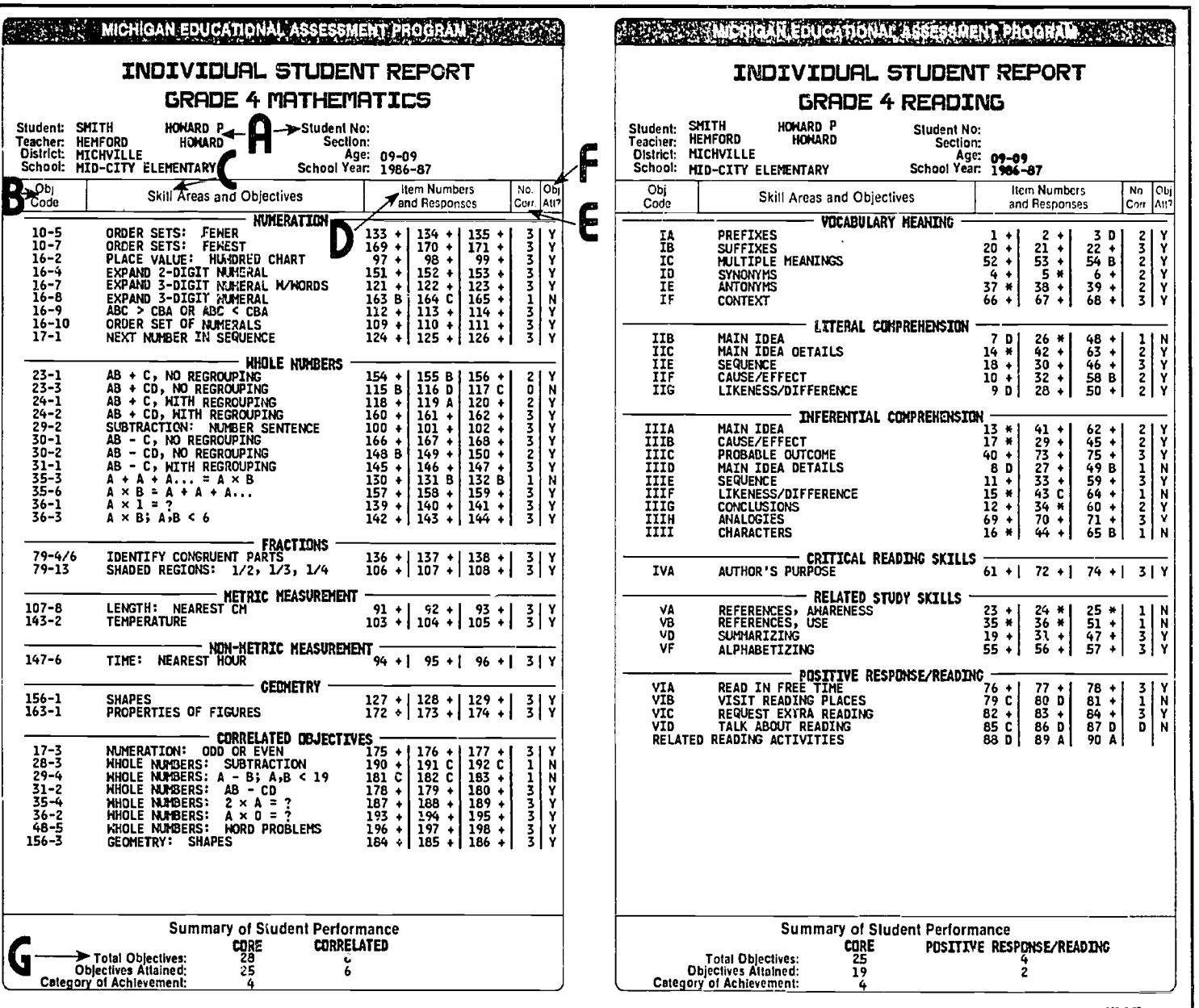
Section **E** shows the number of items answered correctly for each mathematics objective.

Section **F** gives objective attainment. "Y" indicates attainment, "N" indicates non-attainment, and "O" indicates that the student did not progress far enough through the mathematics test for objective attainment to be reported. Students have to answer at least two of three items correctly to attain an objective.

Section **G** shows the total number of objectives tested and the total number of objectives attained, along with the student's Category of Achievement (1, 2, 3, or 4). This is based on the number of objectives attained and is further explained in the discussion of the Proportions Report.

The information described in Sections **A-G** is then repeated for the reading and science objectives tested. The Related Activities/ Reading items do not measure specific objectives. Although the student's response to each of these items is given, the "No. Corr." and "Obj. Att." columns will be blank.

FIGURE 1



MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM

INDIVIDUAL STUDENT REPORT
GRADE 4 MATHEMATICS

Student: SMITH HOWARD P (A) Student No:
Teacher: HEMFORD HOWARD Section:
District: MICHVILLE Age: 09-09
School: MID-CITY ELEMENTARY School Year: 1986-87

(B) Obj Code	(C) Skill Areas and Objectives	(D) Item Numbers and Responses			No. Corr	(F) Obj Att?
	NUMERATION					
10-5	ORDER SETS: FEWER	133 +	134 +	135 +	3	Y
10-7	ORDER SETS: FEWEST	169 +	170 +	171 +	3	Y
16-2	PLACE VALUE: HUNDRED CHART	97 +	98 +	99 +	3	Y
16-4	EXPAND 2-DIGIT NUMERAL	151 +	152 +	153 +	3	Y
16-7	EXPAND 3-DIGIT NUMERAL W/WORDS	121 +	122 +	123 +	3	Y
16-8	EXPAND 3-DIGIT NUMERAL	163 B	164 C	165 +	1	N
16-9	ABC > CBA OR ABC < CBA	112 +	113 +	114 +	3	Y
16-10	ORDER SET OF NUMERALS	109 +	110 +	111 +	3	Y
17-1	NEXT NUMBER IN SEQUENCE	124 +	125 +	126 +	3	Y
	WHOLE NUMBERS					
23-1	AB + C, NO REGROUPING	154 +	155 B	156 +	2	Y
23-3	AB + CD, NO REGROUPING	115 B	116 D	117 C	0	N
24-1	AB + C, WITH REGROUPING	118 +	119 A	120 +	2	Y
24-2	AB + CD, WITH REGROUPING	160 +	161 +	162 +	3	Y
29-2	SUBTRACTION: NUMBER SENTENCE	100 +	101 +	102 +	3	Y
30-1	AB - C, NO REGROUPING	166 +	167 +	168 +	3	Y
30-2	AB - CD, NO REGROUPING	148 B	149 +	150 +	2	Y
31-1	AB - C, WITH REGROUPING	145 +	146 +	147 +	3	Y
35-3	A + A + A... = A × B	130 +	131 B	132 B	1	N
35-6	A × B = A + A + A...	157 +	158 +	159 +	3	Y
36-1	A × 1 = ?	139 +	140 +	141 +	3	Y
36-3	A × B; A>B < 6	142 +	143 +	144 +	3	Y
	FRACTIONS					
79-4/6	IDENTIFY CONGRUENT PARTS	136 +	137 +	138 +	3	Y
79-13	SHADED REGIONS: 1/2, 1/3, 1/4	106 +	107 +	108 +	3	Y
	METRIC MEASUREMENT					
107-8	LENGTH: NEAREST CM	91 +	92 +	93 +	3	Y
143-2	TEMPERATURE	103 +	104 +	105 +	3	Y
	NON-METRIC MEASUREMENT					
147-6	TIME: NEAREST HOUR	94 +	95 +	96 +	3	Y
	GEOMETRY					
156-1	SHAPES	127 +	128 +	129 +	3	Y
163-1	PROPERTIES OF FIGURES	172 +	173 +	174 +	3	Y
	CORRELATED OBJECTIVES					
17-3	NUMERATION: ODD OR EVEN	175 +	176 +	177 +	3	Y
28-3	WHOLE NUMBERS: SUBTRACTION	190 +	191 C	192 C	1	N
29-4	WHOLE NUMBERS: A - B; A,B < 19	181 C	182 C	183 +	1	N
31-2	WHOLE NUMBERS: AB - CD	178 +	179 +	180 +	3	Y
35-4	WHOLE NUMBERS: 2 × A = ?	187 +	188 +	189 +	3	Y
36-2	WHOLE NUMBERS: A × 0 = ?	193 +	194 +	195 +	3	Y
48-5	WHOLE NUMBERS: WORD PROBLEMS	196 +	197 +	198 +	3	Y
156-3	GEOMETRY: SHAPES	184 +	185 +	186 +	3	Y

Summary of Student Performance

(G)	CORE	CORRELATED
Total Objectives:	28	6
Objectives Attained:	25	6
Category of Achievement:	4	

MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM

INDIVIDUAL STUDENT REPORT
GRADE 4 READING

Student: SMITH HOWARD P Student No:
Teacher: HEMFORD HOWARD Section:
District: MICHVILLE Age: 09-09
School: MID-CITY ELEMENTARY School Year: 1986-87

Obj Code	Skill Areas and Objectives	Item Numbers and Responses			No Corr	Obj Att?
	VOCABULARY MEANING					
IA	PREFIXES	1 +	2 +	3 D	2	Y
IB	SUFFIXES	20 +	21 +	22 +	3	Y
IC	MULTIPLE MEANINGS	52 +	53 +	54 B	2	Y
ID	SYNONYMS	4 +	5 *	6 +	2	Y
IE	ANTONYMS	37 *	38 +	39 +	2	Y
IF	CONTEXT	66 +	67 +	68 +	3	Y
	LITERAL COMPREHENSION					
IIB	MAIN IDEA	7 D	26 *	48 +	1	N
IIC	MAIN IDEA DETAILS	14 *	42 +	63 +	2	Y
IIE	SEQUENCE	18 +	30 +	46 +	3	Y
IIF	CAUSE/EFFECT	10 +	32 +	58 B	2	Y
IIG	LIKENESS/DIFFERENCE	9 D	28 +	50 +	2	Y
	INFERENTIAL COMPREHENSION					
IIIA	MAIN IDEA	13 *	41 +	62 +	2	Y
IIIB	CAUSE/EFFECT	17 *	29 +	45 +	2	Y
IIIC	PROBABLE OUTCOME	40 +	73 +	75 +	3	Y
IIID	MAIN IDEA DETAILS	8 D	27 +	49 B	1	N
IIIE	SEQUENCE	11 +	33 +	59 +	3	Y
IIIF	LIKENESS/DIFFERENCE	15 *	43 C	64 +	1	N
IIIG	CONCLUSIONS	12 +	34 *	60 +	2	Y
IIIH	ANALOGIES	69 +	70 +	71 +	3	Y
IIII	CHARACTERS	16 *	44 +	65 B	1	N
	CRITICAL READING SKILLS					
IVA	AUTHOR'S PURPOSE	61 +	72 +	74 +	3	Y
	RELATED STUDY SKILLS					
VA	REFERENCES, AWARENESS	23 +	24 *	25 *	1	N
VB	REFERENCES, USE	35 *	36 *	51 +	1	N
VD	SUMMARIZING	19 +	31 +	47 +	3	Y
VF	ALPHABETIZING	55 +	56 +	57 +	3	Y
	POSITIVE RESPONSE/READING					
VIA	READ IN FREE TIME	76 +	77 +	78 +	3	Y
VIB	VISIT READING PLACES	79 C	80 D	81 +	1	N
VIC	REQUEST EXTRA READING	82 +	83 +	84 +	3	Y
VID	TALK ABOUT READING	85 C	86 D	87 D	D	N
	RELATED READING ACTIVITIES	88 D	89 A	90 A		

Summary of Student Performance

	CORE	POSITIVE RESPONSE/READING
Total Objectives:	25	4
Objectives Attained:	19	2
Category of Achievement:	4	

09018 001

nizing the typical organizational differences between ele- and secondary schools, two different formats of the l Student Report are provided. Both copies of the 4th ort and one copy of the 7th and 10th grade reports for each se the exact format of Figure 1. That is, for mathematics ng, the results for a particular student are side by side: tics on the left and reading on the right. However, the sci- ts for an individual student will have the right side blank. this format can be placed in the students' permanent rec- The reports for all students are provided, in alphabetical each school separately.

econd copy of the 7th and 10th grade reports for each ses a different format. In this format the test results for nts are given on a single form for a single subject (student eft and student B on the right). The reports are grouped r and class section for each subject. Within each class ne student results are presented alphabetically, two per This separation of student results by subject into cally ordered class section groups for each teacher should test results easier to use with individual students and nts.

ssroom Listing Report. The Classroom Listing Report es, for an entire classroom, the information contained dividual Student Reports. One report is prepared for room grouping of students. A copy of this report is re- both the Classroom folder and the School folder.

Classroom Listing Report can be used to spot areas of weakness that are present in individuals or groups of Objectives which have not been attained can be included the instructional program. Use of these reports will also rmine if one or more of the teachers in the building need sources to help their students attain objectives.

ample of the Classroom Listing Report for grade 7 math- shown in Figure 2. A similar report is provided for reading e.

Section A of the report provides necessary identificatio information — name of report, subject, grade, district, school teacher and class section.

Section B gives the objective codes. Short descriptions of th objectives and skill areas appear on the back of the report.

Section C is an alphabetical listing of each student in the grou

Section D shows, for each student, whether or not an objectiv was attained. An "N" means the student did not attain the ob jective. A blank space indicates attainment. An "O" for "Omit" indicates that a student did not progress far enough through the test for objective attainment to be determined.

Section E gives the percentage of pupils attaining each objective. If all students attained an objective, "A" will appear.

Section F shows the number of objectives attained by each student. The number given here includes only those objectives involved in the calculation of the proportions data.

Section G shows the total number of positive response to reading objectives attained by each student. On the mathematics classroom listing report, the number of correlated objectives, attained by each student is shown in this section.

• **School and District Summaries.** The School Summary and the District Summary are used to report the assessment data for each school and district. The School Summary gives an overall picture of how students in each school performed on the assessment tests. A copy of the School Summary is returned to each principal and a copy is included in the Classroom folder. The superintendent receives a copy of each School Summary for all the schools in the district.

FIGURE 2

Michigan Educational Assessment Program 1986-1987

meap

CLASSROOM LISTING REPORT

MATHEMATICS GRADE 7 (A)

DISTRICT: MICHVILLE

SCHOOL: EAST MIDDLE SCHOOL

TEACHER:- LARSON MARIAN SECTION:

CODES: DISTRICT- 99-969 SCHOOL- 9206

See reverse side for SKILL AREA and OBJECTIVE DESCRIPTION

MATHEMATICS OBJECTIVE CODE (B)

STUDENT NAME (C)		18-1	19-2	25-3	26-3	32-1	32-2	39-1	39-3	44-7	45-1	63-2	68-5	69-1	80-2	81-3	85-3	90-3	94-2	95-3	109-2/3	119-2	127-1	144-1	148-3	152-2	157-1 1/2	160-2	170-2	Total Core Attained (F)	CORRELATED OBJECTIVES (G) 18-2	40-3	43-2	63-1	64-3	81-4	90-3	109-4	Total Other Attained
BAKER	CATHRI		NOT	TESTED																																		
BRADLEY	BRET		NOT	TESTED																																		
BROWN	RICARD		NOT	TESTED																																		
HUDSON	HERBER					N	N							N									N					N		23	N	N	N	N	N	N	N	N	0
JOHNSON	SAMMY A		NOT	TESTED																																		
JOPLIN	MELISS A	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	0	N	N	N	N	N	N	N	N	0
KNIGHT	CURT	N	N																											26									8
LITTLE	KRISTA L				N																									27									8
LONG	MARY K					N								N									N					N		24	N	N	N	N	N	N	N	N	0
MITCHELL	MARCUS A	N	N		N	N	N	N	N		N	N	N	N		N			N		N	N	N		N	N	N	N	N	7	N	N	N	N	N	N	N	N	0
MOORE	STEVEN A	N	N	N		N	N	N	N	N	N	N	N	N	N	N	N	N		N	N	N	N	N	N	N	N	N	N	3	N	N	N	N	N	N		N	1
PRINGLE	MARSHA																													28									8
PRONG	MICHEL F			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
RILEY	BOB	N																												27	0	0	0	0	0	0	0		1
ROBERTSON	ROBERT S	N		N	0	0	0	0	0	N	0	0	0	0	N	0	N	N	0	0	0	0	0	N	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
ROBERTSON	ROBERT S		NOT	TESTED																																		
WHEELER	KITTY																													28									8
WILLEY	KYLE																													28									8
WORKMAN	SHARON M	N	N	N	N	N		N	N	N		N	N	N	N	N	N		N		N	N	N	N	N		N	N		6	N	N	N	N	N	N	N	N	0
PERCENT OF STUDENTS ATTAINING OBJECTIVE (E)		50	64	69	67	50	67	67	67	69	75	67	67	50	69	67	69	77	75	83	67	67	50	69	75	75	67	50	75		45	45	45	45	45	45	55	50	

47

48

e District Summary report is a summary of the test results tudents in the district. The District Summary is returned uperintendent.

h these reports, objectives not attained by students in the or district can be identified. It can also be noted what age of students are close to or far from reaching the school ct criterion levels. Objectives are grouped according to headings called Skill Areas, such as "Literal Compre-" or "Fractions". The skill area attainment is the average tainment of all the objectives included in the area.

School Summary and the District Summary look the nd are read the same. An illustration of the District y does not appear here. Figure 3 shows an example of the Summary report. As with the previous illustrations, is marked with various letters for purposes of explanation.

on **A,** at the top of the form gives the school identification tion. (District identification is given on a District Sum-

on **B,** the objective code, matches the objectives to the n Department of Education's set of Essential Performance es.

on **C** gives the short objective descriptions grouped by the a to which each objective belongs.

on **D** indicates the percentage of students attaining each e and the average percentage of objective attainment for ll area.

on **E** gives the number of students scored on each e.

format for school and district summaries is the same for atics, reading or science.

tion **F,** the Proportions Report, presents the percentage of each of four categories of achievement for the school or Category 4 (highest) contains the percentage of students who attained approximately 3/4 or more of the objectives; Cat gory 3 contains the percentage of students who attained roughl 1/2 to 3/4 of the objectives; Category 2 contains the percentage students who attained about 1/4 to 1/2 of the objectives; whil Category 1 (lowest) contains the percentage of students wh attained approximately 1/4 or less of the objectives. Figure 4 show the range of objectives in each category of achievement. Th Proportions Report is described in greater detail (following Sectic G) below.

Section **G** shows the status and change categories for scho summaries. This section will be blank for district summarie since the definitions of status and change apply only to individu school building results.

Section **H** shows the total number of answer sheets processe for the school or district summary. This number includes studen with results on only one test as well as those with results for bot tests. This number may be different from the number of studen in the math or reading sections.

RANGE OF OBJECTIVE ATTAINMENT IN EACH CATEGORY OF ACHIEVEMENT

	Number of Objectives						
	Reading			Math	Science		
Category of Achievement	Grade 4	Grade 7	Grade 10	Grades 4, 7, & 10	Grade 4	Grade 7	Grade 10
4	19 - 25	17 - 23	18 - 24	22 - 28	24 - 30	24 - 31	25 - 32
3	13 - 18	12 - 16	12 - 17	15 - 21	16 - 23	16 - 23	17 - 24
2	7 - 12	6 - 11	6 - 11	8 - 14	8 - 15	8 - 15	9 - 16
1	0 - 6	0 - 5	0 - 5	0 - 7	0 - 7	0 - 7	0 - 8

FIGURE 4

Proportions Report

The categories of achievement are reported for mathematic reading and science in grades four, seven and ten. For mathematic and reading, this information is given for the three most recer years (if available) and for 1980-81 as the baseline year; for scienc only the current year is given.

This year, pupils are included in the proportions repo according to the following criterion. A pupil must answer at lea

FIGURE 3

Michigan Educational Assessment Program

meap

1986-1987

SCHOOL SUMMARY

GRADE 4 ← A

DISTRICT: MICHVILLE

SCHOOL: EAST ELEMENTARY

CODES: DISTRICT= 99-949 SCHOOL= 9284

B OBJ CODE	C MATHEMATICS SKILL AREAS AND OBJECTIVES	D % Pupils Attained	E NUMBER OF PUPILS
	NUMERATION	62	
10-5	ORDER SETS: FEWER	68	28
10-7	ORDER SETS: FEWEST	50	28
16-2	PLACE VALUE: HUNDRED CHART	63	30
16-4	EXPAND 2-DIGIT NUMERAL	54	28
16-7	EXPAND 3 DIGIT NUMERAL W/WORDS	64	28
16-8	EXPAND 3-DIGIT NUMERAL	54	28
16-9	ABC > CBA OR ABC < CBA	71	28
16-10	ORDER SET OF NUMERALS	75	28
17-1	NEXT NUMBER IN SEQUENCE	61	28
	WHOLE NUMBERS	59	
23-1	AB + C, NO REGROUPING	50	28
23-3	AB + CD, NO REGROUPING	57	28
24-1	AB + C, WITH REGROUPING	71	28
24-2	AB + CD, WITH REGROUPING	54	28
29-2	SUBTRACTION: NUMBER SENTENCE	77	30
30-1	AB - C, NO REGROUPING	46	28
30-2	AB - CD, NO REGROUPING	57	28
31-1	AB - C, WITH REGROUPING	57	28
35-3	A + A + A... = A × B	68	28
35-6	A × B = A + A + A...	46	28
36-1	A × 1 = ?	64	28
36-3	A × B; A,B < 6	54	28
	FRACTIONS	68	
79-4/6	IDENTIFY CONGRUENT PARTS	61	28
79-13	SHADED REGIONS: 1/2, 1/3, 1/4	75	28
	METRIC MEASUREMENT	69	
107-8	LENGTH: NEAREST CM	70	30
143-2	TEMPERATURE	69	29
	NON-METRIC MEASUREMENT	77	
147-6	TIME: NEAREST HOUR	77	30
	GEOMETRY	56	
156-1	SHAPES	64	28
163-1	PROPERTIES OF FIGURES	48	27
	CORRELATED OBJECTIVES	54	
17-3	NUMERATION: ODD OR EVEN	56	27
28-3	WHOLE NUMBERS: SUBTRACTION	54	26
29-4	WHOLE NUMBERS: A - B; A,B < 19	52	27
31-2	WHOLE NUMBERS: AB - CD	59	27
35-4	WHOLE NUMBERS: 2 × A = ?	52	27
36-2	WHOLE NUMBERS: A × D = ?	52	25
48-5	WHOLE NUMBERS: WORD PROBLEMS	60	25
156-3	GEOMETRY: SHAPES	48	27

OBJ CODE	READING SKILL AREAS AND OBJECTIVES	% Pupils Attained	NUMBER OF PUPILS
	VOCABULARY MEANING	77	
IA	PREFIXES	81	37
IB	SUFFIXES	80	35
IC	MULTIPLE MEANINGS	77	35
ID	SYNONYMS	76	37
IE	ANTONYMS	77	35
IF	CONTEXT	71	35
	LITERAL COMPREHENSION	70	
IIB	MAIN IDEA	66	35
IIC	MAIN IDEA DETAILS	74	35
IIE	SEQUENCE	71	35
IIF	CAUSE/EFFECT	71	35
IIG	LIKENESS/DIFFERENCE	69	35
	INFERENTIAL COMPREHENSION	67	
IIIA	MAIN IDEA	71	35
IIIB	CAUSE/EFFECT	71	35
IIIC	PROBABLE OUTCOME	64	33
IIID	MAIN IDEA DETAILS	66	35
IIIE	SEQUENCE	63	35
IIIF	LIKENESS/DIFFERENCE	66	35
IIIG	CONCLUSIONS	66	35
IIIH	ANALOGIES	74	35
IIII	CHARACTERS	60	35
	CRITICAL READING SKILLS	61	
IVA	AUTHOR'S PURPOSE	61	33
	RELATED STUDY SKILLS	64	
VA	REFERENCES, AWARENESS	71	35
VB	REFERENCES, USE	57	35
VD	SUMMARIZING	60	35
VF	ALPHABETIZING	69	35
	POSITIVE RESPONSE/READING	82	
VIA	READ IN FREE TIME	79	33
VIB	VISIT READING PLACES	79	33
VIC	REQUEST EXTRA READING	88	32
VID	TALK ABOUT READING	81	32
	RELATED READING ACTIVITIES -- SEE TEST ITEM ANALYSIS		

F → PROPORTIONS REPORT

MATHEMATICS

CATEGORY OF ACHIEVEMENT	1986	1985	1984	1980
4	46.7	75.0	82.1	72.9
3	10.0	13.5	15.4	20.8
2	10.0	9.6	2.6	6.3
1	33.3	1.9	0.0	0.0
Number Of Pupils	30	52	39	48

STATUS/CHANGE CATEGORY

Status: LOW NEEDS
Change: DECLINING

READING

CATEGORY OF ACHIEVEMENT	1986	1985	1984	1980
4	59.5	76.9	84.6	72.9
3	5.4	11.5	10.3	14.6
2	10.8	7.7	2.6	12.5
1	24.3	3.8	2.6	0.0
Number Of Pupils	37	52	39	48

STATUS/CHANGE CATEGORY

G → Status: LOW NEEDS
Change: DECLINING

H → TOTAL NUMBER OF ANSWER SHEETS PROCESSED FOR THIS SUMMARY

41

4-DD1

NOTE: In 1980, the MEAP tests were revised and care should be exercised in making longitudinal comparisons. See the MEAP HANDBOOK for further information.

n on the mathematics test to be included in the mathe-
ortions report. Likewise, a pupil must answer at least
n on the reading or science test to be included in the pro-
port. Thus, the number of pupils counted in the
s and reading proportions reports may differ. At grade
mathematics items are excluded when applying the
ion.

e Positive Response to Reading Objectives, the Related
ading Activities, and the Mathematics Correlated
jectives are not included in the information presented
the Proportions Report.

portions Report may be used to examine the percent-
nts in each indicated category of achievement in the
strict. The categories of achievement provide infor-
readily accessible form on the level of overall student
e on the entire set of performance objectives tested.
ntrast to the other reports provided by the Michigan
Assessment Program which show student perfor-
objective-by-objective basis. Because of the minimal
e performance objectives, it is expected that most be-
rth, seventh, and tenth graders will be in Category 4
ject area.

rticular objectives which need further work can be
by referring to the body of the School Summary
nay be of value to examine selected characteristics of
population in schools with varying degrees of objective
Such characteristics may be related to the percent of
each category of achievement within schools. The
ovided by the Proportions Report can be useful when
isions regarding the allocation of resources and the
tion of remedial programs on a building level.

Status Definition

atus" of each school can help determine the extent to
e numbers of students with educational needs are
ent research on the characteristics of effective schools
d some principles which are highly related to student achievement. Many of the principles can be implemented by local school staff and should be used to improve the schooling process. Appendix D provides information about eight research-based principles. The overview provided by the Proportions Report can be useful when making decisions regarding the allocation of resources and the implementation of remedial programs on a building level.

A school's "Status" is given for both reading and math. A school must meet an established criterion for two out of three years (the current year and the two preceding years) in order to fit into a given status classification. The following criteria are used to determine the status for Michigan schools:

High Needs Schools

fewer than 50% of the students in Category 4.

Moderate Needs Schools

50-74% of the students in Category 4.

Low Needs Schools

75% or more of the students in Category 4.

Status Undetermined

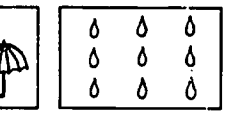
The school does not fit any one criterion for two out of the three years.

Insufficient Data

Not enough data available to determine status.

sets, one set with one to three other with eight to ten members, only visual inspection will indicate members.

ver members?



B

three consecutive sets of objects o five members, the learner will at has the *fewest* members.

e fewest members?

B C

ndred chart with the first twenty iples of ten filled in, the learner portion of the chart as requested.

elong in the shaded area?

4	5	6	7	8	9	10
14	15	16	17	18	19	20
						30
						40
						50
						60
						70
						80
						90
						100

, 59, 69, 79, 89, 99, 109
, 914, 915, 916, 917, 918, 919
, 94, 95, 96, 97, 98, 99
, 904, 905, 906, 907, 908, 909

69

16-4 Given a two-digit numeral, the learner will write it in expanded notation in two ways: first by using words and then by using numerals.

65 means

A 6 hundreds + 5 tens

B 6 hundreds + 5 ones

C 6 tens + 5 ones

D 5 tens + 6 ones

16-7 Given any three-digit numeral, the learner will write expanded notation by using place value words.

146 means

A 1 hundred + 4 tens + 6 ones

B 1 ten + 4 ones + 6 hundreds

C 6 hundreds + 4 tens + 1 one

D 4 hundreds + 1 ten + 6 ones

16-8 Given any three-digit numeral, the learner will write expanded notation by using numerals.

892 means

A 8 + 9 + 2

B 80 + 90 + 20

C 200 + 90 + 8

D 800 + 90 + 2

16-9 Given 2 three-digit numerals which have the same digits but in different positions, the learner will determine which is greater and which is less.

Which is less?

A 288

B 286

16-10 Given a random list of two and three-digit numerals, the learner will arrange them in ascending order.

Which numbers are in order from smallest to largest?

A 403, 123, 98, 45

B 123, 403, 45, 98

C 45, 123, 98, 403

D 45, 98, 123, 403

17-1 Given a counting sequence of two to four numbers, the learner will indicate the next number in sequence.

Which number comes next? 30, 35, 40, _____

A 25

B 45

C 50

D 55

23-1 Given addition exercises involving a two-digit number plus a one-digit number requiring no regrouping (carrying) written in either vertical or horizontal form, the learner will find the sums. The learner may use aids.

$$\begin{array}{r} 12 \\ +\ 5 \\ \hline \end{array}$$

A 15

B 16

C 17

D 18

23-3 Given addition problems involving a two-digit number plus a two-digit number requiring no regrouping (carrying), the learner will find the sums. The learner may use aids.

54 + 34 = □

A 28

B 30

C 88

D 98

24-1 Given addition exercises involving a two-digit number plus a one-digit number requiring regrouping (carrying), the learner will find the sums. The learner may use aids.

$$\begin{array}{r} 17 \\ +\ 6 \\ \hline \end{array}$$

A 213

B 113

C 23

D 13

24-2 Given addition problems involving 2 two-digit numbers requiring regrouping (carrying), the learner will find the sums. The learner may use aids.

$$\begin{array}{r} 88 \\ +\ 76 \\ \hline \end{array}$$

A 154

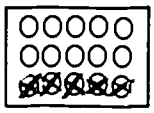
B 1,514

C 164

D 1,614

29-2 Given a set of objects or pictures showing a subtraction relationship with combinations to eighteen, the learner will write an appropriate number sentence.

Which number sentence below tells about thi picture?



A 15 - 5 = 10

B 7 + 8 = 15

C 10 - 5 = 5

D 5 + 5 = 10

70

Given a two-digit number, the learner will a one-digit number with no regrouping ng). The learner may use aids.

69
8

A 51
B 60
C 61
D 77

The learner will subtract two two-digit with no regrouping (borrowing). T may use aids.

86
42

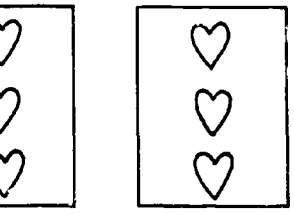
A 24
B 42
C 44
D 48

Given a two-digit number, the learner will a one-digit number with regrouping g). The learner may use aids.

24
7

A 13
B 17
C 23
D 27

Given a collection of equivalent sets (less), the learner will write a multiplication to describe it.



mber sentence tells about these

35-6 Given a multiplication sentence, the learner will represent it as a repeated addition sentence. (Do not include zeroes or ones in repeated addition.)

Which means the same as $2 \times 4 = 8$?

A $2 + 2 = 8$
B $2 + 4 = 8$
C $4 + 2 = 8$
D $4 + 4 = 8$

36-1 The learner will name the product of any number and one.

$$\begin{array}{r} 45 \\ \times\ 1 \\ \hline \end{array}$$

A 54
B 44
C 46
D 45

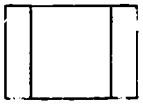
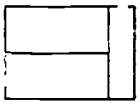
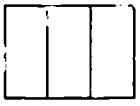
36-3 Given two factors, both of which are zero through five, the learner will give the product from memory.

$5 \times 5 = \square$

A 9
B 16
C 25
D 20

79-4/6 Given several objects, some divided into three/four *congruent* parts, and some divided into three/four *noncongruent* parts, the learner will:
(a) determine which objects have been divided into the three/four congruent parts, and
(b) tell the fraction name for each part upon request.

Which object is divided into three parts of the same size and shape?

A 
C 
B 
D 

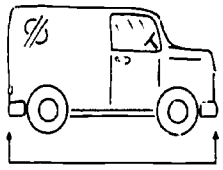
79-13 Given illustrations of one-half, one-third, and one-fourth of the regions shaded, the learner will tell the correct fraction in each case.

Which part is shaded?

A $\frac{1}{2}$
B $\frac{1}{4}$
C $\frac{1}{3}$
D 4

107-8 Given a measuring stick scaled in centimeters only and an object, the learner will measure the length of the object to the nearest centimeter.

How long is the truck?



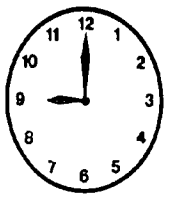
A 3 cm
B 5 cm
C 7 cm
D 9 cm

143-2 Given a Celsius thermometer scaled in two degree intervals, the learner will read and record the temperature to within two degrees using the degree (°) symbol.

What is the temperature?

A 24°
B 34°
C 30°
D 40°

147-6 Given a clock face with the reading of o'clock, the learner will identify the appropriate to the hour.



A 6:00
B 8:00
C 9:00
D 12:00

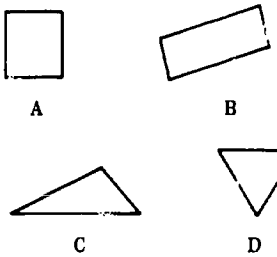
156-1 Given an assortment of cut-out sh including squares, triangles, rectangles and ci of various sizes randomly arranged, the learner select a given shape as requested.

What is the name of this figure?

A triangle
B rectangle
C square
D circle

163-1 Given a simple geometric figure and of simple geometric figures, the learner will ide those which are the same size and shape.

Which picture is the same size and shape as ?



A B C D

GRADE FOUR CORRELATED OBJECTIVES TEST

17-3 Given a number of less than three digits, the learner will identify the number as even or odd.

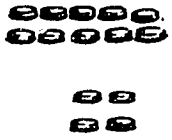
88

A Even

B Odd

28-3 Given two sets with less than ten objects each, one with more objects than the other, the learner will state how many more members it has.

How many more bottle caps are in the larger group than in the smaller group?



A 4

B 6

C 10

D 14

29-4 Given subtraction exercises in horizontal and vertical forms, using numbers to eighteen, the learner will find the difference. The learner may not use aids.

$$\begin{array}{r} 17 \\ -\ 3 \\ \hline \end{array}$$

A 12

B 13

C 14

D 15

31-2 The learner will subtract 2 two-digit numbers. The learner may use aids.

43 - 28 = □

A 13

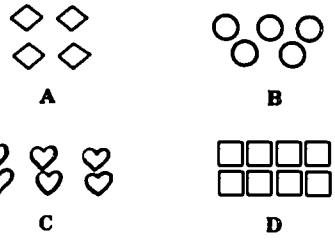
B 17

C 23

D 15

35-4 Given a set of objects, the learner will make another set that will have two times as many objects.

Which group below has two times as many members as this group?



A

B

C

D

36-2 The learner will name the product of any number and zero.

$$\begin{array}{r} 81 \\ \times\ 0 \\ \hline \end{array}$$

A 81

B 0

C 18

D 810

48-5 Given appropriate addition or subtraction word problems read by the teacher involving *sums* to eighteen, the learner will *identify* the operation to use.

DIRECTIONS: Read the item and choose the operation which tells how to solve the problem.

There are 12 seventh graders and 4 eighth graders in the school play. How many children are in the play?

A Add

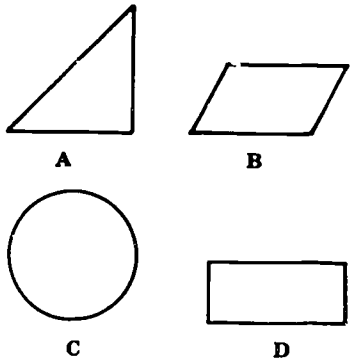
B Subtract

C Multiply

D Divide

156-3 Given pictures of real objects or various shapes, the learner will identify circles, triangles, squares and rectangles as requested.

Which is a rectangle?



A

B

C

D

etermine the meaning of a word in a whose meaning has been affected by

wn fire blazed out of control

pre- means

etermine the meaning of a word that has eanings, depending on its use in a sentence.

s are big and range in color from white to solid black.

p

entify a word that has a similar meaning to ord (identifying synonyms).

stop on the trip was Detroit.

l means almost the same as initial?

st

entify a word that has an opposite meaning word (identifying antonyms).

e flower bloomed for one day.

te of delicate is

IF Determine the meaning of a word on the basis of the context of a sentence.

The floor in the old house was too weak to dilp the weight of our piano.

A lift

B express

C cave in

D support

IIB Identify the stated main idea within a selection.

The main topic of this passage is how

A rabbits and deer live.

B deer escape from their enemies.

C protective coloring aids in animal survival.

D mother animals teach their young how to survive.

IIC Identify details that support the main idea of a selection.

Why was Jake Cooley hard of hearing?

A He was getting old.

B He didn't like loud noises.

C His ear had been hurt in a fall.

D He had lived alone in the mansion.

IIE Identify the sequence within a selection.

Which one of these shows the order of the events in the story?

A Mr. Cochran asked Jake if he had seen the children.
Marty and Jenny arrived at the mansion.
Marty and Jenny asked Mr. Cooley many questions.
Marty and Jenny raced down the hill.

B Marty and Jenny arrived at the mansion.
Marty and Jenny asked Mr. Cooley many questions.
Marty and Jenny raced down the hill.
Mr. Cochran asked Jake if he had seen the children.

C Marty and Jenny raced down the hill.
Mr. Cochran asked Jake if he had seen the children.
Marty and Jenny arrived at the mansion.
Marty and Jenny asked Mr. Cooley many questions.

D Marty and Jenny asked Mr. Cooley many questions.
Marty and Jenny raced down the hill.
Marty and Jenny arrived at the mansion.
Mr. Cochran asked Jake if he had seen the children.

IIF Identify stated cause and effect relationships within a selection.

Van Helmont expected the soil to weigh less because

A some had blown away.

B it had been dried out.

C the willow weighed more.

D it had given up its food substances.

IIG Identify stated likenesses and differen within a selection.

One difference between a helicopter and an airplane is that the helicopter

A has four engines.

B has smaller wings.

C must land on a runway.

D can stand still in the air.

IIIA Infer the main idea of a selection.

The main topic of this passage is

A sled dogs as pets.

B training dog teams.

C Newfoundlands and huskies.

D characteristics of sled dogs.

IIIB Infer the cause and effect relationsh within a selection.

The birds were set free because they had learned

A to find the ranch in the mountains.

B to hunt the toy rabbit with meat attached.

C as much as the trainers thought they needed.

D as much as they knew when they cam to the zoo.

IIIC Predict the probable outcome of a selecti

What will most likely happen to Curt?

A He'll miss the game.

B He'll bump into someone else.

C He'll forget where the picnic is.

D He'll be asked to leave the store.

details that support the main idea of

between the fawn and the baby
he

t be still to keep safe.

blend with its background for

white spots which fade as it grows

se its protective coloring when it

the sequence within a selection.

mont planted the branch, he

substances.

e tub.

oil.

for five years.

conclusions from given information.

il weighed almost the same, Van
bly decided

ore willow branches in different

b was heavier than it should have

rger tub of soil for his next
ent.

od substances came from outside

ify relationships of words (analogies).

o birds as scales are to

IVA Determine the author's purposes for a selection.

The author's main purpose in writing this passage is to

A make a hero of Adolph Sutro.

B explain the work of a silver miner.

C show the miserable conditions in the mines.

D get you to donate money for the miners' widows.

IVC Determine the author's viewpoint from a selection.

How did the author feel about the "silver kings"?

A He pitied them.

B He admired them.

C He disliked them.

D He was afraid of them.

VA Identify the major uses of dictionaries, encyclopedias, atlases, newspapers, magazines, telephone books, tables of contents, glossaries, indexes, maps, graphs, charts, and tables.

Where should you look to find which crops are raised in Mexico?

A newspaper

B dictionary

C world globe

D encyclopedia

VB Locate information within reference materials using dictionaries, encyclopedias, atlases, newspapers, magazines, telephone books, tables of contents, glossaries, indexes, maps, graphs, charts, and tables.

In which part of a newspaper would you find an article with the title "Speaking of Inflation . . ."?

A want ads

B entertainment page

C advertisements

D editorial page

VD Summarize a selection.

Which is the best summary of the story?

A Sally burned all the toast she was making. Ernie thought it was all a big joke.

B Ernie and Sally's old toaster shot the bread out like a rocketship. Ernie was annoyed and decided to get a new toaster.

C Ernie was angry because the toaster was broken. Sally liked the old toaster because they could play space-flight with it.

D Ernie and Sally had a fight about their old toaster. Ernie agreed it was like a launching pad, but he did not want a new one

VF Use alphabetizing skills to locate information in common references.

Which set of words is in alphabetical order?

A harsh
harvest
hardly
harpoon

B harpoon
harsh
harvest
hardly

C hardly
harpoon
harsh
harvest

D harvest
harsh
hardly
harpoon

**VIA Reading materials of her/his choice during free time, both in school and at home.

**VIB Going frequently to places where reading materials are available, such as libraries, reading rooms, book sales, and book exchanges.

**VIC Requesting reading materials in addition to those assigned by the teacher.

**VID Responding to the opportunity to talk about and/or discuss what he/she has read.

**VIA, B, C, and D are Positive Response to Reading Objectives.

n a four-digit number not including
earner will give the number that is 10,
) more or less without using formal
subtraction. (Regrouping may be

r is 1,000 more than 2,314?

n a number orally, the learner will
r-digit numeral.

n addition exercises involving two or
s with up to six digits, with or without
he learner will find the sums, using any

031
572
513

A 497,116
B 508,116
C 507,126
D 498,216

n an addition exercise involving three-
, the learner will estimate the answer
the addends to the closest multiple of

312
479
787

A 1,200
B 1,400
C 1,600
D 1,700

32-1 Given a three-digit number (without zeroes), the learner will subtract a two-digit number with regrouping (borrowing).

$$\begin{array}{r} 815 \\ -\ 94 \\ \hline \end{array}$$

A 721
B 881
C 909
D 819

32-2 Given any three-digit number (including numbers with one or two zeroes), the learner will subtract a two- or three-digit number. The learner may use aids.

$$\begin{array}{r} 783 \\ -\ 97 \\ \hline \end{array}$$

A 586
B 686
C 714
D 880

39-1 Given a two-digit number to be multiplied by a one-digit number, the learner will write the product. The learner may use aids.

$83 \times 6 = \square$

A 488
B 483
C 498
D 481

39-3 Given 2 two-digit numbers, the learner will determine the product.

$$\begin{array}{r} 79 \\ \times\ 13 \\ \hline \end{array}$$

A 1,027
B 1,007
C 927
D 1,057

44-7 Given an exercise with a dividend of three- or four-digits, and a one-digit divisor with or without remainders, the learner will determine the quotient.

$3\overline{)2{,}169}$

A 643
B 723
C 733
D 853

45-1 Given an appropriate word problem read by the teacher involving the division algorithm, the learner will solve the problem.

There are 12 people who want to form car pools to go to work; 4 people can ride in each car. How many cars will they need?

A 48
B 8
C 3
D 16

63-2 Given a decimal fraction of no more than three places, the learner will name the place value of each digit, without the use of a place value chart or aids.

.923

A 9 tenths, 2 hundredths, 3 thousandths
B 9 hundreds, 2 tens, 3 ones
C 9 ones, 2 tens, 3 hundreds
D 9 thousandths, 2 hundredths, 3 tenths

68-5 Given a decimal addition or subtraction problem in horizontal or vertical form with whole numbers, tenths, and hundredths, the learner will find the sum or difference. The learner may use aids or models.

$3.84 + 7.29 = \square$

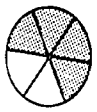
A 11.13
B 11.03
C 3.45
D 4.65

69-1 Given an appropriate verbal problem invol ing addition and subtraction of decimal numbe involving only tenths, the learner will solve t problem.

Bob walked 0.7 of a kilometer to Al's house a from there 0.6 of a kilometer to his own ho How many kilometers did he walk?

A .013
B .13
C 1.3
D 13.0

80-2 Given a region or strip divided into ten o fewer parts, some of which are shaded, the learne will *write* the appropriate fraction to describe th shaded portion.



A $\frac{2}{4}$
B $\frac{2}{6}$
C $\frac{6}{4}$
D $\frac{4}{6}$

81-3 Given a fraction, the learner will writ equivalent fractions. The learner may use aids.

$\frac{1}{4} = \square$

A $\frac{3}{7}$
B $\frac{5}{6}$
C $\frac{6}{8}$
D $\frac{12}{16}$

85-3 Given two mixed numbers with lik denominators, the learner will write the sum. (N regrouping or reducing required. The learner ma not use aids.)

$3\frac{5}{10} + 2\frac{3}{10} = \square$

A $1\frac{2}{10}$
B $5\frac{1}{10}$
C $5\frac{8}{10}$
D $5\frac{8}{20}$

whole number less than ten, a mixed action, the learner will find the

A 8

B $8\frac{3}{4}$

C $8\frac{4}{4}$

D $9\frac{1}{4}$

number sentence in the form: "Unit number = 1" using denominators the whole number a multiple of the than forty, the learner will find the the use of aids.

□

o unit fractions with denominators learner will compute the product of aids.

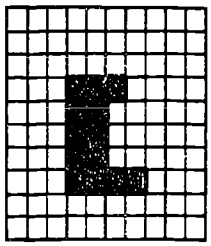
□

any whole number of meters (one e learner will state the equivalent neters.

ple of 100 centimeters (100 through will state the equivalent number of

= □ meters

119-2 Given a region located on a square grid, the learner will approximate the area by counting the number of square units.



A 11 square units

B 12 square units

C 13 square units

D 16 square units

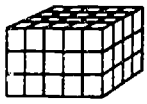
127-1 Given a drawing of a rectangular solid divided into units with linear dimensions less than or equal to five units, the learner will name the number of cubic units in the solid.

A 39

B 47

C 48

D 60



144-1 Given a Celsius thermometer calibrated in one or two degree increments, the learner will read and record temperatures to the nearest degree.

A -16°

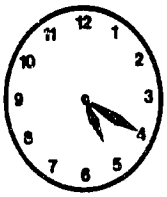
B -11°

C -24°

D 16°

143-3 Given a numbered clock face with hands on it, the learner will write the time in time notation of five minute intervals.

What time does this clock show?



A 4:20

B 4:25

C 5:04

D 5:20

152-2 Given two money values, the learner will add or subtract using the dollar sign and decimal notation. The learner may choose to use play money.

$7.95
− 2.38

A $ 5.57

B $ 5.63

C $ 5.67

D $10.33

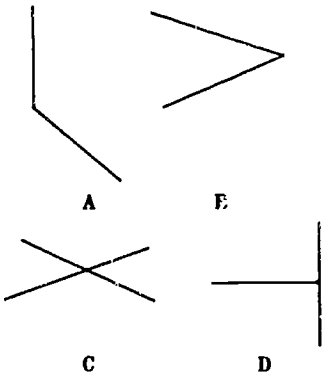
157-1 Given a set of polygons including quadrilaterals, the learner will identify and name a parallelogram, a square and a rectangle.

Which figure is a parallelogram?

A B C D

160-1/2 Given models of two intersecting lines, the learner will indicate whether they are perpendicular.

Which pair of lines are perpendicular?



A B

C D

170-2 Given a bar graph, the learner will interpret it.

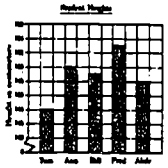
Who is about 149 centimeters tall?

A Tom

B Ann

C Bill

D Alice



GRADE SEVEN CORRELATED OBJECTIVES TEST

18-2 Given any four-digit number, the learner will write expanded notation, first by using place value words and then by using numerals.

8,143 =

A 8 thousands + 43 tens
OR 8,000 + 430

B 8 hundreds + 4 tens + 3 ones
OR 800 + 40 + 3

C 8 thousands + 1 hundred + 4 ones + 3 ones
OR 8,000 + 100 + 4 + 3

D 8 thousands + 1 hundred + 4 tens + 3 ones
OR 8,000 + 100 + 40 + 3

40-3 Given two whole numbers, each less than 1000, the learner will estimate the product.

Which is the best estimate?

$$\begin{array}{r} 502 \\ \times\ 312 \\ \hline \end{array}$$

A 150,000
B 18,000
C 200,000
D 400,000

43-2 Given a division sentence, the learner will write a related multiplication sentence.

15 ÷ 3 = 5 can be written as which multiplication sentence below?

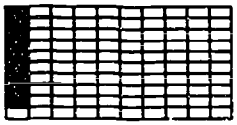
A 5 × 3 = 15
B 15 × 3 = 45
C 15 × 5 = 75
D 3 × 15 = 5

63-1 Given a place value chart and a numeral of no more than three decimal places, the learner will indicate the value of each digit in the numeral.

What is the place value of 9 in 65.139?

A Hundredths
B Thousandths
C Tenths
D Ones

64-3 Given a model of a fraction illustrating hundredths, the learner will identify, say and write the decimal fraction and common fraction which is illustrated.



A .09
B .19
C .90
D .91

81-4 Given a proper fraction with a denominator ≤ 50, the learner will rewrite it in lowest terms. (Answers should have denominators of 2, 3, 5, 6, 8, 10, or 12.)

Reduce the following fraction to lowest terms.

$\frac{21}{35} = \square$

A $\frac{3}{5}$
B $\frac{7}{5}$
C $\frac{3}{7}$
D $\frac{21}{35}$

90-3 Given a whole number less than ten, a mixed number or a fraction, the learner will find the difference.

$9 - 1\frac{1}{8} = \square$

A $8\frac{1}{8}$
B $7\frac{7}{8}$
C $8\frac{7}{8}$
D $9\frac{1}{8}$

109-4 Given any whole number of centimeters (1 through 1000), the learner will state the equivalent number of meters.

200 centimeters is equal to how many meters?

A 0.02
B 0.2
C 2
D 20

APPENDIX D

VARIABLES THAT MAKE A DIFFERENCE*

r the past decade much research has been focused on ing the characteristics of schools, teachers, administrators lents which lead to success in school. While some of this h has identified factors outside the school as being nt, there is an increasing amount of research which shows s which educators can influence through their behavior. tion briefly discusses a series of principles which have ntified through research by the Michigan Department of on or other researchers. These principles, or "variables ke a difference" have been shown through careful study to y related to student achievement. The principles can be ed by educators and should be used to improve the g process.

he more time spent on instruction the greater the ment gain.

general the more time spent in school and the more time instruction the greater the learning that takes place. tions of this principle extend to improved use of time, alized instruction and curriculum content.

he greater the amount of parental involvement, the the achievement.

ents influence their children in a number of ways; their expectations for the children, through their own s toward learning, through involvement at school, and direct instruction.

ligh expectations on the part of the principal are ed with greater achievement.

ncipals who are assertive instructional leaders and have pectations for students tend to have successful schools. ork with staff to set goals and to provide the support to attain them. They evaluate instruction based on the upon goals.

• High teacher expectations are associated with high achievement.

Teachers who believe that all of their students have the ability to succeed also believe that they, as teachers, make a difference. These factors seem to have a positive effect on student learning.

• Higher achievement gains are more likely to occur in classrooms characterized by a high degree of structure, with teachers who are supportive.

Structure is manifested in a number of ways. Among these are goal direction, classroom organization, and supervision. This does not imply that autocratic teachers are the most successful. A warm supportive teacher who is able to provide a clear direction toward the achievement of clearly stated goals and objectives and supervise or monitor student behavior is likely to note achievement gains among the students in the class.

• The use of positive feedback reinforcement by teachers is associated with greater achievement.

Teachers who are successful in raising the achievement levels of students tend to use a higher rate of praise and encouragement and to use them more appropriately than teachers who are less successful.

• The use of tutoring is related to achievement.

Research has shown that tutoring can be an effective way to bring about better achievement. This may be related to the first principle in this section, that is, the amount and quality of time spent on instruction.

• Recitation promotes greater achievement gains.

Recitation (generally defined as response by a student) can be an effective means of promoting both the acquisition and retention of knowledge.

*Acknowledgements: The principles contained in this section are drawn from the work of many educational researchers. The section is based on a literature review conducted for the Michigan Department of Education by the ESEA I Evaluation Technical Assistance Center, Educational Testing Services, Evanston, Illinois.

APPENDIX E

UNDERSTANDING AND USING THE INDIVIDUAL STUDENT REPORT
Michigan Educational Assessment Program

is the Michigan Educational Assessment Program P)?

' is a statewide testing program. It checks to see if you know important skills in reading, mathematics and science. All , seventh, and tenth grade students take the assessment tests. EAP test results are used by teachers, counselors, adminis-s, and the public to see how well students are learning ant skills.

kills you are expected to know are called **Performance tives.** There are different performance objectives for each t. Objectives that are similar are put into groups called **Skill** .

objective is measured by three test questions. If you answer three of the questions correctly, you pass the objective. And, pass more than 75% of the objectives, you are doing well.

does my Individual Student Report tell me?

compares what you should know with what you do know.

tells which objectives you have learned and which you have t learned.

tells if you are at an acceptable level in the subjects ted.

How can I use the MEAP results?

- Write down the objectives which you did not pass.
- Talk with your teachers, parents, and counselor about you problems with these objectives.
- Ask your teachers, parents, and counselor for help to lear these objectives.
- Ask for books or worksheets which will help you.
- Decide how you will work to learn the objectives you nee to know.
- Work on the objectives by yourself or take a special course tha will help you.

How do I read the report?

The example given here shows how to read your report. Larg capital letters are used to help you find the important part (sections). If you have any questions about your report, ask you teacher or counselor for help.

- Section **A** gives your name, student number, teacher, clas section, district, school, and age.
- Sections **B & C** give the code and a brief description of eac of the mathematics objectives tested.

tion **D** gives the question numbers from the test and tells
t you did:

means you answered correctly;

B, C, or D shows that you gave a wrong answer and tells
vhich answer you did give;

means you skipped the question;

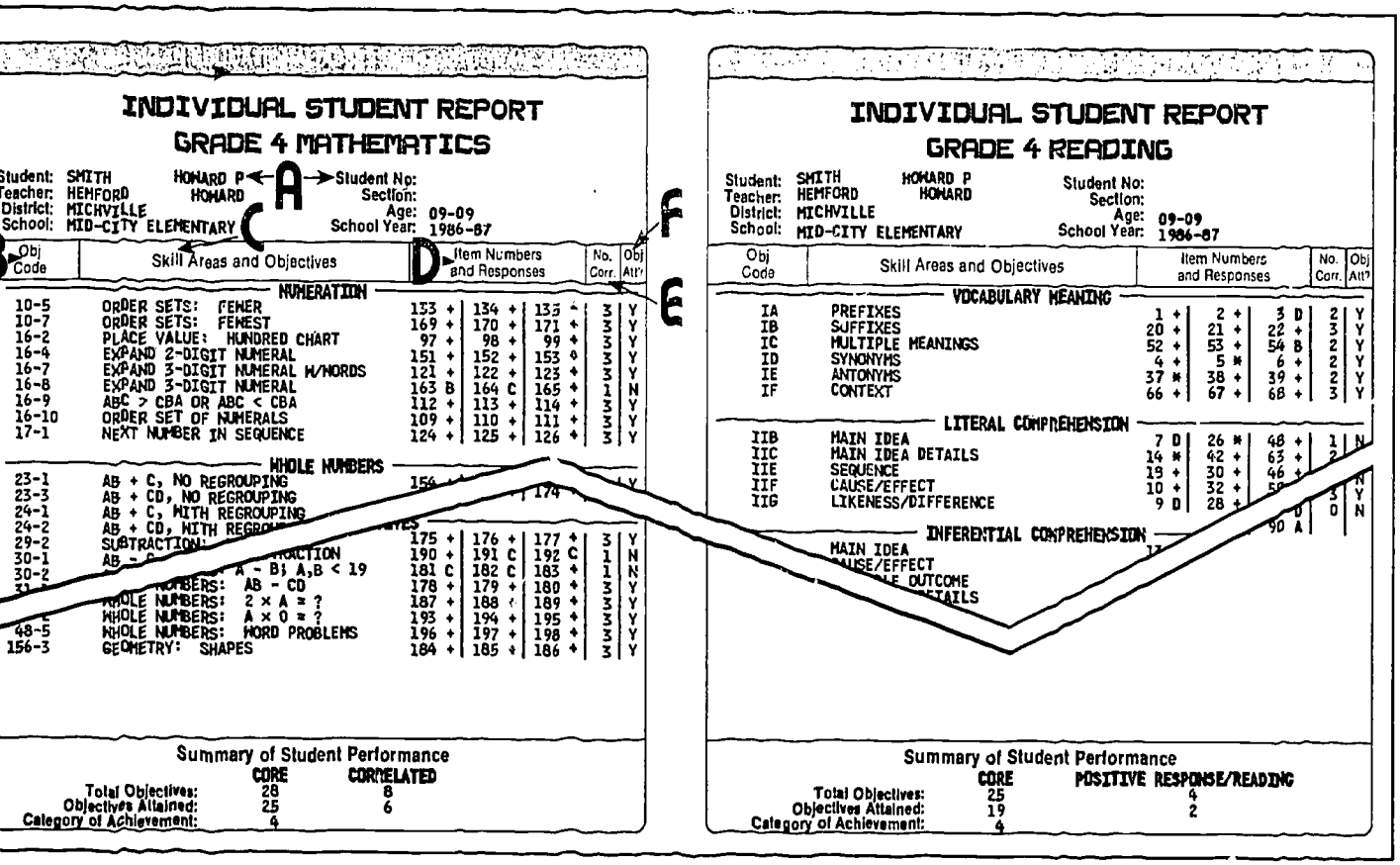
blank space means you stopped answering questions before
ou got to this question.

tion **E** shows how many questions you answered correctly
each objective.

tion **F** tells if you passed each objective: "Y" means yes,
' means no, and "O" means you didn't answer enough
stions to tell.

- Section **G** tells the total number of objectives you passed and also gives a summary of your test results. There are four levels of test results called **Categories of Achievement.** Category 4 is the highest. In order to be in Category 4, you must pass more than 75% of the objectives. Anything below Category 4 means you need some help. If you want to know more about the categories of achievement, please ask your teacher or counselor.

The information given in Section **A-G** for the mathematics objectives is then repeated for the reading objectives and the science objectives.



INDIVIDUAL STUDENT REPORT
GRADE 4 MATHEMATICS

Student: SMITH HOWARD P ← A → Student No:
Teacher: HEMFORD HOWARD Section:
District: MICHVILLE Age: 09-09
School: MID-CITY ELEMENTARY School Year: 1986-87

Obj Code	Skill Areas and Objectives	Item Numbers and Responses	No. Corr.	Obj Att?
	NUMERATION			
10-5	ORDER SETS: FEWER	133 + | 134 + | 135 -	3	Y
10-7	ORDER SETS: FEWEST	169 + | 170 + | 171 +	3	Y
16-2	PLACE VALUE: HUNDRED CHART	97 + | 98 + | 99 +	3	Y
16-4	EXPAND 2-DIGIT NUMERAL	151 + | 152 + | 153 +	3	Y
16-7	EXPAND 3-DIGIT NUMERAL W/WORDS	121 + | 122 + | 123 +	3	Y
16-8	EXPAND 3-DIGIT NUMERAL	163 B | 164 C | 165 +	1	N
16-9	ABC > CBA OR ABC < CBA	112 + | 113 + | 114 +	3	Y
16-10	ORDER SET OF NUMERALS	109 + | 110 + | 111 +	3	Y
17-1	NEXT NUMBER IN SEQUENCE	124 + | 125 + | 126 +	3	Y
	WHOLE NUMBERS			
23-1	AB + C, NO REGROUPING	156 + | [illegible] | 174		Y
23-3	AB + CD, NO REGROUPING			
24-1	AB + C, WITH REGROUPING			
24-2	AB + CD, WITH REGROUPING			
29-2	SUBTRACTION:	175 + | 176 + | 177 +	3	Y
30-1	AB - C SUBTRACTION	190 + | 191 C | 192 C	1	N
30-2	A - B; A,B < 19	181 C | 182 C | 183 +	1	N
31-1	NUMBERS: AB - CD	178 + | 179 + | 180 +	3	Y
31-2	WHOLE NUMBERS: 2 × A = ?	187 + | 188 + | 189 +	3	Y
31-3	WHOLE NUMBERS: A × 0 = ?	193 + | 194 + | 195 +	3	Y
48-5	WHOLE NUMBERS: WORD PROBLEMS	196 + | 197 + | 198 +	3	Y
156-3	GEOMETRY: SHAPES	184 + | 185 + | 186 +	3	Y

Summary of Student Performance

	CORE	CORRELATED
Total Objectives:	28	8
Objectives Attained:	25	6
Category of Achievement:	4	

INDIVIDUAL STUDENT REPORT
GRADE 4 READING

Student: SMITH HOWARD P Student No:
Teacher: HEMFORD HOWARD Section:
District: MICHVILLE Age: 09-09
School: MID-CITY ELEMENTARY School Year: 1986-87

Obj Code	Skill Areas and Objectives	Item Numbers and Responses	No. Corr.	Obj Att?
	VOCABULARY MEANING			
IA	PREFIXES	1 + | 2 + | 3 D	2	Y
IB	SUFFIXES	20 + | 21 + | 22 +	3	Y
IC	MULTIPLE MEANINGS	52 + | 53 + | 54 B	2	Y
ID	SYNONYMS	4 + | 5 * | 6 +	2	Y
IE	ANTONYMS	37 * | 38 + | 39 +	2	Y
IF	CONTEXT	66 + | 67 + | 68 +	3	Y
	LITERAL COMPREHENSION			
IIB	MAIN IDEA	7 D | 26 * | 48 +	1	N
IIC	MAIN IDEA DETAILS	14 * | 42 + | 63 +	2	
IIE	SEQUENCE	19 + | 30 + | 46 +		N
IIF	CAUSE/EFFECT	10 + | 32 + | 58		Y
IIG	LIKENESS/DIFFERENCE	9 D | 28 +	3	Y
	INFERENTIAL COMPREHENSION		0	N
	MAIN IDEA	13		
	CAUSE/EFFECT			
	OUTCOME			
	DETAILS			

Summary of Student Performance

	CORE	POSITIVE RESPONSE/READING
Total Objectives:	25	4
Objectives Attained:	19	2
Category of Achievement:	4	

APPENDIX F
SPECIAL NOTES FOR ADULT EDUCATORS

A survey of local Adult Education (AE) programs in 1982 led to the use of the Michigan Educational Assessment Program (MEAP) tests with AE students. After the pilot testing in 1982 with volunteering AE programs, it was decided to change the MEAP tests by eliminating a few of the very easy objectives and by modifying some of the reading passages and some of the art work so that the resulting tests would have greater appeal to the AE population. These modifications did not change the objectives remaining in the AE tests, however. Various combinations of these revised MEAP mathematics and reading tests have been offered to AE volunteers since 1983. This year offers the same tests for AE students as last year.

LEVEL 10 has Grade 4 mathematics and reading items;

LEVEL 20 has Grade 7 mathematics and reading items;

LEVEL 30 has Grade 10 mathematics and reading items;

LEVEL 31 has Grade 10 Career Development items;

LEVEL 32 has Grade 10 Life Role Competencies items.

This *Handbook* contains interpretive material that will help read and use MEAP test results. It was written for K-12 educators who receive the fourth, seventh and tenth grade results. However, since AE results are based on the same tests, except for some modifications for AE students in text and artwork, the information in this handbook is applicable to the Adult Education testing with few adjustments. Adult educators can use the test results to (1) determine individual student needs, and (2) review curricula to help improve instruction.

Please note that in Appendix A, which discusses the reports prepared, the following are NOT part of the AE test results: Parent Pamphlet, Feeder School Report and Research Code Report. Note, further, that Appendix C does not apply to Adult Education.

LIST OF ITEMS MEASURING EACH ADULT EDUCATION OBJECTIVE

LEVEL 10 — MATHEMATICS

Skill Area & Objective Description	Test Item Numbers
UMERATION	
RDER SETS: FEWER	127-129
RDER SETS: FEWEST	153-165
LACE VALUE: HUNDRED CHART	91-93
XPAND 2-DIGIT NUMERAL	145-147
XPAND 3-DIGIT NUMERAL W/WORDS	115-117
XPAND 3-DIGIT NUMERAL	157-159
BC > CBA OR ABC < CBA	106-108
RDER SET OF NUMERALS	103-105
EXT NUMBER IN SEQUENCE	118-120
/HOLE NUMBERS	
B + C, NO REGROUPING	148-150
B + CD, NO REGROUPING	109-111
B + C, WITH REGROUPING	112-114
B + CD, WITH REGROUPING	154-156
UBTRACTION: NUMBER SENTENCE	94-96
B – C, NO REGROUPING	160-162
B – CD, NO REGROUPING	142-144
B – C, WITH REGROUPING	139-141
+ A + A . . . = A × B	124-126
× B = A + A + A . . .	151-153
× 1 = ?	133-135
× B; A, B <6	136-138
RACTIONS	
DENTIFY CONGRUENT PARTS	130-132
HADED REGIONS: 1/2, 1/3, 1/4	100-102
ETRIC MEASUREMENT	
ENGTH: NEAREST CM	85-87
EMPERATURE	97-99
ON-METRIC MEASUREMENT	
IME: NEAREST HOUR	88-90
EOMETRY	
HAPES	121-123
ROPERTIES OF FIGURES	166-163
ORRELATES	
UMERATION: ODD OR EVEN	169-171
/HOLE NUMBERS: SUBTRACTION	184-186
/HOLE NUMBERS: A – B; A, B < 19	175-177
/HOLE NUMBERS: AB – CD	172-174
/HOLE NUMBERS: 2 × A = ?	181-183
/HOLE NUMBERS: A × 0 = ?	187-189
EOMETRY: SHAPES	178-180

LEVEL 20 — MATHEMATICS

Obj. Code	Skill Area & Objective Description	Test Item Numbers
	NUMERATION	
18-1	PLACE VALUE: FOUR DIGITS	82-84
	WHOLE NUMBERS	
25-3	A + B + C: ADDEND < 7 DIGITS	85-87
26-3	ESTIMATE SUM: 3-DIGIT ADDENDS	112-114
32-1	ABC – DE (NO 0'S), REGROUPING	157-159
32-2	ABC – DE OR ABC – DEF	148-150
39-1	AB × C = ?	118-120
39-3	AB × CD = ?	139-141
44-7	DIVISION: COMPUTATION	88-90
45-1	DIVISION: WORD PROBLEM	142-144
	DECIMALS	
63-2	PLACE VALUE	133-135
68-5	+ OR – : COMPUTATION	124-126
69-1	+ AND – : WORD PROBLEM	154-156
	FRACTIONS	
80-2	SHADED REGIONS, 10 OR LESS	91-93
81-3	EQUIVALENCE	115-117
85-3	ADD MIXED NOS., LIKE DENOMS.	94-96
90-3	WHOLE NUMBER MINUS FRACTION	97-99
94-2	WHOLE NUMBER TIMES FRACTION	121-123
95-3	A/B × C/D; B, D < 10	103-105
	METRIC MEASUREMENT	
109-2/3	CONVERSION: METERS, CENTIMETERS	127-129
119-2	AREA: COUNT SQUARE UNITS	130-132
127-1	VOLUME: COUNT CUBIC UNITS	151-153
144-1	TEMPERATURE	100-102
	NON-METRIC MEASUREMENT	
148-3	TIME: NEAREST FIVE MINUTES	145-147
152-2	MONEY: ADD OR SUBTRACT	136-138
	GEOMETRY	
157-1	QUADRILATERALS	106-108
160-1/2	LINES: RELATIONSHIPS	160-162
	PROBABILITY & STATISTICS	
170-2	BAR GRAPH	109-111
	CORRELATES	
18-2	NUMERATION: EXPAND ABCD	166-168
40-3	WHOLE NUMBERS: ESTIMATE PRODUCTS	172-174
43-2	WHOLE NUMBERS: RELATE × TO ÷	169-171
63-1	DECIMALS: PLACE VALUE	178-180
64-3	DECIMALS: MEANING, 100THS	181-183
90-3	FRACTIONS: SUBTRACTION	175-177
109-4	METRIC MEASUREMENT: CM TO M	163-165

LEVEL 30 — MATHEMATICS

Obj. Code	Skill Area & Objective Description	Test Item Numbers
	WHOLE NUMBERS:	
46-5	DIVISION: COMPUTATION	103-105
47-2	DIVISION: WORD PROBLEMS	106-108
	DECIMALS	
66-2	CONVERT FRACTIONS TO DECIMALS	88-90
67-1	ORDER SET OF DECIMALS	160-162
74-7	DECIMAL × DECIMAL	112-114
75-3	MULTIPLICATION: WORD PROBLEMS	124-126
77-2	DECIMAL ÷ WHOLE NUMBER	136-138
77-3	DECIMAL ÷ DECIMAL	115-117
	FRACTIONS	
82-2	FIND LARGER: A/B OR C/D	109-111
83-3	CONVERT MIXED TO COMMON	148-150
87-3	A/B + C/D, B ≠ D	139-141
88-2	ADDITION: WORD PROBLEMS	157-159
92-4	A/B – C/D, B ≠ D	100-102
92-6	SUBTRACTION: MIXED NUMBERS	127-129
97-2	A/B × C/D; B, D < 10	121-123
97-5	WHOLE NUMBER × MIXED NUMBER	145-147
	RATIO, PROPORTION & PERCENT	
105-4	CONVERT FRACTION, DECIMAL, %	82-84
106-1	PERCENT: WORD PROBLEMS	142-144
	METRIC MEASUREMENT	
124-2	MEASURE AND COMPUTE AREA	163-165
130-1	VOLUME: WORD PROBLEMS	91-93
	NON-METRIC MEASUREMENT	
146-1	ANGLE MEASUREMENT	154-156
149-1	TIME CONVERSION	97-99
154-2	MONEY: WORD PROBLEMS	151-153
	GEOMETRY	
167-2	PARTS OF A CIRCLE	94-96
	PROBABILITY & STATISTICS	
172-1	PROBABILITY OF SIMPLE EVENT	133-135
173-1	MEAN OF A SET OF NUMBERS	118-120
	EQUATIONS, EXPRESSIONS, GRAPHS	
180-7	EVALUATE COMMON ALGEBRAIC EXPR.	130-132
182-5	READ COORDINATE SYSTEM	85-87
	CORRELATES	
47-1	WHOLE NUMBER: DIVISION ESTIMATE	166-168
65-1	DECIMALS: ROUNDING	172-174
73-2	DECIMALS: ESTIMATE PRODUCT	184-186
74-1	DECIMAL × 10, 100, 1000	181-183
104-2	PROPORTION: WORD PROBLEM	169-171
104-3	PROPORTION: SCALE DRAWING	175-177
124-1	METRIC MEASUREMENT: AREA	178-180

LIST OF ITEMS MEASURING EACH ADULT EDUCATION OBJECTIVE

LEVEL 10 — READING

Skill Area & Objective Description	Test Item Numbers
VOCABULARY MEANING	
PREFIXES	1-3
SUFFIXES	20-22
MULTIPLE MEANINGS	52-54
SYNONYMS	4-6
ANTONYMS	37-39
LITERAL COMPREHENSION	
MAIN IDEA	7, 26, 48
MAIN IDEA DETAILS	14, 42, 63
SEQUENCE	18, 30, 46
CAUSE/EFFECT	10, 32, 58
LIKENESS/DIFFERENCE	9, 28, 49
INFERENTIAL COMPREHENSION	
MAIN IDEA	13, 41, 62
CAUSE/EFFECT	17, 29, 45
PROBABLE OUTCOME	40, 67, 69
MAIN IDEA DETAILS	8, 27, 50
SEQUENCE	11, 33, 59
LIKENESS/DIFFERENCE	15, 43, 64
CONCLUSIONS	12, 34, 60
CHARACTERS	16, 44, 65
CRITICAL READING SKILLS	
AUTHOR'S PURPOSE	61, 66, 68
RELATED STUDY SKILLS	
REFERENCES, AWARENESS	23-25
REFERENCES, USE	35-36, 51
SUMMARIZING	19, 31, 47
ALPHABETIZING	55-57
POSITIVE RESPONSES/READING	
READ IN FREE TIME	70-72
VISIT READING PLACES	73-75
REQUEST EXTRA READING	76-78
TALK ABOUT READING	79-81
RELATED READING ACTIVITY	82-84

LEVEL 20 — READING

Obj. Code	Skill Area & Objective Description	Test Item Numbers
	VOCABULARY MEANING	
IA	PREFIXES	1-3
IC	MULTIPLE MEANINGS	4-6
ID	SYNONYMS	20-22
IE	ANTONYMS	40-42
	LITERAL COMPREHENSION	
IIB	MAIN IDEA	9, 31, 43
IIC	MAIN IDEA DETAILS	12, 47, 50
IIE	SEQUENCE	18, 30, 65
IIF	CAUSE/EFFECT	25, 34, 61
IIG	LIKENESS/DIFFERENCE	11, 33, 45
	INFERENTIAL COMPREHENSION	
IIIA	MAIN IDEA	14, 46, 49
IIIB	CAUSE/EFFECT	17, 28, 64
IIIC	PROBABLE OUTCOME	23, 24, 55
IIID	MAIN IDEA DETAILS	10, 32, 44
IIIE	SEQUENCE	26, 35, 62
IIIF	LIKENESS/DIFFERENCE	13, 48, 51
IIIG	CONCLUSIONS	27, 36, 63
	CRITICAL READING SKILLS	
IVA	AUTHOR'S PURPOSE	7, 15, 59
IVC	AUTHOR'S VIEWPOINT	8, 16, 60
	RELATED STUDY SKILLS	
VA	REFERENCES, AWARENESS	37-39
VB	REFERENCES, USE	52-54
VD	SUMMARIZING	13, 29, 66
VF	ALPHABETIZING	56-58
	POSITIVE RESPONSE/READING	
VIA	READ IN FREE TIME	67-69
VIB	VISIT READING PLACES	70-72
VIC	REQUEST EXTRA READING	73-75
VID	TALK ABOUT READING	76-78
	RELATED ACTIVITIES	79-81

LEVEL 30 — READING

Obj. Code	Skill Area & Objective Description	Test Item Numbers
	VOCABULARY MEANING	
IA	PREFIXES	25-27
IC	MULTIPLE MEANINGS	31-33
ID	SYNONYMS	28-30
IE	ANTONYMS	1-3
	LITERAL COMPREHENSION	
IIB	MAIN IDEA	9, 34, 45
IIC	MAIN IDEA DETAILS	7, 41, 61
IIE	SEQUENCE	13, 23, 44
IIF	CAUSE/EFFECT	37, 52, 57
IIG	LIKENESS/DIFFERENCE	11, 36, 51
	INFERENTIAL COMPREHENSION	
IIIA	MAIN IDEA	6, 40, 60
IIIB	CAUSE/EFFECT	12, 22, 43
IIIC	PROBABLE OUTCOME	17, 18, 21
IIID	MAIN IDEA DETAILS	10, 35, 50
IIIE	SEQUENCE	38, 53, 55
IIIF	LIKENESS/DIFFERENCE	8, 42, 62
IIIG	CONCLUSIONS	39, 54, 56
	CRITICAL READING SKILLS	
IVA	AUTHOR'S PURPOSE	4, 19, 58
IVB	FACT/OPINION	46, 47, 48
IVC	AUTHOR'S VIEWPOINT	5, 20, 59
	RELATED STUDY SKILLS	
VA	REFERENCES, AWARENESS	64, 65, 66
VB	REFERENCES, USE	15, 16, 63
VD	SUMMARIZING	14, 24, 45
	POSITIVE RESPONSES/READING	
VIA	READ IN FREE TIME	67-69
VIB	VISIT READING PLACES	70-72
VIC	REQUEST EXTRA READING	73-75
VID	TALK ABOUT READING	76-78
—	RELATED READING ACTIVITY	79-81

APPENDIX G

LISTING OF RESOURCE MATERIALS[1] (1986)

lanatory

estions and Answers About the Michigan Educational sessment Program

onograph #1: An Overview

ng MEAP Results

onograph #2: Identifying and Addressing Student eds

onograph #3: Identifying and Addressing Curriculum eds

orting MEAP Results

onograph #4: Reporting Test Results to Parents

m for use with parents: "Building Better Basics" — order ectly from your Local Regional Educational Media nter (REMC)

onograph #5: Reporting Test Results to the School ard

onograph #6: Reporting Test Results to the Public

ructional Support Materials

athematics

nimal Performance Objectives for Mathematics (1980)

athematics Education Interpretive Report: Grades 4-7-10: 80-81

EAP Support Materials for Mathematics

hole Number Computation

acher Resource Guide for Metric Education

2. *Reading*
   "Marks for MEAP — Reading" is available from Michigan Reading Association
   P.O. Box 7509
   Grand Rapids, MI 49510
   (Cost is $2.50 each)
3. *Other Essential Skill Areas (Information for other essential skill areas is also available. Such information typically includes performance objectives, statewide results, and (if available) interpretive reports, and support materials.*

- *Health Education*
- *Physical Education*
- *Science*
- *Career Development*

E. Related Materials

- *A Guide to Test Taking, As Easy as . . . 1-2-3*
- *How to Pick a Good School*
- *School Effectiveness — Eight Variables That Make a Difference*
- *Evaluating the Educational Outcomes of Your Local Schools*

[1]Materials available upon request from MEAP, P.O. Box 30008, Lansing, MI 48909. Quantities limited to one copy per item.

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