DOCUMENT RESUME

ED 064 166 SE 014 174

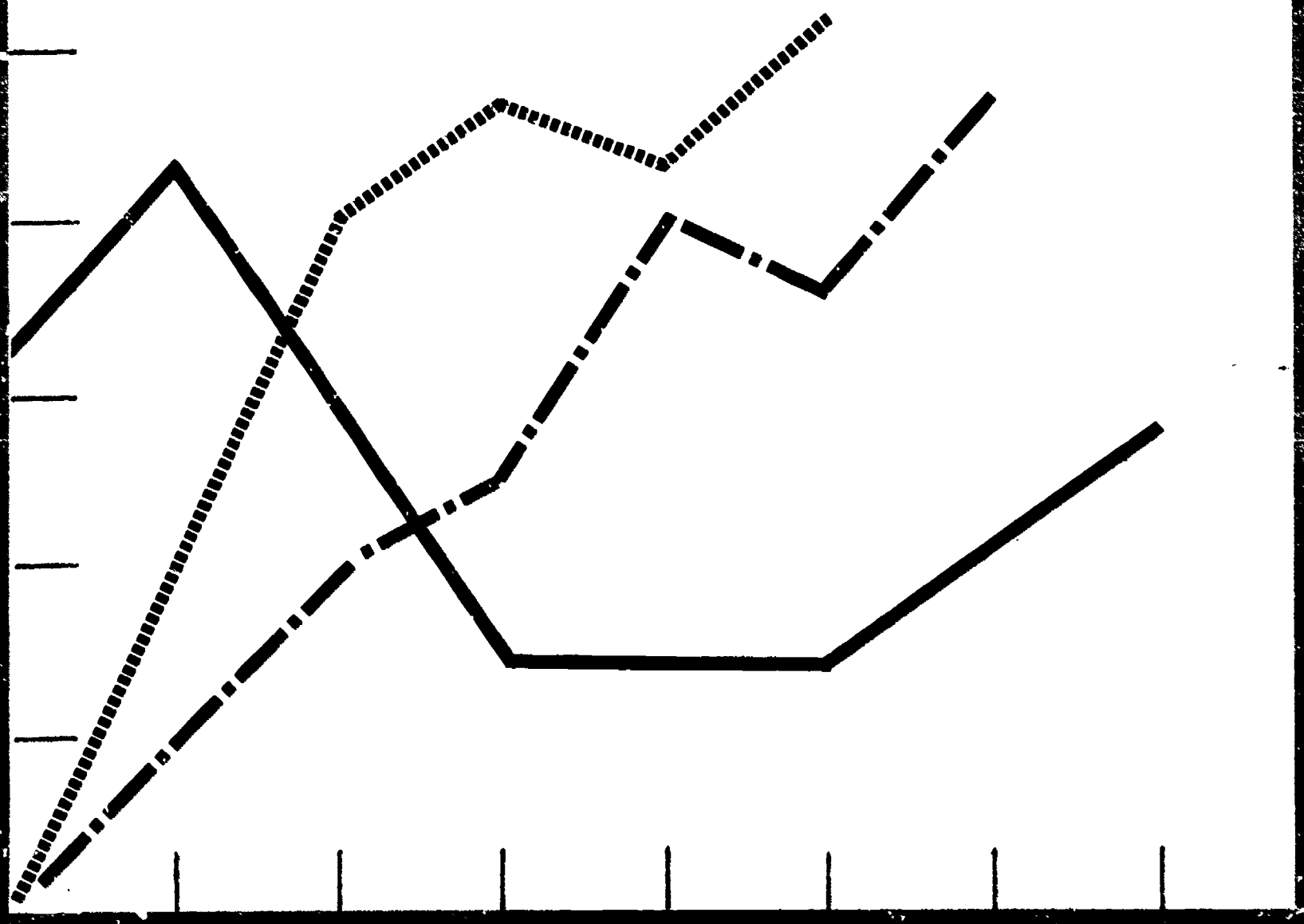
TITLE	Mathematics Objectives, Levels K-4 [Project SPPED, System for Program and Pupil Evaluation and Development].
INSTITUTION	New York State Education Dept., Albany. Bureau of School and Cultural Research.
PUB DATE	72
NOTE	78p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Arithmetic; *Behavioral Objectives; *Curriculum; *Elementary School Mathematics; *Evaluation; Number Systems; *Objectives
IDENTIFIERS	Preschool Mathematics

ABSTRACT

This is the first volume of a series produced by the State Education Department of the University of the State of New York. Mathematics objectives and sample items included were originally developed by four local school districts and are not intended to be official or comprehensive, but an aid to teachers in constructing curricula and making classroom goals clear and precise. The document presents a series of examples, each of which states an objective and gives a sample item. There are five sections, each covering one level. Level four is the largest and is subdivided into: number, numeral, and numeration systems; whole numbers; measurement; geometry; problem solving/word problems; algebra; statistics and probability. Related documents are SE 014 173 and 014 175. (JM)

MATHEMATICS OBJECTIVES

LEVELS K-4



MATHEMATICS OBJECTIVES FOR LEVELS K-4

Project SPPED

System for Pupil and Program Evaluation and Development

Volume I

The University of the State of New York
The State Education Department
Division of Research
Albany, New York 12224

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FOREWORD

The mathematics objectives and items in this packet were originally developed by four local school districts who were participating in CAM projects sponsored by the New York State Education Department. They were refined, checked for quality, and organized by Gerlach van Gendt of the Bureau of School and Cultural Research with assistance from Lee Negus of the Bureau of Mathematics Education.

These objectives are not an official or endorsed set of Mathematics Objectives. Nor do they claim to be comprehensive (i.e., covering all material in the relevant grade levels).

Nonetheless, it is our hope that many teachers will find these objectives useful and helpful in constructing curricula for their classes. These objectives can help you, as a teacher, make vague classroom goals clear and precise. But, the responsibility for what is taught is still the teacher's.

LEVEL K

		6 0 0 0 5	

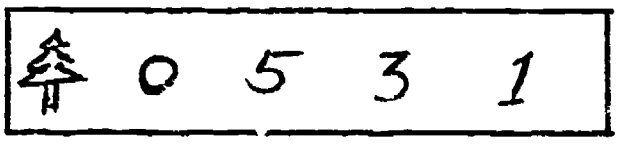
OBJECTIVE: Students will circle a given numeral from 0 to 15, when given orally, from a series of numerals.

TEACHER DIRECTION: READ: Find the numeral 2 in the box and circle it.

STUDENT TEST READS:

7	2	6	11	12

SAMPLE ITEM: Find the box with the tree in it. Draw a circle around the numeral 3.



Level K Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numerals	41 Descriptor - Identifying Whole Numbers Role, Student

		6 0 0 1 0	

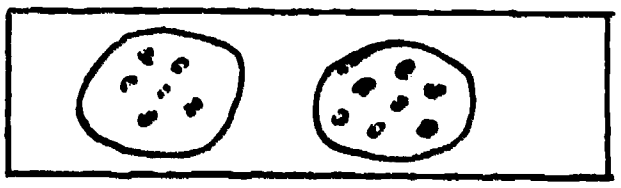
OBJECTIVE: Students will count the objects in two sets and identify the set which has more objects.

TEACHER DIRECTION: READ: Count the number of X's in both boxes and circle the box that has more X's.

STUDENT TEST READS:

x x x x x	x x x x x x

SAMPLE ITEM: Find the box that has the two circles with balls in them. Color in the circle that has the most balls.



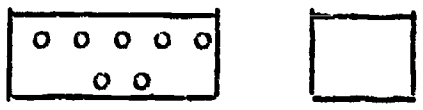
Level K Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		60015	

OBJECTIVE: Students will c unt objects (circles, X's, etc.) in a given set of 0 to 15 objects and write the numeral telling how many objects are in the given set.

TEACHER DIRECTION: READ: Count the number of circles in the first box; in the second box write how many circles there are.

STUDENT TEST READS:



SAMPLE ITEM: Find the box with the X's in it. Count how many X's there are and in the empty space next to the X's, write the numeral telling how many X's there are.

Level K Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numbers	41 Descriptor - Counting up to 15 objects Role, Student

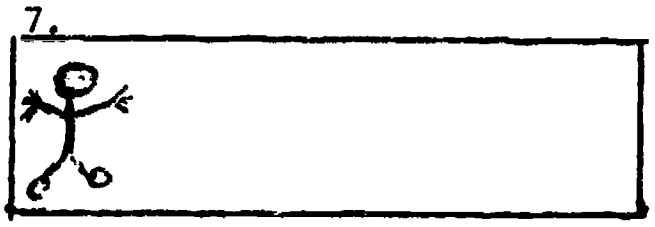
		60020	

OBJECTIVE: Students will write a numeral from 5 to 15 when given the number orally.

TEACHER DIRECTION: READ: Write the numeral 2 in the box.

STUDENT TEST READS:

SAMPLE ITEM: In the box with the man in it, write the numeral for 7.



Level K Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numbers	41 Descriptor - Counting up to 15 objects Role, Student

		6 0 0 2 5	

OBJECTIVE: Students will be given an oral number from 0 tc 15 and will be requested to draw a set of objects (circles, X's, etc.) in a designated area representing the given numeral.

TEACHER DIRECTION: READ: In the box make 14 X's.

STUDENT TEST READS:

SAMPLE ITEM: Find the box with the flag in it. Draw one circle in the box.

Level K Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numerals	41 Descriptor - Counting up to 15 objects Role, Student

		6 0 0 3 0	

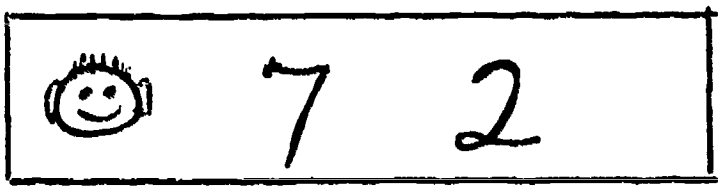
OBJECTIVE: Students will circle one of two numerals which represents the largest number, numbers being from 0 to 15.

TEACHER DIRECTION: READ: In the box put a circle around the numeral which means more things.

STUDENT TEST READS:

13	8

SAMPLE ITEM: In the box with the face in it, draw a circle around the numeral which means more things.



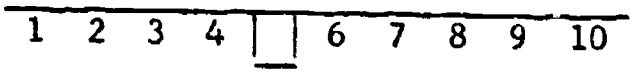
Level K Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		6 0 0 3 5		

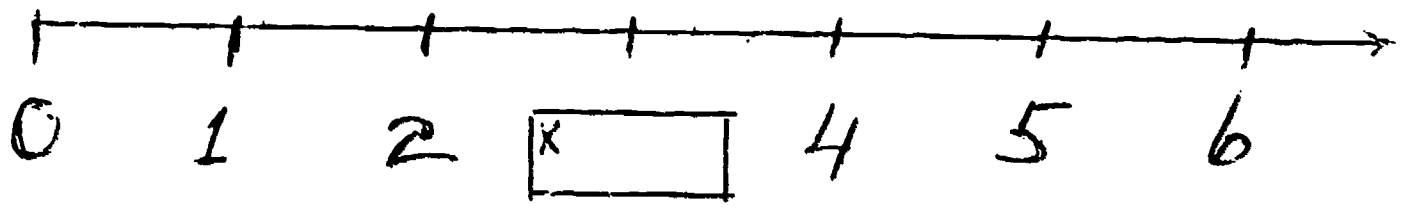
OBJECTIVE: Students will be given a number line extending from 0 to 15 with a blank left in place of one of the numerals and will replace that blank with the correct number.

TEACHER DIRECTION: READ: Look at the number line, and in the box write the numeral you think is missing.

STUDENT TEST READS:



SAMPLE ITEM: Find the box with the X in it. Write the numeral you think is missing in the box.



Level K Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Coordinates on Number Line Role, Student

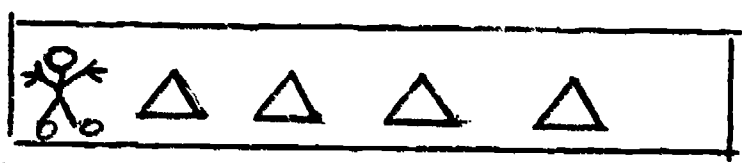
		6 0 0 4 0		

OBJECTIVE: Given a row of more than three objects students will circle the first, second, or third object from the left.

TEACHER DIRECTION: READ: Draw a circle around the third face.

STUDENT TEST READS:

SAMPLE ITEM: Find the box with the man in it. Draw a circle around the second triangle from the man.



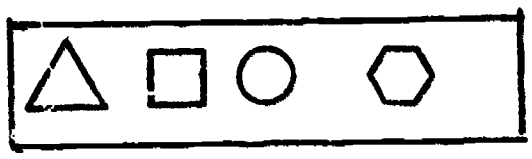
Level K Classification - Number, Numeral, and Numeration Systems, Cardinal and Ordinal Numbers	41 Descriptor - Cardinal and Ordinal Numbers Role, Student

		60045	

OBJECTIVE: Students will circle a given shape from a series including a circle, rectangle, square, and triangle.

TEACHER DIRECTION: READ: Look at the shapes in the box and circle the one which is a square.

STUDENT TEST READS:



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Level K Classification - Geometry, Identifying Figures	41 Descriptor - Identifying plane figures Role, Student

LEVEL 1

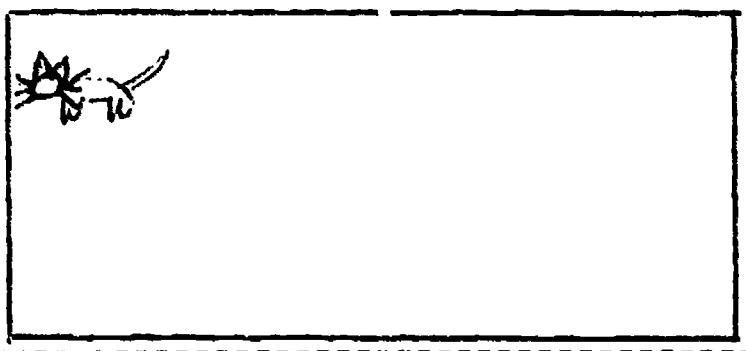
		6 0 0 5 0	

OBJECTIVE: Students will write a numeral from 0 to 100 when given the number orally.

TEACHER DIRECTION: READ: Write the numeral 24 in the box.

STUDENT TEST READS: ☐

SAMPLE ITEM: Find the box with the cat in it. Write the numeral for 85 in the box.



Level 1 Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numbers	41 Descriptor - Reading and Writing Numbers Role, Student

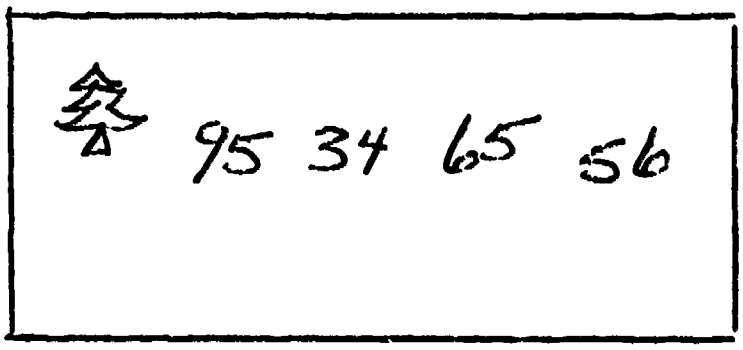
		6 0 0 5 5	

OBJECTIVE: Students will circle a given numeral from 0 to 100 when given orally from a series of numerals.

TEACHER DIRECTION: READ: Circle the numeral 66 in the box.

STUDENT TEST READS: 27 35 71 66 55

SAMPLE ITEM: Find the box with the tree in it. Draw a circle around the numeral for 65.



Level 1 Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numbers	41 Descriptor - Reading and Writing Numbers Role, Student

		6 0 0 6 0	

OBJECTIVE: Students will write one of the following series: 0-10 by 1's; 0-20 by 2's; 0-50 by 5's; or 0-100 by 10's.

TEACHER DIRECTION: READ: In the box, write the numerals 0 to 20 by 2's.

STUDENT TEST READS:

SAMPLE ITEM: Find the box with the house in it. Write the numerals 0 to 20 by 2's. You can put a numeral on each line.

Level 1
Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numerals

41 Descriptor - Counting by 1's, 2's, 5's,/ 10's

Role, Student

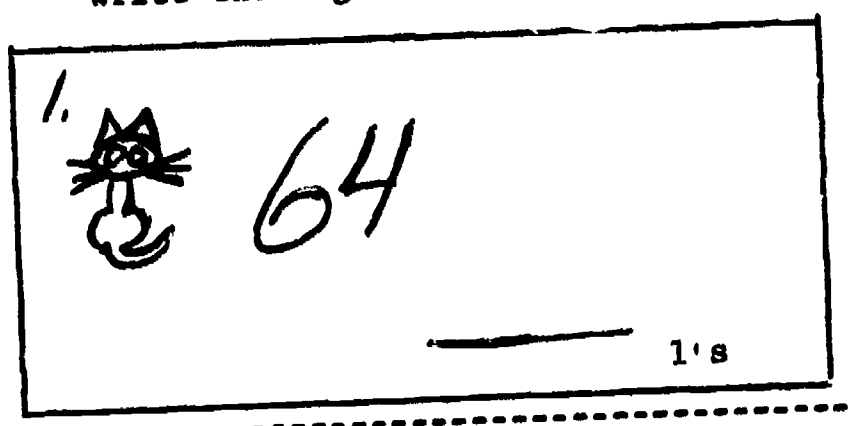
		6 0 0 6 5	

OBJECTIVE: Students will identify the numeral in the 1's to 10's place in a 2 digit numeral to 99.

TEACHER DIRECTION: READ: Write the 10's digit on the blank line.

STUDENT TEST READS: 85 has ____ 10's

SAMPLE ITEM: Find the box with the cat in it. On the blank line write the digit in the 1's place in 64.



Level L
Classification - Number, Numeral, and Numeration Systems, Place Value

41 Descriptor - Place Value

Role, Student

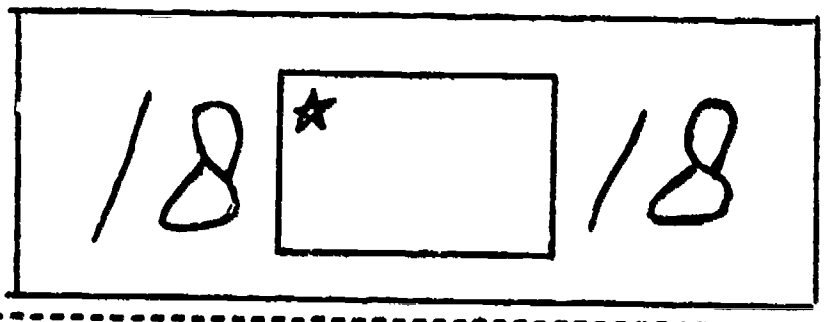
		6 0 0 7 0	

OBJECTIVE: Students will be asked to write the correct symbol (=, <, >) between two numbers between 0 and 99.

TEACHER DIRECTION: READ: In the box put the symbol which tells whether 45 is less than, greater than, or equal to 45.

STUDENT TEST READS: 45 ☐ 45

SAMPLE ITEM: Find the box with the star in it. In the box, write the symbol telling whether 18 is greater than, less than, or equal to 18.



Level 1
Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities

41 Descriptor - Inequalities on Whole Numbers

Role, Student

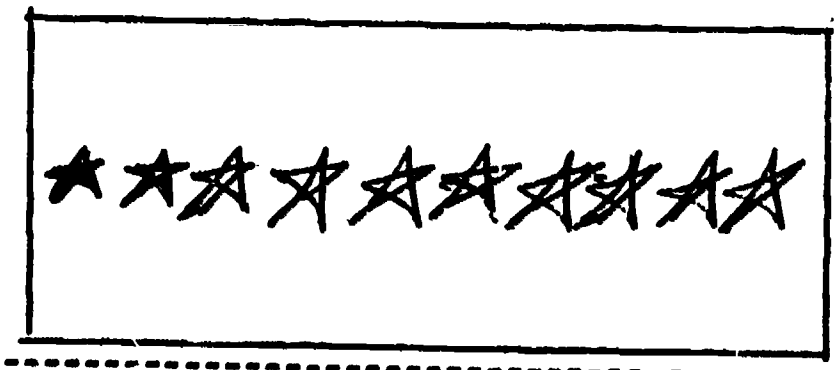
		6 0 0 7 5	

OBJECTIVE: Given a row of 10 or more objects, the student will be directed to circle the first, second, ..., or tenth.

TEACHER DIRECTION: READ: Circle the seventh tree from the left in the box.

STUDENT TEST READS:

SAMPLE ITEM: Find the box with the stars in it. Starting from the left, draw a circle around the fourth star.



Level 1
Classification - Number, Numeral, and Numeration Systems, Cardinal and Ordinal Numbers

41 Descriptor - Cardinal and Ordinal Numbers

Role, Student

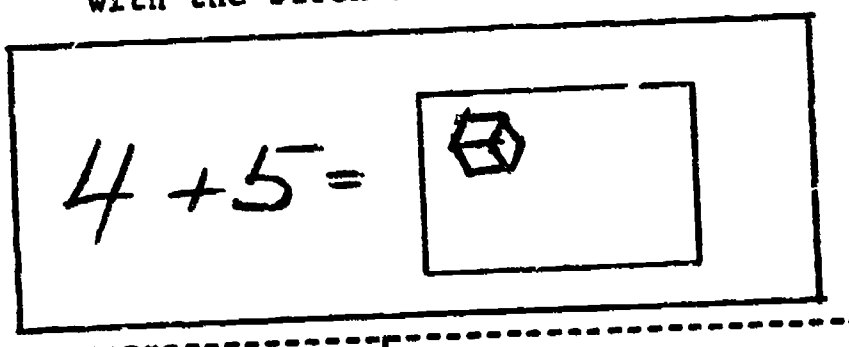
		6 0 0 8 0	

OBJECTIVE: Students will write the answer to horizontal number sentences with two 1-digit addends and sums no greater than 10.

TEACHER DIRECTION: READ: Add the two numbers and write your answer in the box.

STUDENT TEST READS: 2 + 3 = ☐

SAMPLE ITEM: Add 4 plus 5 and write your answer in the box with the block in it.



Level 1 Classification - Whole Numbers, Addition	41 Descriptor - Addition with Sums no Greater than 10 Role, Student

		6 0 0 8 5	

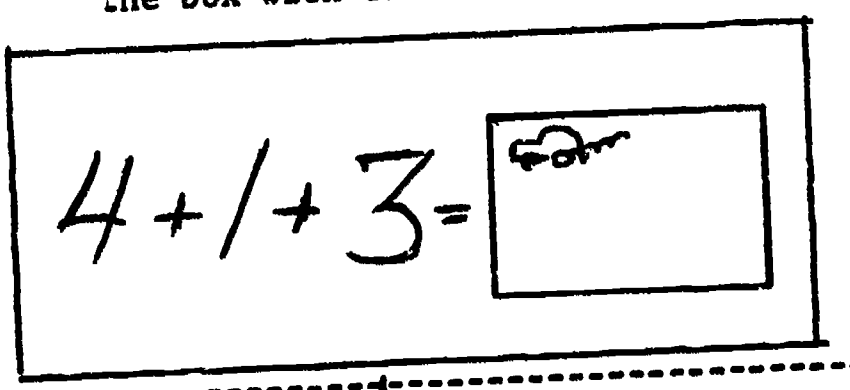
OBJECTIVE: Students will write the answer to number sentences with three addends in either horizontal or vertical form, with sums no greater than 10.

TEACHER DIRECTION: READ: Add the three numbers and write your answer in the box.

STUDENT TEST READS: 2 + 2 + 2 = ☐

3
2
+1
☐

SAMPLE ITEM: Add 4 plus 1 plus 3 and write your answer in the box with the car in it.



Level 1 Classification - Whole Numbers, Addition	41 Descriptor - Addition with Sums no Greater than 10 Role, Student

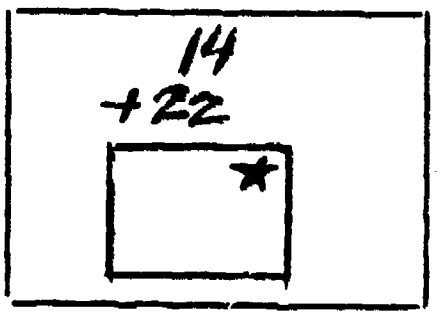
		60090	

OBJECTIVE: Students will add two 2-digit numbers in vertical form with no regrouping.

TEACHER DIRECTION: READ: Add the two numbers and write your answer in the box.

STUDENT TEST READS: 22 + 44 = ☐

SAMPLE ITEM: Add 14 plus 22 and write your answer in the box with the star in it.



Level 1 Classification - Whole Numbers, Addition	41 Descriptor - Adding Two Whole Numbers Without carrying Role, Student

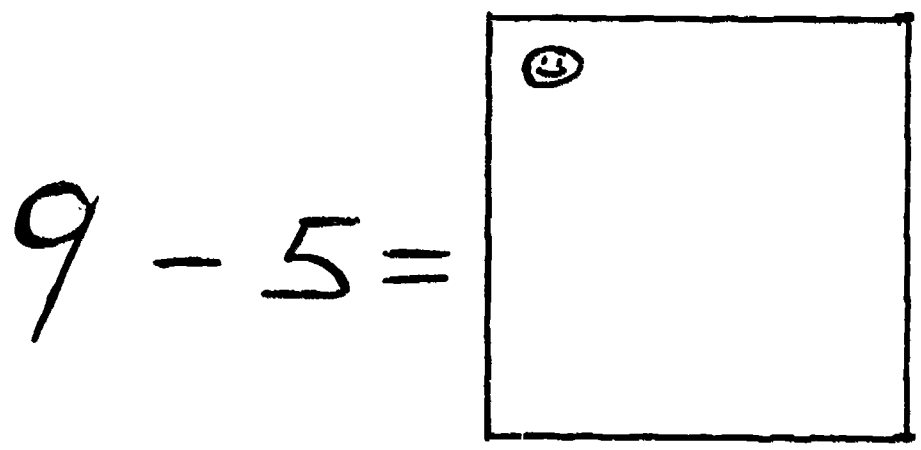
		60095	

OBJECTIVE: Students will subtract one 1-digit number from another with the problem written in horizontal form.

TEACHER DIRECTION: READ: Subtract and put your answer in the boxes.

STUDENT TEST READS: 9 - 5 = ☐ 8 - 5 = ☐

SAMPLE ITEM: Subtract 5 from 9 and write your answer in the box with the face in it.



Level 1 Classification - Whole Numbers, Subtraction	41 Descriptor - Subtraction-Subtrahend Less than 10 Role, Student

		6 0 1 0 0	

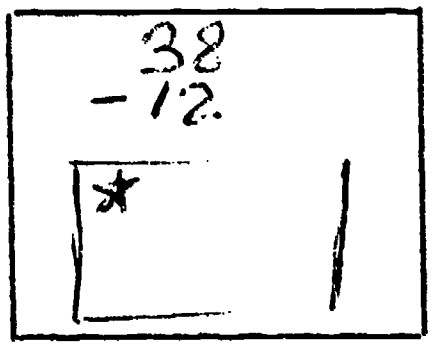
OBJECTIVE: Students will subtract one 2-digit number from another with no regrouping when the problem is in vertical form.

TEACHER DIRECTION: READ: Subtract and put your answer in the box.

STUDENT TEST READS:

$$\begin{array}{r} 44 \\ -22 \\ \hline \square \end{array}$$

SAMPLE ITEM: Subtract 12 from 38 and write your answer in the box with the star in it.



Level 1 Classification - Whole Number, Subtraction	41 Descriptor - Subtraction Whole Numbers Without Borrowing Role, Student

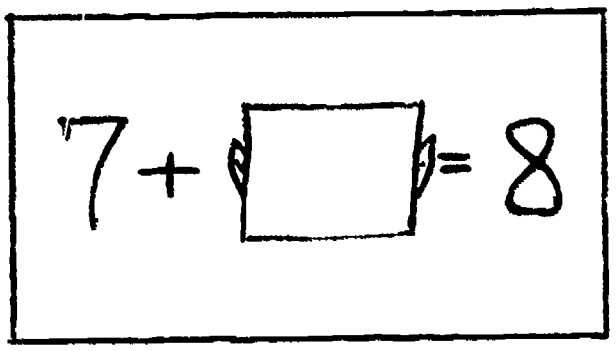
		6 0 1 0 5	

OBJECTIVE: Students will complete number sentences in horizontal form by providing the missing addend or sum.

TEACHER DIRECTION: READ: Place the correct number in the box.

STUDENT TEST READS: $2 + \square = 8$

SAMPLE ITEM: Seven plus what number equals 8? Write your answer in the box with the ears on it.



Level 1 Classification - Algebra, Number Sentences/Open Sentences	41 Descriptor - Finding Solution Sets of Open Sentences Role, Student

LEVEL 2

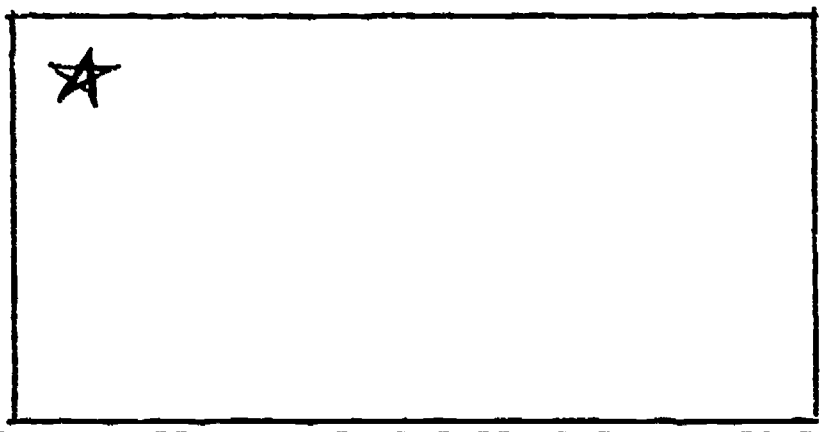
		6 0 1 1 0	

OBJECTIVE: Students will write a Hindu-Arabic numeral from 0 to 1000 when given the number orally.

TEACHER DIRECTION: READ: Write the numeral 945 in the box.

STUDENT TEST READS:

SAMPLE ITEM: Write the numeral 857 in the box with the star in it.



Level 2 Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numerals	41 Descriptor - Reading and Writing Numbers Role, Student

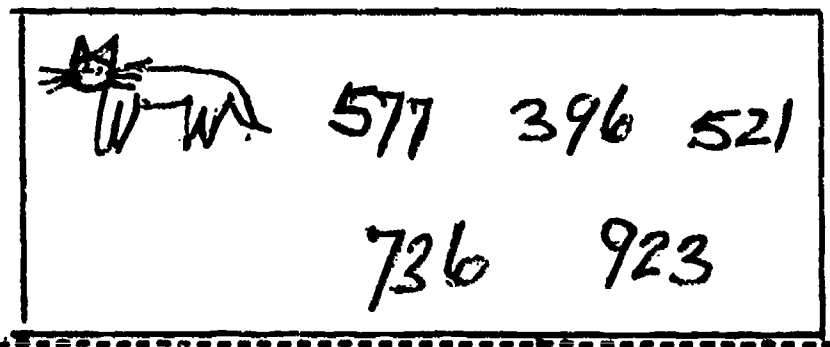
		6 0 1 1 5	

OBJECTIVE: Students will circle a given numeral from 0 to 1000, when given orally, from a series of numerals.

TEACHER DIRECTION: READ: Circle the numeral 555 in the box.

STUDENT TEST READS: 629 555 345 978 269

SAMPLE ITEM: In the box with the cat in it, find the numeral 923 and draw a circle around it.



Level 2 Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numerals	41 Descriptor - Reading and Writing Numbers Role, Student

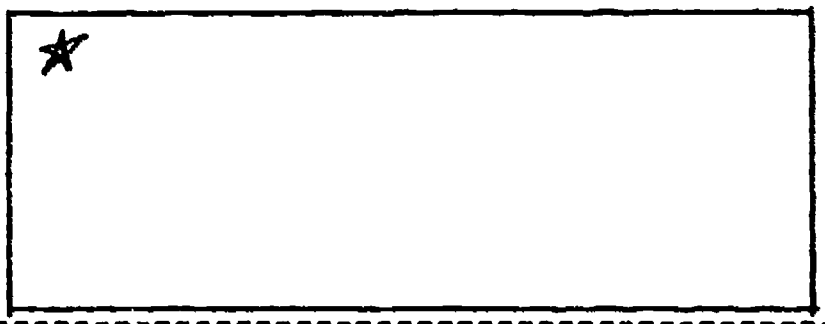
		6 0 1 2 0		

OBJECTIVE: Students will write one of the following series: 0-30 by 3's; 0-40 by 4's; 0-500 by 50's; 0-1000 by 100's.

TEACHER DIRECTION: READ: In the box, write the numerals 0 to 40 by 4's.

STUDENT TEST READS:

SAMPLE ITEM: In the box with the star in it, write the numerals 0 to 30 by 3's.



Level 2 Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/Identifying Numerals	41 Descriptor - Counting by 3's, 4's, 50's, and 100's. Role, Student

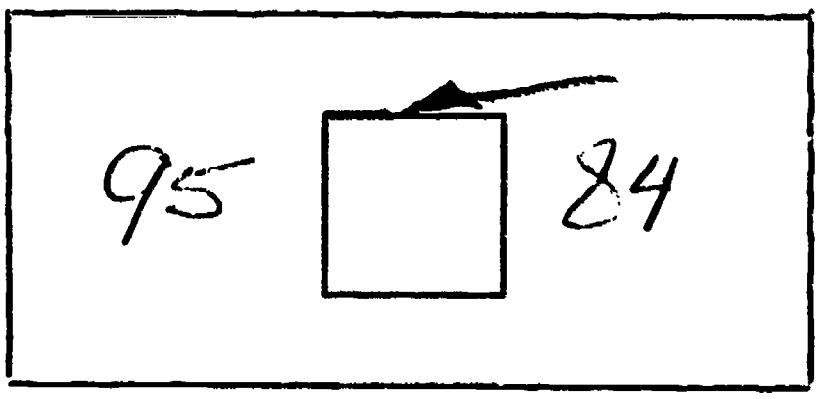
		6 0 1 2 5		

OBJECTIVE: Students will complete number sentences, involving numbers less than 100, using inequalities ($<$, $>$).

TEACHER DIRECTION: READ: Complete the number sentence and put your answer in the box.

STUDENT TEST READS: 34 ☐ 25

SAMPLE ITEM: Write the symboi telling whether 95 is 'greater than' or 'less than' 84 in the box with an arrow pointing at it.



Level 2 Classification - Number, Numeral, and Numeration Systems, Number Line/ Inequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		6 0 1 2 6	

OBJECTIVE: Given three numerals, the child will demonstrate his knowledge of the numerals 1 to 10 by choosing the numeral which represents the greatest or smallest number.

SAMPLE ITEM: Teacher says, "Which numeral tells the greatest number 3, 5, 8?"

(a) child says, "three"
(b) child says, "five"
(c) child says, "eight"
(d) no response

Answer: (c)

Level 2 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		6 0 1 2 7	

OBJECTIVE: Given a set of three blocks, no two of which are the same size, the child will show his knowledge of the meaning of the words, "largest" and "smallest" by choosing a block at the direction of the teacher.

SAMPLE ITEM: The blocks are arranged so that the largest block is first, smallest block is second, medium block third. The teacher says, "Point to the smallest block."

(a) child points to second block.
(b) child points to first block.
(c) child points to third block.

Answer: (a)

Level 2 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		6 0 1 3 0	

OBJECTIVE: Students will identify the digit in the 1's, 10's or 100's place in a 3-digit numeral to 999.

TEACHER DIRECTION: **READ:** Write the digit in the 10's place in the number 345 by writing it on the blank line.

STUDENT TEST READS: _____ 10's

SAMPLE ITEM: What digit is in the 10's place in the number 857.

857

_____ tens

Level 2 Classification - Number, Numeral, and Numeration Systems, Place Value	41 Descriptor - Place Value Role, Student

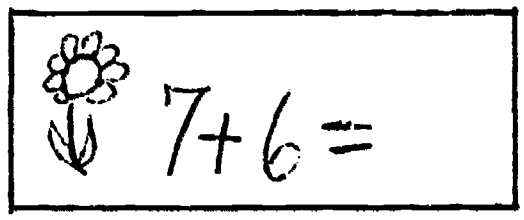
		6 0 1 3 5	

OBJECTIVE: Students will complete a given number sentence involving addition of two 1-digit addends.

TEACHER DIRECTION: READ: Add the two numbers and put your answer in the box.

STUDENT TEST READS: 6 + 4 = ☐

SAMPLE ITEM: In the box with the flower in it, add 7 plus 6 and write your answer.



Level 2 Classification - Whole Numbers, Addition	41 Descriptor - Addition-Sums no Greater than 18 Role, Student

		6 0 1 4 0	

OBJECTIVE: Students will complete addition number sentences in either horizontal or vertical form with no single addend greater than 10 and with sums no greater than 18.

TEACHER DIRECTION: READ: Add the three numbers together and put your answer in the box.

STUDENT TEST READS: 3 + 4 + 6 = ☐

SAMPLE ITEM: Add 5 plus 3 plus 6 and write your answer.

5 + 3 + 6 =

Level 2 Classification - Whole Numbers, Addition	41 Descriptor - Addition-Sums no Greater than 18 Role, Student

		6 0 1 3 6		

OBJECTIVE: The student can demonstrate an understanding of the process of addition by adding two whole numbers whose sum is less than 10.

SAMPLE ITEM:

$$\begin{array}{r} 2 \\ +\ 3 \\ \hline \square \end{array}$$

(a) 3
(b) 4
(c) 5
(d) 6
(e) 7

Answer: (c)

Level 2 Classification - Whole Numbers, Addition	41 Descriptor - Adding Whole Numbers Role, Student

		6 0 1 3 7		

OBJECTIVE: The student can demonstrate understanding of the addition process by solving addition problems with addend and sum placeholders.

SAMPLE ITEM:

$$\begin{array}{r} 4 \\ +\ 6 \\ \hline \square \end{array}$$

(a) 6
(b) 7
(c) 8
(d) 9
(e) 10

Answer: (e)

Level 2 Classification - Whole Numbers, Addition	41 Descriptor - Adding Whole Numbers Role, Student

		6 0 1 4 5	

OBJECTIVE: Students will add two 2-digit numbers in vertical form with regrouping with sums no greater than 99.

TEACHER DIRECTION: READ: Add the two numbers together and put your answer in the box.

STUDENT TEST READS:

$$\begin{array}{r} 28 \\ +\ 36 \\ \hline \square \end{array}$$

SAMPLE ITEM: Add and write your answer.

$$\begin{array}{r} 48 \\ +\ 36 \\ \hline \end{array}$$

Level 2 Classification - Whole Numbers, Addition	41 Descriptor - Adding two Whole Nos. With Carrying Role, Student

		6 0 1 5 0	

OBJECTIVE: Students will complete horizontal subtraction number sentences in which the subtrahend is no greater than 18.

TEACHER DIRECTION: READ: Subtract and put your answer in the box.

STUDENT TEST READS: $28 - 6 = \square$

SAMPLE ITEM: Subtract and write your answer.

$$17 - 8 =$$

Level 2 Classification - Whole Numbers, Subtraction	41 Descriptor - Subtraction-Subtrahend no greater than 18. Role, Student

		6 0 1 5 1	

OBJECTIVE: The student can demonstrate understanding of the subtraction process by solving subtraction combinations and equations whose differences are less than 10.

SAMPLE ITEM:

$$\begin{array}{r} 5 \\ -\ 3 \\ \hline \square \end{array}$$

(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

Answer: (b)

Level 2 Classification - Whole Numbers, Subtraction	41 Descriptor - Subtraction - Whole Nos. - Without Borrowing Role, Student

		6 0 1 5 3	

OBJECTIVE: The student can demonstrate understanding of the subtraction process by solving subtraction problems whose differences are less than 10 with placeholders in all positions.

SAMPLE ITEM:

$$\begin{array}{r} 10 \\ -\ 6 \\ \hline \square \end{array}$$

(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

Answer: (c)

Level 2 Classification - Whole Numbers, Subtraction	41 Descriptor - Subtraction - Whole Nos. - Without Borrowing Role, Student

		6 0 1 5 5	

OBJECTIVE: Students will subtract one 2-digit number from another in vertical form with regrouping.

TEACHER DIRECTION: READ: Subtract and put your answer in the box.

STUDENT TEST READS: 61 - 42 = ☐

SAMPLE ITEM: Subtract and write your answer.

45
- 18

Level 2 Classification - Whole Numbers, Subtraction	41 Descriptor - Subtraction-Whole Nos.- With Borrowing Role, Student

		6 0 1 6 0	

OBJECTIVE: Students will complete horizontal number sentences involving multiplication facts for 2's, 5's, and 10's and with no number greater than 100.

TEACHER DIRECTION: READ: Multiply the numbers together and put your answer in the box.

STUDENT TEST READS: 6 x 5 = ☐

SAMPLE ITEM: Multiply and write your answer.

5 X 7 =

Level 2 Classification - Whole Numbers, Multiplication	41 Descriptor - Multiplication of Whole Numbers Role, Students

		6 0 1 6 5	

OBJECTIVE: Given a number, the student will tell how many times a given factor will divide it, where the factor is either 2, 5, or 10.

TEACHER DIRECTION: **READ:** Complete the number sentence and put your answer in the box.

STUDENT TEST READS: $25 = 5 \times \square$

SAMPLE ITEM: Write the numeral that makes the number sentence true.

$60 = 10 \times \square$

Level 2 Classification - Whole Numbers, Division	41 Descriptor - Division Without Remainder Role, Student

		6 0 1 7 0	

OBJECTIVE: Students will look at a circle or square partially shaded. Given the fractions $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$, the student will circle that fraction which represents the shaded portion of the figure.

TEACHER DIRECTION: **READ:** Look at the circle, then circle the fraction in the box which tells how much of the circle is shaded.

STUDENT TEST READS:

1/2 1/3 1/4

SAMPLE ITEM: Draw a circle around the fraction which tells how much of the rectangle is shaded in.

$\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{2}$

Level 2 Classification - Fractions (Positive Rationals), Basic Concepts	41 Descriptor - Labeling Fractional Parts Role, Student

		6 0 1 7 2	

OBJECTIVE: The student demonstrates an understanding of the U.S. monetary system by identifying the relation between the penny, nickel, quarter and half dollar as units of measure of value.

SAMPLE ITEM: Which set of coins has the same value as 25¢?

(a) 2 dimes and 5 nickels.
(b) 2 dimes and 2 nickels and 5 pennies.
(c) 2 nickels and 5 pennies.
(d) 1 dime and 2 nickels and 5 pennies.

Answer: (d)

Level 2 Classification - Measurement, Money	41 Descriptor - Operations with Money Role, Student

		6 0 1 7 3	

OBJECTIVE: The child will apply his knowledge of shapes by naming common two-dimensional shapes when presented with objects in the room.

SAMPLE ITEM: Child is presented with a round clock.

Child says:

(a) "square"
(b) "rectangle"
(c) "circle"
(d) no response

Answer: (c)

Level 2 Classification - Geometry, Identifying Figures	41 Descriptor - Identifying Plane Figures Role, Student

		6 0 1 7 5	

OBJECTIVE: Student will complete horizontal number sentences involving addition by providing the missing addend or sum where the sum is 18 or less.

TEACHER DIRECTION: READ: Complete the number sentence and put your answer in the box.

STUDENT TEST READS: 4 + ☐ = 10

SAMPLE ITEM: Fill in the blank space. What number plus 6 equals 11?

☐ + 6 = 11

Level 2 Classification - Algebra, Number Sentences/Open Sentences	41 Descriptor - Finding Solution Sets of Open Sentences Role, Student

LEVEL 3

		6 0 1 8 0	

OBJECTIVE: Students will select a Hindu-Arabic numeral that means the same as a numerical expression written in words. The correct numeral will be less than 1000.

SAMPLE ITEM: Two hundred and forty written in numerical form is:

(A) 24 (B) 420 (C) 204 (D) 240

Level 3 Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/ Identifying Numerals	41 Descriptor - Reading and Writing Numbers Role, Student

		6 0 1 8 5	

OBJECTIVE: Students will select the numeral that correctly completes a given series.

SAMPLE ITEM: Which number belongs in the space in the series:

2 4 [ ] 8 10

(A) 7 (C) 6
(B) 5 (D) 9

Level 3 Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/ Identifying Numerals	41 Descriptor - Skip Counting Role, Student

		60190	

OBJECTIVE: Students will select the symbol (<, >) that correctly completes a number sentence of two nonequal numbers, neither one of which is greater than 9,999.

SAMPLE ITEM: 64 ☐ 78

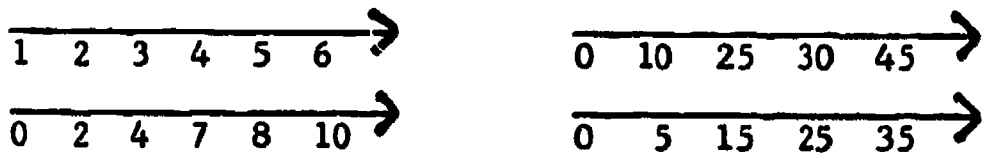
(A) < (C) >
(B) = (D) -

Level 3 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		60195	

OBJECTIVE: Students will select the correctly labeled number line, using numbers less than 100 as labels.

SAMPLE ITEM:



Level 3 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Number Line Labeling Role, Student

		6 0 2 0 0	

OBJECTIVE: Students will select the digit that is placed in a specified place value in a natural number no greater than 99,999.

SAMPLE ITEM: What digit is in the 10's place for 235?

(A) 200 (C) 5
(B) 2 (D) 3

Level 3 Classification - Number, Numeral, and Numeration Systems, Place Value	41 Descriptor - Place Value Role, Student

		6 0 2 0 5	

OBJECTIVE: Students will select the Roman numeral that means the same as a given decimal number no greater than 30.

SAMPLE ITEM: Twenty written in Roman Numerals is:

(A) XX (C) xxx
(B) X (D) IX

Level 3 Classification - Number, Numeral, and Numeration Systems, Roman Numerals	41 Descriptor - Roman Numerals Role, Student

		6 0 2 0 1	

OBJECTIVE: The student demonstrates knowledge of place value by identifying the place value of a given digit in a 4-digit number

SAMPLE ITEM: 9527 In this number, the 2 means two ...

(a) 1's
(b) 10's
(c) 100's
(d) 1000's

Answer: (b)

Level 3 Classification - Number, Numeral, and Numeration Systems, Place Value	41 Descriptor - Place Value Role, Student

		6 0 2 1 6	

OBJECTIVE: The student can demonstrate an understanding of placeholders by solving placeholder equations with addend and sum placeholders.

SAMPLE ITEM: $2 + 2 = \square$

(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

Answer: (d)

Level 3 Classification - Whole Numbers, Addition	41 Descriptor - Adding two Whole Nos. Without Carrying Role, Student

		6 0 2 1 0		

OBJECTIVE: Students will select the correct answer to an addition problem of two 3-digit numbers.

SAMPLE ITEM:

```
  122
+ 113
```

(A) 253
(B) 243
(C) 235
(D) 245

Level 3 Classification - Whole Numbers, Addition	41 Descriptor - Adding Whole Numbers Role, Student

		6 0 2 1 5		

OBJECTIVE: Students will select the correct answer to an addition problem of four 2-digit numbers.

SAMPLE ITEM:

```
  24
  31
  17
+ 11
```

(A) 83
(B) 82
(C) 93
(D) 813

Level 3 Classification - Whole Numbers, Addition	41 Descriptor - Adding Whole Numbers Role, Student

		6 0 2 2 0		

OBJECTIVE: Students will select the correct answer to the subtraction of a 3-digit number from a 4-digit number.

SAMPLE ITEM:

```
 4678
- 224
```

(A) 4444 (B) 4454 (C) 4544 (D) 5444

Level 3 Classification - Whole Numbers, Subtraction	41 Descriptor - Subtraction - 4 Digits or less Role, Student

		6 0 2 2 5		

OBJECTIVE: Students will select the correct answer for the multiplication of a 2 or 3-digit number by a 1-digit number.

SAMPLE ITEM:

```
 24
x 6
```

(A) 134 (B) 124 (C) 144 (D) 114

Level 3 Classification - Whole Numbers, Multiplication	41 Descriptor - Multiplication of Whole Numbers Role, Student

		6 0 2 2 6	

OBJECTIVE: Given the product and one factor, the student will demonstrate his knowledge of the basic multiplication facts by identifying the missing factor from a list.

SAMPLE ITEM: _____ x 6 = 24

(a) 4
(b) 3
(c) 7
(d) 2

Answer: (a)

Level 3 Classification - Whole Numbers, Multiplication	41 Descriptor - Multiplication of Whole Numbers Role, Student

		6 0 2 8 1	

OBJECTIVE: The student can demonstrate an understanding of common fraction by finding a fractional part: 1/2, 2/3, 1/4 or 3/4 of a given whole number.

SAMPLE ITEM: $\frac{1}{2}$ of 6 is:

(a) 2
(b) 3
(c) 4
(d) 5

Answer: (b)

Level 3 Classification - Fractions (Positive Rationals), Multiplication	41 Descriptor - Multiplying Fractions Role, Student

		6 0 2 3 0		

OBJECTIVE: Students will select from a list of multiplication facts the one which is incorrect.

SAMPLE ITEM: Choose the set which is incorrect:

(A) Multiples of 2: 2, 4, 6, 8
(B) Multiples of 3: 3, 6, 9, 12
(C) Multiples of 4: 4, 8, 12, 15
(D) Multiples of 7: 7, 14, 21, 28

Level 3 Classification - Whole Numbers, Multiplication	41 Descriptor - Multiplication of Whole Numbers Role, Student

		6 0 2 3 5		

OBJECTIVE: Students will select the incorrect number sentence from a series of number sentences involving multiplication by 10 or 100.

SAMPLE ITEM: Choose the sentence which is not correct.

(A) 1000 x 1000 = 10,000
(B) 100 x 100 = 10,000
(C) 1000 x 10 = 10,000
(D) 100 x 10 = 1,000

Level 3 Classification - Whole Numbers, Multiplication	41 Descriptor - Multiplication of Whole Numbers Role, Student

		6 0 2 4 0	

OBJECTIVE: Students will select the multiplication sentence for a given array of objects.

SAMPLE ITEM: Which number sentence is represented by the number of stars in the set?

****
****
****

(A) 10 x 3 = 30
(B) 30 x 2 = 60
(C) 6 x 6 = 36
(D) 9 x 3 = 27

Level 3 Classification - Whole Numbers, Multiplication	41 Descriptor - Multiplication of Whole Numbers Role, Student

		6 0 2 4 5	

OBJECTIVE: Student will select the correct answer for division of 2 and 3-digit numbers by 1-digit numbers, no remainders.

SAMPLE ITEM: $7\overline{)287}$ (A) 27 (B) 41 (C) 57 (D) 31

Level 3 Classification - Whole Numbers, Division	41 Descriptor - Division without Remainder Role, Student

		6 0 2 5 0	

OBJECTIVE: The student will select the correct **quotient for** division of any number by 1.

SAMPLE ITEM: $1\overline{)34}$ (A) 34 (B) 0 (C) 1 (D) 4

Level 3 Classification - Whole Numbers, Division	41 Descriptor - Division without Remainder Role, Student

		6 0 2 5 5	

OBJECTIVE: Students will correctly complete a number sentence using the associative property of multiplication.

SAMPLE ITEM: 2 x (6x3) is equal to
(A) (2x6) x 3
(B) (7x2) x 3
(C) 5 x (3x3)
(D) 2 x (6x4)

Level 3 Classification - Whole Numbers Properties/Inverse Operations	41 Descriptor - Associative - Whole Numbers Role, Student

		6 0 2 6 0	

OBJECTIVE: Students will be given a sum of two 1-digit numbers multiplied by a 1-digit number and will select the expression with the multiplier distributed.

SAMPLE ITEM: 2 x (6+3) is equal to

(A) 12 + 6
(B) 8 + 6
(C) 11 + 9
(D) 12 + 3

Level 3 Classification - Whole Numbers, Properties/Inverse Operations	41 Descriptor - Distributative - Whole Numbers Role, Student

		60265	

OBJECTIVE: Students will select the fraction which tells what part of a figure (circle or square or rectangle) is shaded.

SAMPLE ITEM:

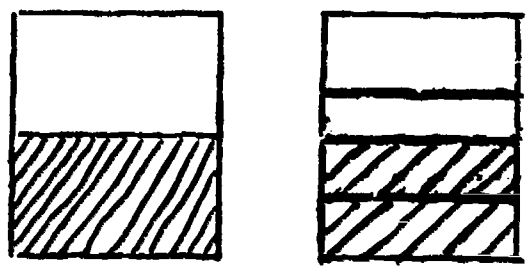
(A) 1/2
(B) 1/3
(C) 1/4
(D) 1/5

Level 3 Classification - Fractions (Positive Rationals), Basic Concepts	41 Descriptor - Labeling Fractional Parts Role, Student

		60270	

OBJECTIVE: Students will select the equivalent fractions representing two equivalent figures subdivided into fractional parts.

SAMPLE ITEM:



The pictures show that:
(A) 1/3 = 3/4
(B) 7/8 = 1/2
(C) 1/2 = 2/4
(D) 1+1 = 2

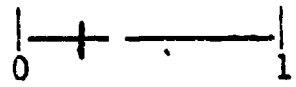
Level 3 Classification - Fractions (Positive Rationals), Equivalent Fractions	41 Descriptor - Identifying Equivalent Fractions Role, Student

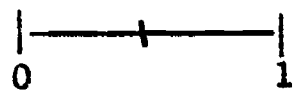
		6 0 2 7 5		

OBJECTIVE: Students will select the point on a number line which correctly represents a given fraction.

SAMPLE ITEM: Which number line shows the correct place for 1/4?

(A) 

(C) 

(B) 

(D) 

Level 3 Classification - Fractions (Positive Rationals), Representing Fractions on Number Line (Ordering Fractions)	41 Descriptor - Identifying Fractions on Number Line Role, Student

		6 0 2 8 0		

OBJECTIVE: Students will select the greatest fraction from a list which includes 1/2's, 1/3's, 1/4's, 1/5's, 1/6's, 1/8's.

SAMPLE ITEM: Choose the greatest fraction: (A) 1/2 (C) 1/4 (B) 1/6 (D) 1/8

Level 3 Classification - Fractions (Positive Rationals), Representing Fractions on Number Line (Ordering Fractions)	41 Descriptor - Ordering of Fractions Role, Student

		6 0 2 8 2	

OBJECTIVE: The student demonstrates understanding of addition and subtraction processes by solving story problems involving 2-digit addition and subtraction combinations with carrying.

SAMPLE ITEM: Jack's family drove to the lake on Saturday. They drove 135 miles on the way to the lake and 139 miles on the way back. How many miles did they drive in all?

(a) 264
(b) 374
(c) 274
(d) 263

Answer: (c)

Level 3 Classification - Problem Solving/Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 0 2 8 4	

OBJECTIVE: The student will demonstrate his comprehension of multiplication word problems by translating word problems into multiplication equations.

SAMPLE ITEM: At the post office, Sally bought nine 6-cent stamps. How much money did she spend?

(a) 9 x 6¢ = 54¢
(b) 6¢ x 6¢ = 36¢
(c) 6¢ x 9¢ = 56¢

Answer: (a)

Level 3 Classification - Problem Solving/Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 0 2 8 6	

OBJECTIVE: The child will demonstrate his understanding of the relationship between the inch, foot, and yard, by being able to select the unit of measurement that measures the same amount as a specified amount.

SAMPLE ITEM: Circle the amount below which equals 1 yard.

(a) 2 feet
(b) 12 inches
(c) 36 inches
(d) $1\frac{1}{2}$ feet

Answer: (c)

Level 3 Classification - Measurement, Linear - English/Metric	41 Descriptor - Converting Linear Measures Role, Student

		6 0 2 8 7	

OBJECTIVE: The student demonstrates an understanding of liquid measure by identifying the relation between cup, pint, quart, and gallon as units of liquid measure.

SAMPLE ITEM: 1 quart (measures the same amount as)

(a) 3 pints
(b) 4 cups
(c) 1 gallon

Answer: (b)

Level 3 Classification - Measurement, Liquid - English/Metric	41 Descriptor - Converting Liquid Measures Role, Student

		6 0 2 8 5		

OBJECTIVE: Students will select the answer to a sentence using any of the four basic operations and with a number missing.

SAMPLE ITEM: $2 \times 7 = 18 - \square$

(A) 4 (C) 9
(B) 7 (D) 5

Level 3 Classification - Algebra, Number Sentences/ Open Sentences	41 Descriptor - Finding Solution Sets of Open Sentences Role, Student

		6 0 2 9 0		

OBJECTIVE: Students will be given a horizontal division sentence with the divisor missing and will select from a list of multiplication sentences, each with a missing factor, the sentence which is equivalent to the division problem.

SAMPLE ITEM: $12 \div \square = 4$

(A) $2 \times \square = 12$
(B) $4 \times \square = 12$
(C) $4 \times \square = 8$
(D) $4 \times \square = 16$

Level 3 Classification - Algebra, Number Sentences/ Open Sentences	41 Descriptor - Finding Solution Sets of Open Sentences Role, Student

		6 0 2 9 5	

OBJECTIVE: Students will select the answer to a sentence using any of the four basic operations and parentheses.

SAMPLE ITEM: (2x4) + 3 = ☐

(A) 11 (C) 13
(E) 24 (D) 10

Level 3 Classification - Algebra, Grouping (Use of Parentheses) - Order of Operations	41 Descriptor - Grouping (Use of Parentheses) Role, Student

LEVEL 4

Number, Numeral, and Numeration Systems

		6 0 3 0 0	

OBJECTIVE: Students will select a numeral that means the same as a numerical expression written in words. The correct numeral will be less than 100,000,000.

SAMPLE ITEM: What is the numeral for thirteen million and twenty one?

(A) 13,000,021 (C) 13,210,000
(B) 13,021 (D) 13,210

Level 4 Classification - Number, Numeral, and Numeration Systems, Numbers/Counting/ Identifying Numerals	41 Descriptor - Reading and Writing Numbers Role, Student

		6 0 3 0 5	

OBJECTIVE: Students will select the natural number which correctly completes a number sentence of the following form:

$2 < (\text{or} >) \square$

The number appearing in the problem will always be a natural number.

SAMPLE ITEM: $12,116 < \square$

(A) 12,120 (C) 12,099
(B) 11,267 (D) 11,967

Level 4 Classification - Number, Numeral, and Numeration Systems, Number Line/Inequalities	41 Descriptor - Inequalities on Whole Numbers Role, Student

		6 0 3 1 0	

OBJECTIVE: Students will select the digit that has a specified place value in a natural number less than 100,000,000 or vice versa.

SAMPLE ITEM: What digit is in the 10,000,000's place for 74,286,953?

(A) 7 (C) 6
(B) 4 (D) 5

Level 4 Classification - Number, Numeral, and Numeration Systems, Place Value	41 Descriptor - Place Value Role, Student

		6 0 3 1 5	

OBJECTIVE: Students will select the Roman numeral that means the same as a given decimal number less than 400 or vice versa.

SAMPLE ITEM: Find the Roman numeral for 56.

(A) VLI (C) IVLX
(B) LVI (D) XXVI

Level 4 Classification - Number, Numeral, and Numeration Systems, Roman Numerals	41 Descriptor - Roman Numerals Role, Student

		6 0 3 2 0	

OBJECTIVE: Students will select the natural number which correctly represents another natural number rounded to the nearest 10 or 100. The natural number to be rounded will be less than 100,000,000.

SAMPLE ITEM: Find 13,647 rounded to the nearest 100.

(A) 13,700 (C) 13,650
(B) 14,000 (D) 13,600

Level 4 Classification - Number, Numeral, and Numeration Systems, Rounding	41 Descriptor - Rounding Off Role, Student

		6 0 3 2 5	

OBJECTIVE: Students will select a set of four natural numbers that has one of the following specified properties:
1) all four numbers are odd
2) all four numbers are even
3) only one of the four numbers is even
4) only one of the four numbers is odd

SAMPLE ITEM: Find the set with only even numbers.

(A) 3, 7, 9, 13 (C) 3, 30, 33, 13
(B) 2, 6, 70, 28 (D) 2, 16, 27, 60

Level 4 Classification - Number, Numeral, and Numeration Systems, Odd and Even	41 Descriptor - Identifying Odd and Even Numbers Role, Student

Whole Numbers

		60330	

OBJECTIVE: Students will select the natural number which is the correct answer to a given addition problem. The addition problem will consist of either two 4-digit addends or of four 3-digit addends.

SAMPLE ITEM:

```
  4789
+ 2567
```

(A) 7356 (B) 6356 (C) 7346 (D) 7456

Level 4 Classification - Whole Numbers, Addition	41 Descriptor - Adding Whole Numbers Role, Student

		60335	

OBJECTIVE: Students will select the natural number which is the correct answer to a given subtraction problem. Both the subtrahend and minuend will be 4-digit numbers. Some digits in the subtrahend may be larger than corresponding digits in the minuend.

SAMPLE ITEM:

```
  4332
- 1349
```

(A) 2093 (B) 3083 (C) 2983 (D) 3983

Level 4 Classification - Whole Numbers, Subtraction	41 Descriptor - Subtraction-Whole Nos.-With Borrowing Role, Student

		6 0 3 4 0	

OBJECTIVE: Students will select the natural number which is the correct answer to a given multiplication problem. The multiplication problem may be of two types:

1) the multiplicand is a 3-digit number and the the multiplier is a 1-digit number;
2) the multiplier and multiplicand are both 2-digit numbers.

SAMPLE ITEM:

286
x 7

(A) 1902 (B) 2102 (C) 1802 (D) 2002

Level 4
Classification - Whole Numbers, Multiplication

41 Descriptor - Multiplication of Whole Numbers
Role, Student

		6 0 3 4 5	

OBJECTIVE: Students will select the correct answer to a given division problem of natural numbers. The divisor may have one or two digits, and the dividend will have four or fewer digits. Some problems may have whole number remainders.

SAMPLE ITEM: $9\overline{)8150}$

(A) 905 R5 (B) 900 R5 (C) 955 (D) 95 R5

Level 4
Classicication - Whole Numbers, Division

41 Descriptor - Division with Remainder
Role, Student

		6 0 3 5 0	

OBJECTIVE: Students will select the natural number which is a factor of a given natural number or which is a common factor of a pair of given natural numbers. All numbers appearing in the problem will be less than or equal to 20.

SAMPLE ITEM: What is a common factor of 12 and 18?

(A) 5
(B) 6
(C) 4
(D) 9

Level 4 Classification - Whole Numbers, Factors/Common Factors/ G.C.F./Divisibility Rules	41 Descriptor - Common Factors Role, Student

		6 0 3 5 5	

OBJECTIVE: Students will select the natural number which is a multiple of a given natural number or which is a common multiple of a given pair of natural numbers. All numbers appearing in the problem will be less than or equal to 50.

SAMPLE ITEM: What is a common multiple of 6 and 8?

(A) 24
(B) 16
(C) 2
(D) 36

Level 4 Classification - Whole Numbers, Multiples/Common Multiples/L.C.M.	41 Descriptor - Common Multiples Role, Student

		6 0 3 6 0	

OBJECTIVE: Students will select the natural number which correctly completes a number sentence of the form of:

$$\frac{\square}{4} = \frac{1}{2}$$

All fractions used in all number sentences will be proper fractions with denominators equal to or less than 50. All blanks will be in the numerators.

SAMPLE ITEM: Give the missing number so that the fractions are equivalent.

$$\frac{1}{2} = \frac{\square}{4}$$

(A) 1 (B) 3 (C) 2 (D) 4

Level 4 **Classification - Fractions (Positive Rationals),** Equivalent Fractions	**41 Descriptor** - Equivalent Fractions **Role, Student**

		6 0 3 6 5	

OBJECTIVE: Students will select the natural number which correctly completes a number sentence in the form of:

$$1\frac{2}{3} = \frac{\square}{3} \text{ or } \frac{3}{2} = 1\frac{\square}{2}$$

All mixed numbers will be less than 10 and all denominators will be less than 50. Blanks will appear only in the numerators.

SAMPLE ITEM: $1\frac{2}{3} = \frac{\square}{3}$

(A) 3 (B) 6 (C) 2 (D) 5

Level 4 **Classification - Fractions (Positive Rationals),** **Proper/Improper/Mixed Fractions**	**41 Descriptor - Changing Mixed to Improper Fractions** **Role, Student**

		6 0 3 7 0	

OBJECTIVE: Students will select the proper fraction that is not equivalent to the other three choices. The denominators of all equivalent fractions will be less than or equal to 100.

SAMPLE ITEM: Which fraction is not equivalent to $\frac{1}{2}$?

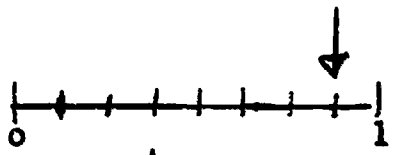
(A) $\frac{4}{8}$ (B) $\frac{5}{9}$ (C) $\frac{8}{16}$ (D) $\frac{10}{20}$

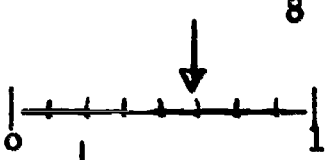
Level 4 Classification - Fractions (Positive Rationals), Equivalent Fractions	41 Descriptor - Identifying Equivalent Fractions Role, Student

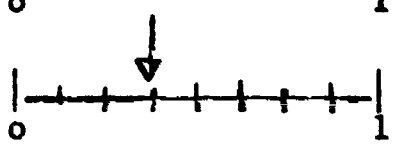
		6 0 3 7 5	

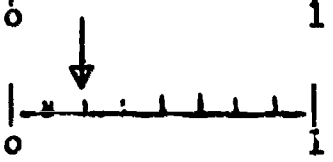
OBJECTIVE: Students will select the number line drawing which indicates the location of a point corresponding to a given positive fraction less than one.

SAMPLE ITEM: Which is the correct placement of the fraction $\frac{3}{8}$?

(A) 

(B) 

(C) 

(D) 

Level 4 Classification - Fractions (Positive Rationals), Representing Fractions on Number Line (Ordering Fractions)	41 Descriptor - Identifying Fractions on Number Line Role, Student

		6 0 3 8 0	

OBJECTIVE: Students will select the fraction which is the correct answer to an addition problem involving two proper fractions with denominators less than or equal to 50. Answers will not be simplified.

SAMPLE ITEM: $\frac{3}{4} + \frac{3}{4} =$ ☐

(A) $\frac{6}{4}$ (C) $\frac{9}{64}$

(B) $\frac{6}{8}$ (D) $\frac{9}{4}$

Level 4 Classification - Fractions (Positive Rationals), Addition	41 Descriptor - Adding Like Fractions Role, Student

		6 0 3 8 5	

OBJECTIVE: Students will select the fraction which is the answer to a given subtraction problem between two proper fractions with like denominators which are less than or equal to 50. Answers will not be simplified.

SAMPLE ITEM: $\frac{5}{7} - \frac{2}{7} =$ ☐

(A) 3 (C) $\frac{3}{0}$

(B) $\frac{3}{7}$ (D) $\frac{5}{7}$

Level 4 Classification - Fractions (Positive Rationals), Subtraction	41 Descriptor - Subtracting Like Fractions Role, Student

Measurement

		6 0 3 9 0	

OBJECTIVE: Students will select the measurement expression which is the correct answer to an addition or subtraction problem involving two of the three English linear quantities of inch, foot, and yard. Students may have to convert one unit of measure into another for purposes of regrouping for subtraction or for simplifying answers in addition. All measurement expressions will use only natural numbers.

SAMPLE ITEM:

3 yd. 2 ft.
+2 yd. 1 ft.

(A) 6 yd.
(B) 5 yd. 1 ft.
(C) 1 yd. 3 ft.
(D) 5 yd. 2 ft.

Level 4 Classification - Measurement, Linear - English/Metric	41 Descriptor - Operations With Linear Measure Role, Student

		6 0 3 9 5	

OBJECTIVE: Students will select the measurement expression which is the correct answer to an addition or subtraction problem involving two of the following English liquid quantities of gallon, quart, pint, or cup. Students may have to convert one unit of measure to another for purposes of regrouping for subtraction or for simplifying answers in addition. All measurement expressions will use only natural numbers.

SAMPLE ITEM:

1 gal. 3 qt.
+2 gal. 2 qt.

(A) 3 gal. 1 qt.
(B) 1 gal. 1 qt.
(C) 4 gal. 1 qt.
(D) 3 gal. 3 qt.

Level 4 Classification - Measurement, Liquid - English/Metric	41 Descriptor - Operations With Liquid Measure Role, Student

		6 0 4 0 0	

OBJECTIVE: Students will select the measurement expression which is the correct answer to an addition or subtraction problem involving pounds and ounces. Students may have to convert one unit of measure to another for purposes of regrouping for subtraction or for simplifying answers in addition. All measurement expressions will use only natural numbers.

SAMPLE ITEM:

$$\begin{array}{r} 4 \text{ lb. } 12 \text{ oz.} \\ +\ 2 \text{ lb. } \ 8 \text{ oz.} \\ \hline \end{array}$$

(A) 6 lb. 4 oz.
(B) 2 lb. 4 oz.
(C) 7 lb. 20 oz.
(D) 7 lb. 4 oz.

Level 4 Classification - Measurement, Weight - English/Metric	41 Descriptor - Operations With Weights Role, Student

		6 0 4 0 5	

OBJECTIVE: Students will select the time measure which correctly answers a problem of the form: 120 sec. = ☐ min. The units that may be converted from one to another will be seconds, minutes, and hours. All numbers will be rational numbers.

SAMPLE ITEM: 4 hrs. = ☐ min.

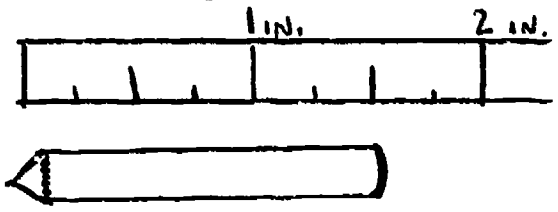
(A) 240 min. (B) 120 min. (C) 160 min. (D) 400 min.

Level 4 Classification - Measurement, Time	41 Descriptor - Converting Time Units Role, Student

		6 0 4 1 0	

OBJECTIVE: Students will be presented with a picture of a ruler calibrated in halves or quarters of an inch and an object placed along side of the ruler. The students will then select the mixed number or fraction plus unit that represents the length of the object to the nearest calibrated measurement.

SAMPLE ITEM:



(A) 1 in.
(B) 1 1/2 in.
(C) 2 in.
(D) 2 1/2 in.

Level 4 Classification - Measurement, Precision	41 Descriptor - Precision of Measurements Role, Student

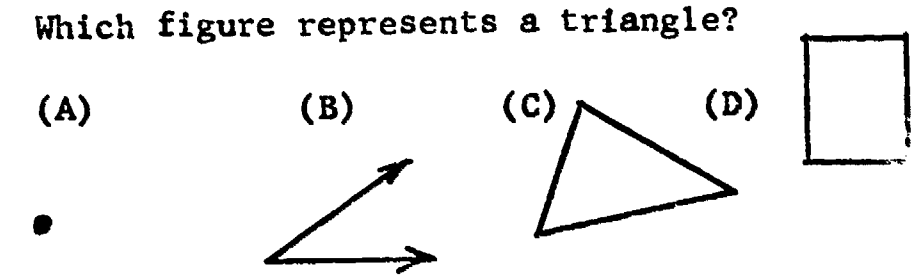
Geometry

		6 0 4 1 5	

OBJECTIVE: Students will select the plane figure that is specified or vice versa. Plane figures will be chosen from among the following: point, line, line segment, ray, angle, triangle, right triangle, rectangle, square, and circle.

SAMPLE ITEM: Which figure represents a triangle?

(A) (B) (C) (D)



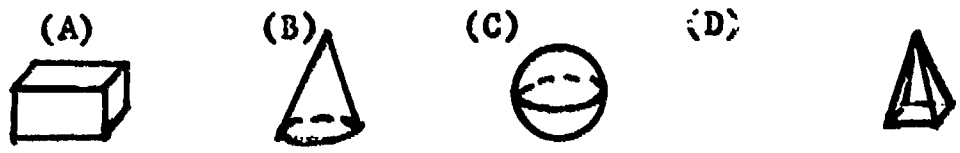
Level 4 Classification - Geometry, Identifying Figures	41 Descriptor - Identifying Plane Figures Role, Student

		6 0 4 2 0	

OBJECTIVE: Students will selec the three-dimensional figure that is specified or vice versa. The three-dimensional figures will be chosen from among the following: sphere, hemisphere, pyramid, cube, and cone.

SAMPLE ITEM: Which figure represents a sphere?

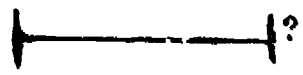
(A) (B) (C) (D)



Level 4 Classification - Geometry, Identifying Figures	41 Descriptor - Identifying Solids Role, Student

		60425	

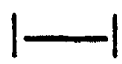
OBJECTIVE: Students will select the line segment or angle that is congruent to the given line segment or angle.

SAMPLE ITEM: Which line segment is congruent to  ?

(A) 

(C) 

(B) 

(D) 

Level 4 Classification - Geometry, Triangles/Congruence/Similarity	41 Descriptor - Congruence Role, Student

		60430	

OBJECTIVE: Students will select the number which is the correct answer to a given word problem. The problem will be no more than two sentences long, and will involve only addition of two natural numbers.

SAMPLE ITEM: Tim has 516 pennies, John has 280 pennies. How many pennies do they have all together?

(A) 738 (B) 168 (C) 285 (D) 796

Level 4 Classification - Problem Solving/ Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

Problem Solving/Word Problems

		6 0 4 3 5	

OBJECTIVE: Students will select the number which is the correct answer to a given word problem. The given problem will be no longer than two sentences, and it will involve only subtraction between two natural numbers.

SAMPLE ITEM: Mary has 453 pennies. Mary gives 285 of her pennies to Alice. How many pennies does Mary have left?

(A) 738 (B) 168 (C) 285 (D) 201

Level 4 Classification - Problem Solving/ Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 0 4 4 0	

OBJECTIVE: Students will select the number which is the correct answer to a given word problem. The given problem will be no more than two sentences long and will involve only multiplication between two natural numbers.

SAMPLE ITEM: Tom used 745 nails to build a rowboat. How many nails will he use if he builds three rowboats?

(A) 2235 (B) 2225 (C) 2215 (D) 4615

Level 4 Classification - Problem Solving/ Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems - Whole Numbers Role, Student

		6 0 4 4 5	

OBJECTIVE: Students will select the correct answer to a given word problem. The given word problem will be no more than two sentences long and will involve only division between two natural numbers. No answers will require remainders.

SAMPLE ITEM: Mary, Jane, Patty, and Jean shared 16 candy bars equally. How many candy bars did each girl receive?

(A) 5 (B) 4 (C) 12 (D) 7

Level 4 Classification - Problem Solving/ Word Problems, Problems involving Operations on Whole Numbers	41 Descriptor - Word Problems- Whole Numbers Role, Student

		6 0 4 5 0	

OBJECTIVE: Students will select the correct answer to a given word problem. The problem will be no longer than two sentences and will employ either addition or subtraction upon two proper fractions with like denominators. The correct answer will always be in simplified form.

SAMPLE ITEM: John has $\frac{1}{4}$ of an apple and his father has $\frac{2}{4}$ of the apple. How much of the apple do they have all together?

(A) $\frac{1}{4}$ (B) $\frac{2}{16}$ (C) $\frac{3}{4}$ (D) $\frac{2}{3}$

Level 4 Classification - Problem Solving/ Word Problems, Problems involving Operations on Fractions	41 Descriptor - Word Problems - Fractions Role, Student

		6 0 4 5 5	

OBJECTIVE: Students will select the correct answer to a given word problem involving money amounts. The given word problem will be no longer than two sentences and will involve only one operation between two numbers, at least one of which must be a money quantity.

SAMPLE ITEM: Tom bought a record for $2.67. If he gave the cashier $5.00, how much will he get back?

(A) $3.43 (B) $3.33 (C) $2.33 (D) $1.48

Level 4 Classification - Problem Solving/ Word Problems, Consumer Mathematics	41 Descriptor - Word Problems - Consumer Mathematics Role, Student

Algebra

		6 0 4 6 0	

OBJECTIVE: Student will select the number sentence which is false. Each number sentence may involve three operations, using addition, subtraction and multiplication. Parentheses may be used and all numbers will be natural numbers.

SAMPLE ITEM: Which number sentence is false?

(A) $56 = 9 \times 6$
(B) $32 = 13 + 19$
(C) $48 - 19 = 29$
(D) $84 - 35 = 49$

Level 4
Classification - Algebra,
Number Sentences/
Open Sentences

41 Descriptor - True and False Number Sentences

Role, Student

		6 0 4 6 5	

OBJECTIVE: Students will select the number sentence that correctly translates a given word problem. The word problem will involve only one operation. Only one unknown will appear.

SAMPLE ITEM: If 270 pennies are divided into 9 equal piles, how many pennies are in each pile?

(A) $270 \times 9 = \square$ (C) $270 \div 9 = \square$

(B) $\square \div 9 = \square$ (D) $\square - 9 = 270$

Level 4
Classification - Algebra,
Number Sentences/
Open Sentences

41 Descriptor - Writing Open Sentences from Verbal Descriptors

Role, Student

		6 0 4 7 0	

OBJECTIVE: Students will select the number which is equal to a given expression of natural numbers involving up to three operations from among addition, subtraction, multiplication, and division. Parentheses may appear.

SAMPLE ITEM: $(4 \times 3) + (6 \times 2) =$ ☐

(A) 24 (C) 144
(B) 20 (D) 15

Level 4 Classification - Algebra, Number Sentences/ Open Sentences	41 Descriptor - Finding Solution Sets of Open Sentences Role, Student

		6 0 4 7 5	

OBJECTIVE: Students will select the proper fraction which will complete a number sentence involving two other proper fractions with like denominators and a single addition or subtraction operation.

SAMPLE ITEM: $\frac{1}{4} + \square = \frac{3}{4}$ (A) $\frac{4}{4}$ (B) $\frac{2}{0}$ (C) $\frac{3}{4}$ (D) $\frac{2}{4}$

Level 4 Classification - Algebra, Number Sentences/ Open Sentences	41 Descriptor - Finding Solution Sets of Open Sentences Role, Student

Statistics and Probability

		60480	

OBJECTIVE: Students will select the correct answer to a given word problem. As part of the word problem, the students will be presented with a line or bar graph with the largest quantity represented as 100 or less.

SAMPLE ITEM: Each $ means 10 dollars. Look at the graph and find who has the most money.

SALLY	$$$	(A)	Sally
JIM	$$	(B)	Jim
TOM	$$$$	(C)	Tom
CANDY	$	(D)	Candy

Level 4 Classification - Statistics and Probability Graphs and Tables	41 Descriptor - Interpretation of Bar and Picture Graphs Role, Student