1988

A Study of School District #100 Fourth and Fifth Grade Computer Literacy Curriculum

Charles S. Saunders
*Loyola University Chicago*

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A STU D Y O F S C H O O L D I S T R I C T # 1 0 0
FOURTH AND FIFTH GRADE
COMPUTER LITERACY CURRICULUM

by
Charles S. Saunders

A Thesis Submitted to the Faculty of the Graduate School of Loyola University of Chicago in Partial Fulfillment of the Requirements for the Degree of Master of Arts
December 1988
ACKNOWLEDGEMENTS

The author would like to thank Loyola University of Chicago and School District #100 for their cooperation in my completing this project. A special thanks to Dr. Jack A. Kavanagh for supporting this project and the assistance of Agnes Feeney, from the Curriculum Department of School District #100.
VITA

The author, Charles Spencer Saunders, is the adopted son of Ernest William Saunders and Verina (Rogers) Saunders. He was born November 11, 1953, in Flushing, New York.

His elementary education was obtained in the public schools of Evanston, Illinois. His secondary education was obtained at Evanston Township High School, Evanston, Illinois, and the American Community School, Inc., Athens, Greece.

In August, 1972, Mr. Saunders entered the University of Wisconsin - Stout, receiving the degree of Bachelor of Science in Industrial Education in 1978.

Mr. Saunders has been teaching 7th and 8th Grade Industrial Arts at School District #100 for the past eleven years. In 1986, he taught 4th and 5th Grade Computer Literacy at the three upper grade centers of School District #100.
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INTRODUCTION

In 1984-85, School District #100 organized a committee of ten staff members, of which I was not a member, to write the district's first Curriculum Guide for the Computer Literacy Program. The guide contained the philosophy and goals, how to maintain computer equipment, ideas for lessons, a list of programs, reading material and a glossary of terms.

In 1986, I was engaged to teach the Fourth and Fifth Grade Computer Literacy classes. The portion of the curriculum guide containing the classroom material that had been created during the first two years was given to me to review during the summer. I began teaching the Computer Literacy classes using this classroom material. In the course of this experience, it became apparent that there was a need to develop a curriculum in order to improve the effectiveness of the Computer Literacy Program.

It was necessary to have a curriculum that would meet the needs of the students being taught, both the slow or uninterested, as well as the quick or highly motivated students. I discussed with some of the Fourth and Fifth Grade teachers, their ideas on
updating and expanding the curriculum and on incorporating activities appropriate for these grade levels. With their suggestions I created the Fourth and Fifth Grade Computer Literacy Curriculum contained within. As with any curriculum, this is intended to be a tool for a teacher who adjusts it to correspond to the level of the class and who adds to it as experience dictates.

Following the curriculum is a study critiquing the old and the new on the bases of form and content and an evaluation of students' scores under the old and new curricula.
In September of 1986, I began teaching the Fourth and Fifth Grade students Computer Literacy. There was a need for daily lesson plans for the teacher, quizzes, student worksheets, teacher's copy of the student worksheets, and supplemental worksheets relating to the skills covered that day. It was important to identify the skills to be taught and the order in which they should be taught. There was a need for consistency in the curriculum itself and in the curriculum used throughout the district.

The classroom material suggested that each student do his/her own typing of the programs and/or assignments. This leaves one student at each computer with nothing to do but to wait for his/her turn on the computer and to possibly become a discipline problem. Additionally, because of the limitations of 30-minute class periods and the time required for the students to perform this process, this requirement proved tedious and unmotivating. As the year progressed a different teaching method was tried: having the students do the hands-on work in pairs. While the students shared the typing of programs and the completion of worksheets, it
was stressed that the quizzes, which reviewed the skills taught while using the computer, were the major elements by which the teacher would evaluate each student's achievements. This made it important for the students to study/review the worksheets given to them.

Another problem was that the room in which the computer classes were set up did not allow the privacy for students to take quizzes. With the cooperation and flexibility of the Fourth and Fifth Grade teachers, I began giving the students a quiz for 10 minutes in their regular classroom before taking the groups to the computer room. This process resulted in two benefits to the computer curriculum. First, the class began with better behavior because the students had to work individually on the quiz in the structure of the regular classroom setting, and second, the computers were not present to distract the students from concentrating on the quiz. This organization of the teaching activities helped a great deal in providing the structure for the students to participate and demonstrate mastery in the activities taught, while helping the instructor get some individual work product in the form of worksheets or quizzes from each student.

Finally, it was important to have enough daily
material in each lesson plan to meet the needs of every student, the high achiever as well as the average achiever. Any extra credit materials for a given day reemphasize the skills stressed that day, although on occasion they touch on the next day's lesson. It was important to have these and all other worksheets labeled properly so the teacher would know what skills each worksheet would be emphasizing and how to score the work.

I believe that this curriculum will be very helpful in teaching Fourth and Fifth Grade students some computer programming skills and also in satisfying the ten daily goals which the school district wanted to be accomplished and which are incorporated in each curriculum.
DISTRICT 100
FOURTH GRADE
COMPUTER
CURRICULUM

CHARLES S. SAUNDERS
SUMMER OF 1987
OBJECTIVES FOR THE FOURTH GRADE COMPUTER CLASSES


DAY 4:  THE STUDENTS WILL LEARN AND PRACTICE PROGRAMMING SKILLS BY ENTERING SOME PROGRAMS GIVEN TO THEM AND CREATING SOME PROGRAMS OF THEIR OWN. THE STUDENTS WILL BE PREPARED FOR A TEST ON DAY 5.

DAY 5:  THE STUDENTS WILL REVIEW WITH THE TEACHER THE COMPUTER PROGRAMMING SKILLS AND TAKE A TEST. THE STUDENTS WILL BE GIVEN THE INSTRUCTIONS FOR THE GRAPHICS PROGRAMS THAT THE STUDENTS WILL BE LEARNING DURING THE NEXT WEEK.

DAY 6:  THE STUDENTS WILL LEARN THE TERMS NECESSARY TO CREATE GRAPHICS PROGRAMS, LEARN HOW TO USE THE CONTROL KEYS TO ENTER COLOR COMMANDS, AND BE PREPARED FOR A QUIZ ON DAY 7.

DAY 7:  THE STUDENTS WILL WORK ON A GRAPHICS PROGRAM CALLED HELLO AND BE PREPARED FOR A TEST ON DAY 10. OPTIONAL: THE STUDENTS WILL LEARN HOW TO USE A DISK DRIVE.

DAY 8:  THE STUDENTS WILL WORK ON A GRAPHICS PROGRAM CALLED CLOWN AND BE PREPARED FOR A TEST ON DAY 10. OPTIONAL: THE STUDENTS WILL LEARN HOW TO USE A DISK DRIVE.

DAY 9:  THE STUDENTS WILL WORK ON A GRAPHICS PROGRAM CALLED PUPPY AND BE PREPARED FOR A TEST ON DAY 10. OPTIONAL: THE STUDENTS WILL LEARN HOW TO USE A DISK DRIVE.

DAY 10: THE STUDENTS WILL REVIEW WITH THE TEACHER THE COMPUTER PROGRAMMING SKILLS AND TAKE A TEST.

B.OBJECTIVES
# Daily Goals

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**C. Daily Goals**
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READ THIS FIRST

THE FIRST FIVE DAYS OF THE FOURTH GRADE COMPUTER CURRICULUM ARE ON SIDE ONE OF THIS DISK. THE FILES ON THE DISK ARE CATALOGUED IN THE ORDER IN WHICH THEY ARE TO BE USED. THERE IS A TEACHER'S LESSON PLAN FOR EACH DAY, ALONG WITH THE NECESSARY QUIZZES AND HANDOUTS FOR THE STUDENTS WITH A TEACHER'S VERSION OF THE SAME QUIZZES AND HANDOUTS WITH A FEW ADDITIONAL NOTES. FOR VARIETY, THERE MAY BE ONE OR TWO VERSIONS OF EACH QUIZ TO BE GIVEN TO THE STUDENTS AS OUTLINED IN THE LESSON PLANS.

AFTER THIS PAGE IN THIS MANUAL, THE FILES THAT ARE PRINTED IN THE DRAFT MODE (LIGHT) ARE FOR THE TEACHER, AND THE FILES THAT ARE PRINTED IN THE NEAR LETTER QUALITY MODE (DARK) ARE FOR THE STUDENTS.

THE DISTRICT'S COMPUTER COMMITTEE WOULD APPRECIATE HAVING CHANGES, IMPROVEMENTS AND/OR ADDITIONS TO THIS CURRICULUM DONE IN SUCH A WAY THAT THE INFORMATION STORED ON THIS DISK IS UPDATED TO BE CONSISTENT WITH THE MATERIAL BEING TAUGHT TO THE STUDENTS. BY WORKING WITH THE DISTRICT'S COMPUTER COMMITTEE THIS GOAL CAN BE ACHIEVED.

THE MATERIAL FOR DAYS SIX THROUGH TEN CAN BE FOUND ON SIDE TWO OF THE DISK.

D. READ. ME. FIRST
# Lesson Plan

**Grade 4 - Day 1**  
Computer Literacy  
Teacher's Lesson Plan

**Instructional Aids:**  
Copies of the necessary handouts

**Tools, Equipment and Materials:**  
Chalk, eraser and pencils

**Objective, Introduction, Presentation, Summary, Student Involvement, Student Evaluation, Additional Topic**

**Objective for the Day:**
The students will review and learn the names of the parts and operating procedures of a Commodore computer. The students will learn how to use the CLR-HOME and SHIFT/CLR-HOME commands and be prepared for a quiz on Day 2.

**Introduction:**
Move the class to the computer room and introduce yourself.

**Presentation:**
Distribute copies of:

- Student Handout #1 (G4.D01.SH1.KB.S)
- Worksheet #1 (G4.D01.W1.SC)

Have the students complete the student handout #1 by writing in the correct characters found on the Commodore keyboard. Have the students start in the upper left hand corner.

Reading from the teacher's copy of Worksheet #1, read the definitions in items #1-7 and emphasize that the students should study these definitions some time before the next class meeting because there will be a quiz on the seven definitions.

Continue reading from the teacher's copy of Worksheet #1. You can mention that the language used in this class is "BASIC" because the term "BASIC" appears on the screen when you first turn the computer on. The purpose behind typing in the phrase "Cursor, go home!" is two-fold. One, it's to emphasize that the computer does not speak in English and two, it's a good sentence to stress the use of two hands when typing! For this lesson it is recommended that you keep the students working at the same task so that they can listen to your instructions as one large group.

G4.D01.LP.TC
OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT, STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING TODAY'S CLASS MEETING.

STUDENT INVOLVEMENT:
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:
THE STUDENTS' PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON THE BASIS OF FIVE POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:
IF THE STUDENTS FINISH WITH WORKSHEET #1, YOU COULD DISCUSS WITH THEM THE ERROR MESSAGE (SYNTAX ERROR) AND ASK THE QUESTIONS:

1. WHY DOES THE MESSAGE APPEAR? (COMPUTER LANGUAGE VS. ENGLISH)

2. WHAT COULD BE CHANGED TO ELIMINATE THE ERROR? (THE USE OF THE RESERVED WORD "PRINT" WITH QUOTE MARKS AROUND THE PHRASE WILL ELIMINATE THE ERROR. SOME STUDENTS MAY KNOW THIS FROM OUTSIDE EXPERIENCE. THIS WILL BE COVERED IN SUBSEQUENT LESSONS.)

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
DEFINITIONS:
1. A COMPUTER IS A MACHINE WHICH PERFORMS TASKS AT A HIGH SPEED WITH GREAT ACCURACY.
2. THE MONITOR IS A T.V.-LIKE UNIT CONNECTED TO PART OF THE COMPUTER SYSTEM.
3. THE KEYBOARD IS A DEVICE WITH KEYS USED TO INPUT INFORMATION INTO THE COMPUTER SYSTEM.
4. THE CURSOR IS THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE THE NEXT LETTER YOU TYPE WILL GO.
5. THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS IS "BASIC".
6. THE CLR-HOME KEY, WHEN USED BY ITSELF, ONLY SENDS THE CURSOR TO THE UPPER LEFT HAND CORNER OF THE SCREEN.
7. THE SHIFT KEY AND THE CLR-HOME KEY, WHEN USED TOGETHER, CLEARS THE SCREEN AND SENDS THE CURSOR TO THE UPPER LEFT HAND CORNER OF THE SCREEN.

HOW TO GET STARTED:
LISTEN TO THE TEACHER'S INSTRUCTIONS.

TYPING:
TYPE IN THE FOLLOWING PHRASE: CURSOR, GO HOME !
PRESS THE RETURN KEY ONCE. (DO NOT WORRY ABOUT THE MESSAGE.)
THE CURSOR'S HOME IS IN THE UPPER LEFT HAND CORNER OF THE SCREEN. FIND THE KEY MARKED CLR-HOME AND WATCH THE SCREEN AS YOU PRESS IT. THE CURSOR JUMPS TO THE HOME POSITION.

ERASING THE SCREEN:
LISTEN TO THE TEACHER'S INSTRUCTIONS.
IT TAKES TWO KEYS HELD DOWN TOGETHER TO ERASE THE SCREEN. HOLD DOWN ONE OF THE SHIFT KEYS AND PRESS THE CLR-HOME KEY AND WATCH THE SCREEN. THE SCREEN IS ERASED AND THE CURSOR GOES TO THE HOME POSITION.

TYPING SOME MORE:
TYPE IN THE FOLLOWING PHRASE: HELLO, MY NAME IS <PUT YOUR NAME HERE>.
PRESS THE RETURN KEY ONCE. (DO NOT WORRY ABOUT THE MESSAGE.)

TAKING TURNS, TYPE IN PHRASES TELLING ME WHAT SCHOOL YOU ATTEND, WHO YOUR HOMEROOM TEACHER IS, ETC...
SHOW YOUR PHRASES TO THE TEACHER BEFORE ERASING THE SCREEN.
TURN OFF THE COMPUTER. THANK YOU. STUDY FOR THE QUIZ, TOMORROW!

G4.D01.W1.SC
DEFINITIONS:
1. A COMPUTER IS A MACHINE WHICH PERFORMS TASKS AT A HIGH SPEED WITH GREAT
   ACCURACY.
2. THE MONITOR IS A T.V.-LIKE UNIT CONNECTED TO PART OF THE COMPUTER SYSTEM.
3. THE KEYBOARD IS A DEVICE WITH KEYS USED TO INPUT INFORMATION INTO THE
   COMPUTER SYSTEM.
4. THE CURSOR IS THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE
   THE NEXT LETTER YOU TYPE WILL GO.
5. THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS IS "BASIC".
6. THE CLR-HOME KEY, WHEN USED BY ITSELF, ONLY SENDS THE CURSOR TO THE UPPER
   LEFT HAND CORNER OF THE SCREEN.
7. THE SHIFT KEY AND THE CLR-HOME KEY, WHEN USED TOGETHER, CLEARS THE SCREEN
   AND SENDS THE CURSOR TO THE UPPER LEFT HAND CORNER OF THE SCREEN.

HOW TO GET STARTED:
FOLLOWING THE TEACHER'S INSTRUCTIONS, TURN YOUR COMPUTER AND MONITOR ON. YOU
WILL SEE A MESSAGE ON THE SCREEN. THE LAST WORD IS "READY". BELOW "READY" IS A
FLASHING SQUARE. THIS SQUARE IS CALLED THE "CURSOR". WHEN YOU SEE IT
FLASHING, IT MEANS THE COMPUTER IS READY FOR YOU TO TYPE SOMETHING IN.

TYING:
THE STUDENT SITTING ON THE LEFT, TYPE IN THE FOLLOWING PHRASE:
CURSOR. GO HOME!
PRESS THE RETURN KEY ONCE. (DO NOT WORRY ABOUT THE MESSAGE.)

THE STUDENT SITTING ON THE RIGHT, TYPE IN THE SAME PHRASE.
PRESS THE RETURN KEY ONCE. (DO NOT WORRY ABOUT THE MESSAGE.)

THE CURSOR S HOME IS IN THE UPPER LEFT HAND CORNER OF THE SCREEN. FIND THE KEY
MARKED CLR-HOME AND WATCH THE SCREEN AS YOU PRESS IT. THE CURSOR JUMPS TO THE
HOME POSITION.

GIVING BOTH STUDENTS A CHANCE, TYPE IN SOME LETTERS AT RANDOM. YOU WILL NOTICE
THAT YOU ARE WRITING OVER WHAT IS ALREADY ON THE SCREEN. THIS IS A MESS.
LET S GET A NICE CLEAN SCREEN.

ERASING THE SCREEN:
IT TAKES TWO KEYS HELD DOWN TOGETHER TO ERASE THE SCREEN. HOLD DOWN ONE OF THE
SHIFT KEYS AND PRESS THE CLR-HOME KEY AND WATCH THE SCREEN. THE SCREEN IS
ERASED AND THE CURSOR GOES TO THE HOME POSITION.

TYING SOME MORE:
THE STUDENT SITTING ON THE LEFT, TYPE IN THE PHRASE:
HELLO, MY NAME IS <PUT YOUR NAME HERE>.
PRESS THE RETURN KEY ONCE. (DO NOT WORRY ABOUT THE MESSAGE.)

THE STUDENT SITTING ON THE RIGHT, TYPE IN THE SAME PHRASE WITH YOUR NAME.
PRESS THE RETURN KEY ONCE. (DO NOT WORRY ABOUT THE MESSAGE.)

TAKING TURNS, TYPE IN PHRASES TELLING ME WHAT SCHOOL YOU ATTEND, WHO YOUR
HOMEROOM TEACHER IS, ETC...

SHOW YOUR PHRASES TO THE TEACHER BEFORE ERASING THE SCREEN.
TURN OFF THE COMPUTER. THANK YOU. STUDY FOR THE QUIZ, TOMORROW!
LESSON PLAN

GRADE 4 - DAY 2
COMPUTER LITERACY
TEACHER'S LESSON PLAN

INSTRUCTIONAL AIDS:
COPIES OF THE NECESSARY HANDOUTS AND QUIZ 1 - DAY 1

TOOLS, EQUIPMENT AND MATERIALS:
CHALK, ERASER AND PENCILS

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

OBJECTIVE FOR THE DAY:

INTRODUCTION:
REVIEW WITH THE STUDENTS THE MATERIAL COVERED AT THE PREVIOUS CLASS AND GIVE A QUIZ IN THE HOMEROOM.

PRESENTATION:
DISTRIBUTE COPIES OF:
WORKSHEET #2 (2 PAGES) (G4.D02.W2.SC)
READING FROM THE TEACHER'S COPY OF WORKSHEET #2, READ THE DEFINITIONS IN ITEMS #1-7 AND EMPHASIZE THAT THE STUDENTS SHOULD STUDY THESE DEFINITIONS SOME TIME BEFORE THE NEXT CLASS MEETING BECAUSE THERE WILL BE A QUIZ ON THE SEVEN DEFINITIONS.
WHEN TALKING ABOUT THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS MENTION THAT ALL COMMANDS ARE NOT THE SAME FOR ANY COMPUTER.
CONTINUE READING FROM THE TEACHER'S COPY OF WORKSHEET #2. MAKE SURE THAT THE USE OF < > BRACKETS IS VERY CLEARLY UNDERSTOOD BY ALL THE STUDENTS. EXPLAIN THIS IN A LARGE GROUP AND IN SMALL GROUPS.

G4.D02.LP.TC
LESSON PLAN
CONTINUED
PAGE 2

GRADE 4 - DAY 2
COMPUTER LITERACY
TEACHER'S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING TODAY'S CLASS MEETING.

STUDENT INVOLVEMENT:
The students will be working independently on a quiz.
The students will be working on a Commodore with a partner.
The students will work toward correctly completing a worksheet.

STUDENT EVALUATION:
The students' quizzes will be evaluated giving one point for each correct answer.
The students' progress on the worksheets should be evaluated and recorded on the basis of five points for a correctly completed worksheet.

ADDITIONAL TOPIC:
If the students finish with worksheet #2, you could let them program other sentences, discuss with them the computer's ability to create color graphics or see how many of them can make bars of different colors on the screen.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.

G4.D02.LP.TC
BASIC

KEYBOARD

USING THE WORDS ABOVE, WRITE THE CORRECT WORD MENTIONED IN YESTERDAY'S LESSON BY THE APPROPRIATE DEFINITION:

1. __________________________ - A MACHINE WHICH PERFORMS TASKS AT A HIGH RATE OF SPEED WITH GREAT ACCURACY.

2. __________________________ - A T.V.-LIKE UNIT CONNECTED TO PART OF THE COMPUTER SYSTEM.

3. __________________________ - A DEVICE WITH KEYS USED TO INPUT INFORMATION INTO THE COMPUTER SYSTEM.

4. __________________________ - THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE THE NEXT LETTER YOU TYPE GOES.

5. __________________________ - USING THIS KEY; ONLY SENDS THE CURSOR TO THE UPPER LEFT CORNER OF SCREEN.

6. __________________________ - THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS.

7. __________________________ - USING THESE TWO KEYS; CLEARS THE SCREEN AND SENDS CURSOR TO UPPER LEFT CORNER.
USING THE WORDS ABOVE, WRITE THE CORRECT WORD MENTIONED IN YESTERDAY'S LESSON BY THE APPROPRIATE DEFINITION:

1. COMPUTER — A MACHINE WHICH PERFORMS TASKS AT A HIGH RATE OF SPEED WITH GREAT ACCURACY.

2. MONITOR — A T.V.-LIKE UNIT CONNECTED TO PART OF THE COMPUTER SYSTEM.

3. KEYBOARD — A DEVICE WITH KEYS USED TO INPUT INFORMATION INTO THE COMPUTER SYSTEM.

4. CURSOR — THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE THE NEXT LETTER YOU TYPE GOES.

5. CLR-HOME — USING THIS KEY; ONLY SENDS THE CURSOR TO THE UPPER LEFT CORNER OF SCREEN.

6. BASIC — THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS.

7. SHIFT/CLR-HOME — USING THESE TWO KEYS; CLEARS THE SCREEN AND SENDS CURSOR TO UPPER LEFT CORNER.
USING THE WORDS ABOVE, WRITE THE CORRECT WORD MENTIONED IN YESTERDAY'S LESSON BY THE APPROPRIATE DEFINITION:

1. ___________________________ - USING THESE TWO KEYS; CLEARS THE SCREEN AND SENDS CURSOR TO UPPER LEFT CORNER.

2. ___________________________ - THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS.

3. ___________________________ - USING THIS KEY; ONLY SENDS THE CURSOR TO THE UPPER LEFT CORNER OF SCREEN.

4. ___________________________ - THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE THE NEXT LETTER YOU TYPE GOES.

5. ___________________________ - A DEVICE WITH KEYS USED TO INPUT INFORMATION INTO THE COMPUTER SYSTEM.

6. ___________________________ - A T.V.-LIKE UNIT CONNECTED TO PART OF THE COMPUTER SYSTEM.

7. ___________________________ - A MACHINE WHICH PERFORMS TASKS AT A HIGH RATE OF SPEED WITH GREAT ACCURACY.
USING THE WORDS ABOVE, WRITE THE CORRECT WORD MENTIONED IN YESTERDAY’S LESSON BY THE APPROPRIATE DEFINITION:

1. _______ SHIFT/CLR-HOME _______ - USING THESE TWO KEYS; CLEARS THE SCREEN AND SENDS CURSOR TO UPPER LEFT CORNER.

2. _______ BASIC _______ - THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS.

3. _______ CLR-HOME _______ - USING THIS KEY; ONLY SENDS THE CURSOR TO THE UPPER LEFT CORNER OF SCREEN.

4. _______ CURSOR _______ - THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE THE NEXT LETTER YOU TYPE GOES.

5. _______ KEYBOARD _______ - A DEVICE WITH KEYS USED TO INPUT INFORMATION INTO THE COMPUTER SYSTEM.

6. _______ MONITOR _______ - A T.V.-LIKE UNIT CONNECTED TO PART OF THE COMPUTER SYSTEM.

7. _______ COMPUTER _______ - A MACHINE WHICH PERFORMS TASKS AT A HIGH RATE OF SPEED WITH GREAT ACCURACY.
DEFINITIONS:
1. A RESERVED WORD IS A WORD THAT HAS A SPECIAL MEANING AND MAKES A DIRECT STATEMENT TO THE COMPUTER. SOME RESERVED WORDS ARE USED INSIDE PROGRAMS, OTHERS ARE USED OUTSIDE PROGRAMS.

2. A PROGRAM IS A LIST OF INSTRUCTIONS FOR THE COMPUTER TO FOLLOW. ALL YOUR INSTRUCTIONS FOR THE COMPUTER MUST BE NUMBERED SO THE COMPUTER KNOWS IN WHAT ORDER TO DO THINGS.

3. THE RESERVED WORD "REM" COMES FROM THE WORD "REMARKS". IT ALLOWS YOU TO WRITE A COMMENT, WITHOUT EFFECTING THE PROGRAM.

4. THE RESERVED WORD "NEW" ALLOWS FOR A NEW PROGRAM TO BE ENTERED INTO THE COMPUTER AND ERASES ANY PREVIOUS PROGRAMS IN THE COMPUTER'S MEMORY. IF YOU DO NOT TYPE IN "NEW" (AND PRESS THE RETURN KEY), YOU COULD END UP WITH A PROGRAM CONSISTING OF A COLLECTION OF OLD AND NEW PROGRAM STATEMENTS.

5. THE RESERVED WORD "PRINT" TELLS THE COMPUTER TO PRINT THE NUMBERS OR THE CHARACTERS YOU WANT IN YOUR PROGRAM.

6. THE RESERVED WORD "RUN" EXECUTES (OR CARRIES OUT) THE PROGRAM CURRENTLY IN MEMORY. THE COMPUTER ACTUALLY DOES EXACTLY WHAT YOU TOLD IT TO DO IN YOUR PROGRAM, RESULTING IN OUTPUT.

7. A LINE NUMBER IS A NUMBER THAT APPEARS AT THE BEGINNING OF EACH LINE OF A PROGRAM. THE COMPUTER CARRIES OUT YOUR INSTRUCTIONS STARTING WITH THE SMALLEST LINE NUMBER. IT IS RECOMMENDED THAT YOU NUMBER THE LINES BY 10'S, SUCH AS 10, 20, 30, ETC.... THIS ALLOWS YOU TO ADD LINES TO YOUR PROGRAM WHICH YOU MAY HAVE OMITTED. A LINE NUMBER CAN BE ANY NUMBER BETWEEN 1 AND 9999 AS LONG AS IT IS A WHOLE NUMBER.

HOW TO ENTER A LINE:

WHEN WE SAY "ENTER" WE WILL ALWAYS MEAN TO DO THESE TWO THINGS:
1) TYPE A LINE OF PROGRAMMING,
2) THEN PRESS THE "RETURN" KEY

CLEAR THE SCREEN AND ENTER THESE LINES:

```plaintext
10 PRINT "HI"
20 END
```

(THE " MARKS ARE QUOTATION MARKS. TO MAKE " MARKS, HOLD DOWN THE "SHIFT" KEY AND PRESS THE KEY WHICH HAS THE 2 AND THE " ON IT.)

(DID YOU REMEMBER TO PRESS THE "RETURN" KEY AT THE END OF EACH LINE?)

NOW LINE NUMBERS 10 AND 20 ARE IN THE COMPUTER'S MEMORY. THEY WILL STAY IN MEMORY UNTIL YOU ENTER THE "NEW" COMMAND OR UNTIL YOU TURN OFF THE COMPUTER.
COMMAND THE COMPUTER:

TRY THIS: ENTER THE LINE:

MY NAME IS <YOUR NAME>

AND PRESS THE "RETURN" KEY.

THE COMPUTER PRINTED

?SYNTAX ERROR
READY

WHEN THE COMPUTER PRINTS "?SYNTAX ERROR", IT MEANS THE COMPUTER DID NOT UNDERSTAND YOU. THE COMPUTER UNDERSTANDS ONLY ABOUT 70 WORDS. THESE WORDS ARE KNOWN AS COMMANDS OR RESERVED WORDS. YOU NEED TO LEARN WHICH WORDS THE COMPUTER UNDERSTANDS. THREE OF THESE RESERVED WORDS ARE: "NEW", "PRINT" AND "RUN".

1. CLEAR THE SCREEN.

2. ENTER THIS SIMPLE PROGRAM:

   10  PRINT "THIS IS A STATEMENT"
   20  PRINT "TWO OR MORE STATEMENTS"
   30  PRINT "MAKE A SIMPLE PROGRAM!"
   40  END

3. ENTER THE RESERVED WORD: RUN

4. RAISE YOUR HAND TO HAVE YOUR PROGRAM CHECKED.

   1. ENTER THE RESERVED WORD: NEW

   2. ENTER THIS SIMPLE PROGRAM:

      10  PRINT "HELLO, MY NAME IS <YOUR NAME>"
      20  PRINT "HI AGAIN, MY NAME IS <YOUR PARTNER'S NAME>"
      30  PRINT "WE GO TO <NAME OF SCHOOL> SCHOOL"
      40  END

3. ENTER THE RESERVED WORD: RUN

4. RAISE YOUR HAND TO HAVE YOUR PROGRAM CHECKED.
DEFINITIONS:
1. A RESERVED WORD IS A WORD THAT HAS A SPECIAL MEANING AND MAKES A DIRECT STATEMENT TO THE COMPUTER. SOME RESERVED WORDS ARE USED INSIDE PROGRAMS, OTHERS ARE USED OUTSIDE PROGRAMS.
2. A PROGRAM IS A LIST OF INSTRUCTIONS FOR THE COMPUTER TO FOLLOW. ALL YOUR INSTRUCTIONS FOR THE COMPUTER MUST BE NUMBERED SO THE COMPUTER KNOWS IN WHAT ORDER TO DO THINGS.
3. THE RESERVED WORD "REM" COMES FROM THE WORD "REMARKS". IT ALLOWS YOU TO WRITE A COMMENT, WITHOUT EFFECTING THE PROGRAM.
4. THE RESERVED WORD "NEW" ALLOWS FOR A NEW PROGRAM TO BE ENTERED INTO THE COMPUTER AND ERASES ANY PREVIOUS PROGRAMS IN THE COMPUTER'S MEMORY. IF YOU DO NOT TYPE IN "NEW" (AND PRESS THE RETURN KEY), YOU COULD END UP WITH A PROGRAM CONSISTING OF A COLLECTION OF OLD AND NEW PROGRAM STATEMENTS.
5. THE RESERVED WORD "PRINT" TELLS THE COMPUTER TO PRINT THE NUMBERS OR THE CHARACTERS YOU WANT IN YOUR PROGRAM.
6. THE RESERVED WORD "RUN" EXECUTES (OR CARRIES OUT) THE PROGRAM CURRENTLY IN MEMORY. THE COMPUTER ACTUALLY DOES EXACTLY WHAT YOU TOLD IT TO DO IN YOUR PROGRAM, RESULTING IN OUTPUT.
7. A LINE NUMBER IS A NUMBER THAT APPEARS AT THE BEGINNING OF EACH LINE OF A PROGRAM. THE COMPUTER CARRIES OUT YOUR INSTRUCTIONS STARTING WITH THE SMALLEST LINE NUMBER. IT IS RECOMMENDED THAT YOU NUMBER THE LINES BY 10'S, SUCH AS 10, 20, 30, ETC.... THIS ALLOWS YOU TO ADD LINES TO YOUR PROGRAM WHICH YOU MAY HAVE OMITTED. A LINE NUMBER CAN BE ANY NUMBER BETWEEN 1 AND 9999 AS LONG AS IT IS A WHOLE NUMBER.

HOW TO ENTER A LINE:
WHEN WE SAY "ENTER" WE WILL ALWAYS MEAN TO DO THESE TWO THINGS:
1) TYPE A LINE OF PROGRAMMING,
2) THEN PRESS THE "RETURN" KEY

CLEAR THE SCREEN AND HAVE EACH STUDENT ENTER A LINE:

10 PRINT "HI" (LINE NUMBER, RESERVED WORD, DATA)
20 END (LINE NUMBER, RESERVED WORD)

(DID YOU REMEMBER TO PRESS THE "RETURN" KEY AT THE END OF EACH LINE?)

EXPLAIN THAT THE RETURN KEY MUST BE PRESSED TO ENTER INFORMATION INTO THE COMPUTER'S MEMORY.

NOW LINE NUMBERS 10 AND 20 ARE IN THE COMPUTER'S MEMORY. THEY WILL STAY IN MEMORY UNTIL YOU ENTER THE "NEW" COMMAND OR UNTIL YOU TURN OFF THE COMPUTER.

ENTER THE RESERVED WORD "RUN" AND SEE WHAT HAPPENS.
TRY THIS. ENTER THE LINE: (EXPLAIN WHAT IS MEANT BY THE USE OF THE < > BRACKETS; INFORMATION AS TO WHAT KEYS TO USE OR DATA THAT NEEDS TO BE PUT IN)

MY NAME IS <YOUR NAME> (HAVE BOTH STUDENTS DO THIS.)

AND PRESS THE "RETURN" KEY.

THE COMPUTER PRINTED

?SYNTAX ERROR

READY

WHEN THE COMPUTER PRINTS "?SYNTAX ERROR", IT MEANS THE COMPUTER DID NOT UNDERSTAND YOU. THE COMPUTER UNDERSTANDS ONLY ABOUT 70 WORDS. THESE WORDS ARE KNOWN AS COMMANDS OR RESERVED WORDS. YOU NEED TO LEARN WHICH WORDS THE COMPUTER UNDERSTANDS. THREE OF THESE RESERVED WORDS ARE: "NEW", "PRINT" AND "RUN".

1. CLEAR THE SCREEN.

2. ENTER THIS SIMPLE PROGRAM: (BOTH STUDENTS SHOULD TAKE TURNS.)

   10 PRINT "THIS IS A STATEMENT"
   20 PRINT "TWO OR MORE STATEMENTS"
   30 PRINT "MAKE A SIMPLE PROGRAM!"
   40 END

3. ENTER THE RESERVED WORD: RUN

4. RAISE YOUR HAND TO HAVE YOUR PROGRAM CHECKED.

1. ENTER THE RESERVED WORD: NEW

2. ENTER THIS SIMPLE PROGRAM:

   10 PRINT "HELLO, MY NAME IS <YOUR NAME>"
   20 PRINT "HI AGAIN, MY NAME IS <YOUR PARTNER'S NAME>"
   30 PRINT "WE GO TO <NAME OF SCHOOL> SCHOOL"
   40 END

3. ENTER THE RESERVED WORD: RUN

4. RAISE YOUR HAND TO HAVE YOUR PROGRAM CHECKED.
# LESSON PLAN

## OBJECTIVE FOR THE DAY:

The students will learn the terms: "LIST", "END", DISK DRIVE, MEMORY and CPU; and be prepared for a quiz on Day 4.

## INTRODUCTION:

Review with the students the material covered at the previous class and give a quiz in the homeroom.

## PRESENTATION:

Distribute copies of:

Worksheet #3 (G4.DO3.W3.SC)

Reading from the teacher's copy of worksheet #3, read the definitions in items #1-3 and emphasize that the students should study these definitions some time before the next class meeting because there will be a quiz on the three definitions. Make sure to define what the letters "CPU" stand for. (Central Processing Unit)

Continue reading from the teacher's copy of worksheet #3.

Have the students enter the appropriate program:

Program "A" is for Irving School
Program "B" is for Hiawatha School
Program "C" is for Pershing School

Emphasize that the program should be entered just as it is on the worksheet and that the line numbers are out of order to demonstrate a point. Have the students raise their hands when they have the program entered so you can check it. Make it a point to mention the language used to communicate with the computer some time during the lesson. (BASIC)

G4.DO3.LP.TC
GRADE 4 - DAY 3
COMPUTER LITERACY
TEACHER'S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT, STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING TODAY'S CLASS MEETING.

STUDENT INVOLVEMENT:
THE STUDENTS WILL BE WORKING INDEPENDENTLY ON A QUIZ.
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:
THE STUDENTS' QUIZZES WILL BE EVALUATED GIVING ONE POINT FOR EACH CORRECT ANSWER.
THE STUDENTS' PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON THE BASIS OF FIVE POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:
WHEN THE STUDENTS FINISH WITH WORKSHEET #3, THEY SHOULD HAVE A SENTENCE THAT SAYS: <NAME OF SCHOOL>SCHOOLISTHEBEST. TRY TO EXPLAIN TO THE STUDENTS THAT THE FIVE WORDS SHOULD BE SEPARATE AND THAT IF YOU USE A PRINT STATEMENT TO PRINT A LETTER, HOW COULD YOU PRINT A BLANK SPACE? THE THREE LINE NUMBERS WHERE A PRINT STATEMENT ARE NEEDED ARE BETWEEN 160-170, 180-190 AND 210-220.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
USING THE WORDS ABOVE, WRITE THE CORRECT WORD MENTIONED IN YESTERDAY'S LESSON BY THE APPROPRIATE DEFINITION:

1. ________________________ - THE MESSAGE THE COMPUTER PRINTS WHEN IT DOES NOT UNDERSTAND YOU.

2. ________________________ - A LIST OF INSTRUCTIONS (STATEMENTS) FOR THE COMPUTER TO FOLLOW.

3. ________________________ - A WORD THAT HAS A SPECIAL MEANING AND MAKES A DIRECT STATEMENT TO THE COMPUTER.

4. ________________________ - THIS WORD IS USED IN A PROGRAM TO TELL THE COMPUTER TO WRITE CHARACTERS.

5. ________________________ - IT MUST APPEAR AT THE BEGINNING OF EACH LINE OF A PROGRAM. THE COMPUTER STARTS AT THE SMALLEST ONE.

6. ________________________ - THE COMMAND THAT EXECUTES (OR CARRIES OUT) THE PROGRAM CURRENTLY IN THE COMPUTER'S MEMORY.

7. ________________________ - THE COMMAND THAT ERASES THE PROGRAM CURRENTLY IN THE COMPUTER'S MEMORY.
USING THE WORDS ABOVE, WRITE THE CORRECT WORD MENTIONED IN YESTERDAY'S LESSON BY THE APPROPRIATE DEFINITION:

1. SYNTAX ERROR - THE MESSAGE THE COMPUTER PRINTS WHEN IT DOES NOT UNDERSTAND YOU.

2. PROGRAM - A LIST OF INSTRUCTIONS (STATEMENTS) FOR THE COMPUTER TO FOLLOW.

3. RESERVED WORD - A WORD THAT HAS A SPECIAL MEANING AND MAKES A DIRECT STATEMENT TO THE COMPUTER.

4. PRINT - THIS WORD IS USED IN A PROGRAM TO TELL THE COMPUTER TO WRITE CHARACTERS.

5. LINE NUMBER - IT MUST APPEAR AT THE BEGINNING OF EACH LINE OF A PROGRAM. THE COMPUTER STARTS AT THE SMALLEST ONE.

6. RUN - THE COMMAND THAT EXECUTES (OR CARRIES OUT) THE PROGRAM CURRENTLY IN THE COMPUTER'S MEMORY.

7. NEW - THE COMMAND THAT ERASES THE PROGRAM CURRENTLY IN THE COMPUTER'S MEMORY.
<table>
<thead>
<tr>
<th>RESERVED WORD</th>
<th>LINE NUMBER</th>
<th>NEW</th>
<th>PRINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROGRAM</td>
<td>RUN</td>
<td>SYNTAX ERROR</td>
<td></td>
</tr>
</tbody>
</table>

Using the words above, write the correct word mentioned in yesterday's lesson by the appropriate definition:

1. ___________________________ - The command that erases the program currently in the computer's memory.

2. ___________________________ - The command that executes (or carries out) the program currently in the computer's memory.

3. ___________________________ - It must appear at the beginning of each line of a program. The computer starts at the smallest one.

4. ___________________________ - This word is used in a program to tell the computer to write characters.

5. ___________________________ - A word that has a special meaning and makes a direct statement to the computer.

6. ___________________________ - A list of instructions (statements) for the computer to follow.

7. ___________________________ - The message the computer prints when it does not understand you.
### Using the Words Above, Write the Correct Word Mentioned in Yesterday's Lesson by the Appropriate Definition:

<table>
<thead>
<tr>
<th>RESERVE WORD</th>
<th>LINE NUMBER</th>
<th>NEW</th>
<th>PRINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROGRAM</td>
<td>RUN</td>
<td>SYNTAX ERROR</td>
<td></td>
</tr>
</tbody>
</table>

1. **NEW** — The command that erases the program currently in the computer's memory.

2. **RUN** — The command that executes (or carries out) the program currently in the computer's memory.

3. **LINE NUMBER** — It must appear at the beginning of each line of a program. The computer starts at the smallest one.

4. **PRINT** — This word is used in a program to tell the computer to write characters.

5. **RESERVED WORD** — A word that has a special meaning and makes a direct statement to the computer.

6. **PROGRAM** — A list of instructions (statements) for the computer to follow.

7. **SYNTAX ERROR** — The message the computer prints when it does not understand you.
DEFINITIONS:
1. The reserved word "LIST" shows you the program that is currently in the computer's memory.
2. The reserved word "END" is used in the last line of a program.
3. The five main parts of a microcomputer are:
   - Keyboard
   - Monitor
   - Disk Drive
   - Memory
   - CPU

GET THE PROGRAM IN THE PROPER ORDER:

1. Enter the appropriate program following the teacher's instructions:

   PROGRAM A:
   - 60 PRINT "G"
   - 50 PRINT "E"
   - 40 PRINT "I"
   - 10 PRINT "H"
   - 70 END

   PROGRAM B:
   - 70 PRINT "H"
   - 60 PRINT "I"
   - 50 PRINT "O"
   - 40 PRINT "R"
   - 20 PRINT "O"
   - 30 PRINT "V"
   - 10 PRINT "P"
   - 40 PRINT "R"
   - 20 PRINT "O"
   - 60 PRINT "T"
   - 30 PRINT "R"
   - 50 PRINT "S"
   - 60 PRINT "S"
   - 40 PRINT "W"
   - 20 PRINT "S"
   - 80 PRINT "Y"
   - 220 PRINT "B"
   - 120 PRINT "C"
   - 230 PRINT "E"
   - 210 PRINT "E"
   - 130 PRINT "H"
   - 200 PRINT "H"
   - 170 PRINT "I"
   - 180 PRINT "L"
   - 280 PRINT "T"
   - 140 PRINT "O"
   - 150 PRINT "O"
   - 240 PRINT "S"
   - 110 PRINT "S"
   - 180 PRINT "S"
   - 250 PRINT "T"
   - 190 PRINT "T"

2. Enter the reserved word that will execute the program that is currently in the computer's memory.

3. Enter the reserved word that will show you the program that is currently in the computer's memory.

4. Do not enter the reserved word: NEW

5. Enter the following program, execute it, and show the program to the teacher in its proper order:

   220 PRINT "B"
   120 PRINT "C"
   230 PRINT "E"
   210 PRINT "E"
   130 PRINT "H"
   200 PRINT "H"
   170 PRINT "I"
   180 PRINT "L"
   280 END
   140 PRINT "O"
   150 PRINT "O"
   240 PRINT "S"
   110 PRINT "S"
   180 PRINT "S"
   250 PRINT "T"
   190 PRINT "T"

G4.D03.W3.SC
DEFINITIONS:
1. THE RESERVED WORD "LIST" SHOWS YOU THE PROGRAM THAT IS CURRENTLY IN THE
   COMPUTER'S MEMORY.
2. THE RESERVED WORD "END" IS USED IN THE LAST LINE OF A PROGRAM.
3. THE FIVE MAIN PARTS OF A MICROCOMPUTER ARE:
   - KEYBOARD
   - MONITOR
   - DISK DRIVE
   - MEMORY
   - CPU

GET THE PROGRAM IN THE PROPER ORDER:

1. ENTER THE APPROPRIATE PROGRAM FOLLOWING THE TEACHER'S INSTRUCTIONS:

   PROGRAM A: | PROGRAM B: | PROGRAM C: | PROGRAM D: | PROGRAM E:
   60 PRINT "G" | 50 PRINT "A" | 20 PRINT "E" | 30 PRINT "E" | 40 PRINT "E"
   40 PRINT "I" | 30 PRINT "A" | 80 PRINT "G" | 10 PRINT "E" | 70 PRINT "K"
   10 PRINT "I" | 80 PRINT "A" | 50 PRINT "H" | 20 PRINT "M" | 10 PRINT "K"
   70 END | 10 PRINT "H" | 80 PRINT "I" | 80 END | 30 PRINT "M"
   50 PRINT "N" | 90 END | 90 END | 70 PRINT "N" | 90 END
   20 PRINT "R" | 70 PRINT "H" | 70 PRINT "N" | 60 PRINT "O" | 50 PRINT "N"
   30 PRINT "V" | 20 PRINT "I" | 10 PRINT "P" | 40 PRINT "R" | 20 PRINT "O"
   50 PRINT "W" | 40 PRINT "V" | 30 PRINT "R" | 50 PRINT "S" | 60 PRINT "S"
   40 PRINT "W" | 40 PRINT "S" | | | 

   2. ENTER THE RESERVED WORD THAT WILL EXECUTE THE PROGRAM THAT IS CURRENTLY
      IN THE COMPUTER'S MEMORY.

   3. ENTER THE RESERVED WORD THAT WILL SHOW YOU THE PROGRAM THAT IS CURRENTLY
      IN THE COMPUTER'S MEMORY.

   4. DO NOT ENTER THE RESERVED WORD: NEW

   5. ENTER THE FOLLOWING PROGRAM, EXECUTE IT, AND SHOW THE PROGRAM TO THE TEACHER
      IN ITS PROPER ORDER:

      220 PRINT "B"
      120 PRINT "C"
      230 PRINT "E"
      210 PRINT "E"
      130 PRINT "H"
      200 PRINT "H"
      170 PRINT "I"
      160 PRINT "L"
      260 END
      140 PRINT "O"
      150 PRINT "O"
      240 PRINT "S"
      110 PRINT "S"
      180 PRINT "S"
      250 PRINT "T"
      190 PRINT "T"

   ADDITIONAL TOPIC: (ADD THREE PRINT STATEMENTS AT 165, 185 AND 215)

G4.D03.W3.TC
OBJECTIVE FOR THE DAY:

The students will learn and practice programming skills by entering some programs given to them and creating some programs of their own. The students will be prepared for a test on Day 5.

INTRODUCTION:

Review with the students the material covered at the previous class and give a quiz in the homeroom.

PRESENTATION:

Distribute copies of:

Worksheet #4 (G4.D04.W4.SC)

This lesson is divided into two parts. The students working on a specific computer will be doing two different activities. While one student is doing programming, the other student should be writing the output to that program on his/her worksheet. Before the students execute the program, the teacher should be called by the students raising their hands to have their program and written output checked.

Again, remind the students what the < > brackets mean when they see them on their worksheets. This is the first day that they will have seen the reserved word: REM, so make it clear to the students what it is.
GRADE 4 - DAY 4
COMPUTER LITERACY
TEACHER'S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING TODAY'S CLASS MEETING.

STUDENT INVOLVEMENT:
THE STUDENTS WILL BE WORKING INDEPENDENTLY ON A QUIZ.
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:
THE STUDENTS' QUIZZES WILL BE EVALUATED GIVING ONE POINT FOR EACH CORRECT ANSWER.
THE STUDENTS' PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON THE BASIS OF FIVE POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:
IF THE STUDENTS FINISH WITH WORKSHEET #4, YOU COULD DISCUSS WITH THEM THE POSSIBLE TYPES OF QUESTIONS TO EXPECT ON THE TEST TOMORROW OR WORK ON COLOR GRAPHICS PROGRAMMING.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
WRITE THE CORRECT WORD MENTIONED IN YESTERDAY'S LESSON BY THE APPROPRIATE DEFINITION:

1. ____________________ - THE COMMAND THAT SHOWS YOU THE PROGRAM THAT IS CURRENTLY IN THE COMPUTER'S MEMORY.

2. ____________________ - THE WORD THAT IS FOUND IN THE LAST LINE OF A PROGRAM.

NAME THE FIVE MAIN PARTS OF A MICROCOMPUTER THAT WE HAVE DISCUSSED DURING THIS MINI-COURSE.

3. ____________________

4. ____________________

5. ____________________

6. ____________________

7. ____________________
WRITE THE CORRECT WORD MENTIONED IN YESTERDAY'S LESSON BY THE APPROPRIATE DEFINITION:

1. ____________ LIST ____________ - THE COMMAND THAT SHOWS YOU THE PROGRAM THAT IS CURRENTLY IN THE COMPUTER'S MEMORY.

2. ____________ END ____________ - THE WORD THAT IS FOUND IN THE LAST LINE OF A PROGRAM.

NAME THE FIVE MAIN PARTS OF A MICROCOMPUTER THAT WE HAVE DISCUSSED DURING THIS MINI-COURSE.

3. ____________ KEYBOARD ____________

4. ____________ MONITOR ____________

5. ____________ DISK DRIVE ____________

6. ____________ MEMORY ____________

7. ____________ CPU (CENTRAL PROCESSING UNIT) ____________

G4.D04.Q3.TC
1. ENTER THE PROGRAM OR WRITE THE OUTPUT FOR THE PROGRAM BELOW, FOLLOWING THE TEACHER’S INSTRUCTIONS:

PROGRAM: (LEFT) OUTPUT: (RIGHT)

10 REM NAME AND ADDRESS PROGRAM
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<FIRST AND LAST NAME>"
40 PRINT "<YOUR HOME ADDRESS>"
50 PRINT "<CITY, STATE, ZIPCODE>"
60 END

2. ENTER THE PROGRAM OR WRITE THE OUTPUT FOR THE PROGRAM BELOW, FOLLOWING THE TEACHER’S INSTRUCTIONS:

PROGRAM: (RIGHT) OUTPUT: (LEFT)

10 REM NAME AND ADDRESS PROGRAM
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<FIRST AND LAST NAME>"
40 PRINT "<YOUR HOME ADDRESS>"
50 PRINT "<CITY, STATE, ZIPCODE>"
60 END
3. ENTER THE PROGRAM OR WRITE THE PROGRAM FOR THE OUTPUT BELOW, FOLLOWING THE TEACHER'S INSTRUCTIONS:

PROGRAM: (LEFT) OUTPUT: (RIGHT)


COMMODORE COMPUTERS
1200 WILSON DRIVE
WEST CHESTER, PA. 19380

4. ENTER THE PROGRAM OR WRITE THE PROGRAM FOR THE OUTPUT BELOW, FOLLOWING THE TEACHER'S INSTRUCTIONS:

PROGRAM: (RIGHT) OUTPUT: (LEFT)


APPLE COMPUTERS, INC
20525 MARIANI AVENUE
CUPERTINO, CA. 95014
1. Enter the program or write the output for the program below, following the teacher's instructions:

Program: (Left)

```
10 REM NAME AND ADDRESS PROGRAM
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<FIRST AND LAST NAME>"
40 PRINT "<YOUR HOME ADDRESS>"
50 PRINT "<CITY, STATE, ZIPCODE>"
60 END
```

Output: (Right)

```
THIS LINE SHOULD BE BLANK
FIRST AND LAST NAME
HOME ADDRESS
CITY, STATE, ZIPCODE
THIS LINE SHOULD BE BLANK
```

2. Enter the program or write the output for the program below, following the teacher's instructions:

Program: (Right)

```
10 REM NAME AND ADDRESS PROGRAM
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<FIRST AND LAST NAME>"
40 PRINT "<YOUR HOME ADDRESS>"
50 PRINT "<CITY, STATE, ZIPCODE>"
60 END
```

Output: (Left)

```
THIS LINE SHOULD BE BLANK
FIRST AND LAST NAME
HOME ADDRESS
CITY, STATE, ZIPCODE
THIS LINE SHOULD BE BLANK
```

G4.D04.W4.TC
3. ENTER THE PROGRAM OR WRITE THE PROGRAM FOR THE OUTPUT BELOW, FOLLOWING THE TEACHER'S INSTRUCTIONS:

PROGRAM: (LEFT) OUTPUT: (RIGHT)

10 REM NAME AND ADDRESS PROGRAM

20 PRINT "<SHIFT/CLR-HOME>"

30 PRINT "COMMODORE COMPUTERS" COMMODORE COMPUTERS

40 PRINT "1200 WILSON DRIVE" 1200 WILSON DRIVE

50 ? "WEST CHESTER, PA. 19380" WEST CHESTER, PA. 19380

60 END

4. ENTER THE PROGRAM OR WRITE THE PROGRAM FOR THE OUTPUT BELOW, FOLLOWING THE TEACHER'S INSTRUCTIONS:

PROGRAM: (RIGHT) OUTPUT: (LEFT)

10 REM NAME AND ADDRESS PROGRAM

20 PRINT "<SHIFT/CLR-HOME>"

30 PRINT "APPLE COMPUTERS, INC" APPLE COMPUTERS, INC

40 PRINT "20525 MARIANI AVENUE" 20525 MARIANI AVENUE

50 PRINT "CUPERTINO, CA. 95014" CUPERTINO, CA. 95014

60 END
GRADE 4 - DAY 5
COMPUTER LITERACY
TEACHER'S LESSON PLAN

**INSTRUCTIONAL AIDS:**
- COPIES OF THE NECESSARY HANOUTS
- COPIES OF THE TEST - 2 PAGES
- TEST 1 - DAY 5

**TOOLS, EQUIPMENT AND MATERIALS:**
- PENCILS

**OBJECTIVE FOR THE DAY:**
THE STUDENTS WILL REVIEW WITH THE TEACHER THE COMPUTER PROGRAMMING SKILLS AND TAKE A TEST. THE STUDENTS WILL BE GIVEN THE INSTRUCTIONS FOR THE GRAPHICS PROGRAMS THAT THE STUDENTS WILL BE LEARNING DURING THE NEXT WEEK.

**INTRODUCTION:**
REVIEW WITH THE STUDENTS THE MATERIAL COVERED AT THE PREVIOUS CLASSES AND GIVE A TEST IN THE HOMEROOM.

**PRESENTATION:**
DISTRIBUTE COPIES OF:

**TEST #1 (G4.D05.T1.SC)**

ADMINISTER THE TEST.
INSTRUCTIONS FOR THE MATCHING SECTION:
"THERE ARE 12 DEFINITIONS AND 12 WORDS. WRITE THE LETTER A - L ON THE LINE NEXT TO THE CORRECT DEFINITION. EACH LINE IS WORTH ONE POINT."

INSTRUCTIONS FOR THE TRUE AND FALSE SECTION:
"THERE ARE 6 TRUE OR FALSE QUESTIONS. WRITE A "T" OR A "F" ON THE LINE NEXT TO THE PROBLEM NUMBER. EACH LINE IS WORTH ONE POINT."

INSTRUCTIONS FOR PAGE TWO OF THE TEST:
"THE FIRST PROBLEM IS WORTH 17 POINTS. YOU HAVE BEEN GIVEN THE OUTPUT TO A PROGRAM. YOU ARE TO WRITE OUT THE ENTIRE PROGRAM. THE POINTS FOR EACH LINE ARE: 3, 4, 4, 4, 4 AND 2. THE SECOND PROBLEM IS WORTH 15 POINTS. YOU HAVE BEEN GIVEN A PROGRAM. YOU ARE TO WRITE THE OUTPUT ONLY. THE POINTS FOR EACH LINE ARE: 2, 2, 3, 3, 3 AND 2."

WHEN THE STUDENTS TURN IN THEIR TESTS, DISTRIBUTE COPIES OF:

**STUDENT HANOUT #2 (G4.D06.SH2.CC)**
**STUDENT HANOUT #3 (G4.D06.SH3.PC)**

G4.D05.LP.TC
GRADE 4 - DAY 5
COMPUTER LITERACY
TEACHER'S LESSON PLAN

OBJECTIVES, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT, STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
IF THERE IS TIME AVAILABLE, YOU COULD GO OVER THE TEST.

STUDENT INVOLVEMENT:
THE STUDENTS WILL BE WORKING INDEPENDENTLY ON A TEST.

STUDENT EVALUATION:
THE STUDENTS' TESTS WILL BE EVALUATED GIVING THE APPROPRIATE POINT VALUE FOR EACH CORRECT ANSWER.

ADDITIONAL TOPIC:
TALK ABOUT THE TOPIC FOR DAY 6 WHICH IS THE USE OF THE COLOR GRAPHICS COMMANDS. MENTION THE USE OF THE KEY MARKED "CTRL" AND THE NUMBERS 1 THROUGH 9. REMIND THEM TO REVIEW THE STUDENT HANDOUT #1 REGARDING THE KEYBOARD AND THE TWO NEW STUDENT HANDOUTS GIVEN TO THEM AFTER THE TEST.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
MATCHING: LISTEN TO THE TEACHER'S INSTRUCTIONS.

1. THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS. A. DISK DRIVE
2. FIVE MAIN PARTS OF A MICROCOMPUTER USED IN THIS MINI-COURSE. B. COMPUTER
3. C. BASIC
4. D. MONITOR
5. E. RETURN
6. F. RUN
7. G. MEMORY
8. H. LINE NUMBER
9. I. LIST
10. J. KEYBOARD
11. K. NEW
12. L. CPU

7. THE KEY YOU MUST PRESS TO ENTER INFORMATION INTO THE COMPUTER'S MEMORY.
8. THE COMMAND THAT SHOWS YOU THE PROGRAM THAT IS IN THE COMPUTER'S MEMORY.
9. THE COMMAND THAT EXECUTES (OR CARRIES OUT) THE PROGRAM IN THE COMPUTER'S MEMORY.
10. THE COMMAND THAT ERASES THE PROGRAM IN THE COMPUTER'S MEMORY.
11. IT MUST APPEAR AT THE BEGINNING OF EACH LINE OF A PROGRAM.
12. A MACHINE WHICH PERFORMS TASKS AT A HIGH RATE OF SPEED WITH GREAT ACCURACY.

TRUE OR FALSE: LISTEN TO THE TEACHER'S INSTRUCTIONS.

13. PRESSING ONLY THE CLR-HOME KEY CLEARS THE SCREEN AND SENDS THE CURSOR TO THE UPPER LEFT CORNER.
14. A PROGRAM IS A LIST OF INSTRUCTIONS (STATEMENTS) FOR THE COMPUTER TO FOLLOW.
15. THE WORD THAT IS FOUND IN THE LAST LINE OF A PROGRAM IS: "STOP".
16. THE MESSAGE THE COMPUTER PRINTS WHEN IT DOES NOT UNDERSTAND YOU IS: "?SYNTAX ERROR".
17. THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE THE NEXT LETTER YOU TYPE GOES IS CALLED THE CURSOR.
18. ALL COMMANDS ARE THE SAME FOR ANY COMPUTER.

G4.D05.T1.SC
PROGRAMMING: LISTEN TO THE TEACHER’S INSTRUCTIONS.

19-35. WRITE THE ENTIRE PROGRAM FROM THE FOLLOWING OUTPUT:

COMMODORE COMPUTERS
1200 WILSON DRIVE
WEST CHESTER, PA. 19380

36-50. WRITE THE OUTPUT ONLY FROM THE FOLLOWING PROGRAM:

10 REM NAME AND ADDRESS PROGRAM
20 PRINT "<SHIFT/CNL-HOME>"
30 PRINT "APPLE COMPUTERS, INC"
40 PRINT "20525 MARIANI AVENUE"
50 PRINT "CUPERTINO, CA. 95014"
60 END
MATCHING: LISTEN TO THE TEACHER’S INSTRUCTIONS.

   A. DISK DRIVE
   B. COMPUTER
   C. BASIC
   D. MONITOR
   E. RETURN
   F. RUN
   G. MEMORY
   H. LINE NUMBER
   I. LIST
   J. KEYBOARD
   K. NEW
   L. CPU

   1. THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS.
   2. FIVE MAIN PARTS OF A MICROCOMPUTER USED IN THIS MINI-COURSE.
   3.
   4.
   5.
   6.
   7. THE KEY YOU MUST PRESS TO ENTER INFORMATION INTO THE COMPUTER’S MEMORY.
   8. THE COMMAND THAT SHOWS YOU THE PROGRAM THAT IS IN THE COMPUTER’S MEMORY.
   9. THE COMMAND THAT EXECUTES (OR CARRIES OUT) THE PROGRAM IN THE COMPUTER’S MEMORY.
   10. THE COMMAND THAT ERASES THE PROGRAM IN THE COMPUTER’S MEMORY.
   11. IT MUST APPEAR AT THE BEGINNING OF EACH LINE OF A PROGRAM.
   12. A MACHINE WHICH PERFORMS TASKS AT A HIGH RATE OF SPEED WITH GREAT ACCURACY.
   13. PRESSING ONLY THE CLR-HOME KEY CLEARS THE SCREEN AND SENDS THE CURSOR TO THE UPPER LEFT CORNER.
   14. A PROGRAM IS A LIST OF INSTRUCTIONS (STATEMENTS) FOR THE COMPUTER TO FOLLOW.
   15. THE WORD THAT IS FOUND IN THE LAST LINE OF A PROGRAM IS: "STOP".
   16. THE MESSAGE THE COMPUTER PRINTS WHEN IT DOES NOT UNDERSTAND YOU IS: "?SYNTAX ERROR".
   17. THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE THE NEXT LETTER YOU TYPE GOES IS CALLED THE CURSOR.
   18. ALL COMMANDS ARE THE SAME FOR ANY COMPUTER.
PROGRAMMING: LISTEN TO THE TEACHER'S INSTRUCTIONS.

19-35. WRITE THE ENTIRE PROGRAM FROM THE FOLLOWING OUTPUT:

```
10 REM NAME OF PROGRAM (3 PTS)
20 ? "<SHIFT/CLR-HOME>" (4 PTS)
30 ? "COMMODORE COMPUTERS" (4 PTS)
40 ? "1200 WILSON DRIVE" (4 PTS)
50 ? "WEST CHESTER, PA. 19380" (4 PTS)
60 END (2 PTS)
```

TOTAL: (17 PTS)

36-50. WRITE THE OUTPUT ONLY FROM THE FOLLOWING PROGRAM:

```
(2 PTS) THIS LINE IS BLANK
10 REM NAME AND ADDRESS PROGRAM
(2 PTS) THIS LINE IS BLANK
20 PRINT "<SHIFT/CLR-HOME>"
(3 PTS) APPLE COMPUTERS, INC
30 PRINT "APPLE COMPUTERS, INC"
(3 PTS) 20525 MARIANI AVENUE
40 PRINT "20525 MARIANI AVENUE"
(3 PTS) CUPERTINO, CA. 95014
50 PRINT "CUPERTINO, CA. 95014"
(2 PTS) THIS LINE IS BLANK
60 END
```

TOTAL: (15 PTS)

SUGGESTED GRADING:

A = 45 TO 50 PTS
B = 40 TO 44 PTS
C = 35 TO 39 PTS
D = 30 TO 34 PTS
F = 0 TO 29 PTS
GRADE 4 - DAY 6
COMPUTER LITERACY
TEACHER'S LESSON PLAN

INSTRUCTIONAL AIDS: COPIES OF THE NECESSARY HANDOUTS

TOOLS, EQUIPMENT AND MATERIALS: CHALK, ERASER AND PENCILS

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

OBJECTIVE FOR THE DAY:
The students will learn the terms necessary to create graphics programs, learn how to use the control keys to enter color commands, and be prepared for a quiz on Day 7.

INTRODUCTION:
Move the class to the computer room and proceed with the lesson for the day.

PRESENTATION:
Distribute copies of:

STUDENT HANDOUT #2 (G4.D06.SH2.CC)
STUDENT HANDOUT #3 (G4.D06.SH3.FC)
WORKSHEET #6

CREATING A COLOR BAR:
The purpose of this section of the worksheet is to give the students an opportunity to become familiar with the location and use of the control keys. When the students complete this section they should have eight color bars on the screen for you to check.

COLOR GRAPHICS PROGRAMMING:
The purpose of this section of the worksheet is to give the students an opportunity to become familiar with how to use the previously learned commands with a program. When you get to lines 40 - 60, in small groups show the students how to copy lines by using line 30 and duplicating it three times. When the students complete this section, they should have a program that will have an output of: background in orange, and eight color bars.
SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING TODAY’S CLASS MEETING.

STUDENT INVOLVEMENT:
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:
The students’ progress on the worksheets should be evaluated and recorded on the basis of five points for a correctly completed worksheet.

ADDITIONAL TOPIC:
EMPHASIZE THE COMMANDS LEARNED TODAY, SO THE STUDENTS WILL BE READY FOR THE QUIZ AT THE NEXT CLASS MEETING.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
<table>
<thead>
<tr>
<th>PRESS</th>
<th>COLOR</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTRL 1</td>
<td>BLACK</td>
<td>☐</td>
</tr>
<tr>
<td>CTRL 2</td>
<td>WHITE</td>
<td>☐</td>
</tr>
<tr>
<td>CTRL 3</td>
<td>RED</td>
<td>☐</td>
</tr>
<tr>
<td>CTRL 4</td>
<td>CYAN</td>
<td>☐</td>
</tr>
<tr>
<td>CTRL 5</td>
<td>PURPLE</td>
<td>☐</td>
</tr>
<tr>
<td>CTRL 6</td>
<td>GREEN</td>
<td>☐</td>
</tr>
<tr>
<td>CTRL 7</td>
<td>BLUE</td>
<td>☐</td>
</tr>
<tr>
<td>CTRL 8</td>
<td>YELLOW</td>
<td>☐</td>
</tr>
<tr>
<td>CTRL 9</td>
<td>REVERSE ON</td>
<td>☐</td>
</tr>
<tr>
<td>CTRL 0</td>
<td>REVERSE OFF</td>
<td>☐</td>
</tr>
<tr>
<td>NUMBER</td>
<td>COLOR</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>BLACK</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>WHITE</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>RED</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CYAN (DARK BLUE)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>PURPLE</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>GREEN</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>BLUE</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>YELLOW</td>
<td></td>
</tr>
</tbody>
</table>
Creating a Color Bar:

1. Clear the screen by entering the <SHIFT/CLR-HOME> command. Find the key with letters: “CTRL” on it. Press this button and hold it down while pressing the key with the number 9 on it. Again, while holding the “CTRL” key down, press the key with the number 1 on it. Then press the space bar five times.

2. Repeat the steps above for the numbers 2 through 8. Take turns entering information into the computer. The teacher will be available to assist you.

3. Raise your hand to have your work checked.

Color Graphics Programming:

1. Clear the screen and clear memory by entering the proper commands.

2. Enter the following program:

```
10 REM  <PROGRAM NAME>
15 REM  <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"  
25 POKE 53280,8 : POKE 53281,8 
30 PRINT 
35 PRINT 
40 PRINT
50 PRINT
60 PRINT
```

3. Raise your hand for the teacher’s assistance.

4. Enter “RUN” after completing each of the following lines of programming:

```
70 PRINT "<C9><C1><5 SPACES><C0>" 
80 PRINT "<C9><C2><5 SPACES><C0>" 
90 PRINT "<C9><C3><5 SPACES><C0>" 
100 PRINT "<C9><C4><5 SPACES><C0>" 
110 PRINT "<C9><C5><5 SPACES><C0>" 
120 PRINT "<C9><C6><5 SPACES><C0>" 
130 PRINT "<C9><C7><5 SPACES><C0>" 
140 PRINT "<C9><C8><5 SPACES><C0>" 
150 END
```

G4.D06.W6.SC
CREATING A COLOR BAR:

1. Clear the screen by entering the `<SHIFT/CLR-HOME>` command. Find the key with letters: "CTRL" on it. Press this button and hold it down while pressing the key with the number 9 on it. Again, while holding the "CTRL" key down, press the key with the number 1 on it. Then press the space bar five times.

2. Repeat the steps above for the numbers 2 through 8. Take turns entering information into the computer. The teacher will be available to assist you.

3. Raise your hand to have your work checked.

COLOR GRAPHICS PROGRAMMING:

1. Clear the screen and clear memory by entering the proper commands.

2. Enter the following program:

```plaintext
10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,8 : POKE 53281,8
30 PRINT
3. Raise your hand for the teacher's assistance.

4. Enter "RUN" after completing each of the following lines of programming:

70 PRINT "<C9><C1><5 SPACES><CO>"
80 PRINT "<C9><C2><5 SPACES><CO>"
90 PRINT "<C9><C3><5 SPACES><CO>"
100 PRINT "<C9><C4><5 SPACES><CO>"
110 PRINT "<C9><C5><5 SPACES><CO>"
120 PRINT "<C9><C6><5 SPACES><CO>"
130 PRINT "<C9><C7><5 SPACES><CO>"
140 PRINT "<C9><C8><5 SPACES><CO>"
150 END
```

G4.D06.W6.TC
GRADE 4 - DAY 7
COMPUTER LITERACY
TEACHER'S LESSON PLAN

INSTRUCTIONAL AIDS: COPIES OF THE NECESSARY HANDOUTS AND QUIZ 4 - DAY 7

TOOLS, EQUIPMENT AND MATERIALS: CHALK, ERASER AND PENCILS

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT, STUDENT EVALUATION, ADDITIONAL TOPIC

OBJECTIVE FOR THE DAY:
THE STUDENTS WILL WORK ON A GRAPHICS PROGRAM CALLED HELLO AND BE PREPARED FOR A TEST ON DAY 10. OPTIONAL: THE STUDENTS WILL LEARN HOW TO USE A DISK DRIVE.

INTRODUCTION:
REVIEW WITH THE STUDENTS THE MATERIAL COVERED AT THE PREVIOUS CLASS AND GIVE A QUIZ IN THE HOMEROOM.

PRESENTATION:
DISTRIBUTE COPIES OF:
WORKSHEET #7 (G4.D07.W7.SC)

HAVE THE STUDENTS ENTER THE PROGRAM FROM WORKSHEET #7.
REMEMBER TO CHECK EACH LINE BY EXECUTING THE PROGRAM LINE BY LINE.

BEFORE THE END OF THE CLASS TIME, HAVE THE STUDENTS STOP WORKING AND GUIDE THEM THROUGH THE PROCESS OF SAVING THEIR WORK ON A DISK.

G4.D07.LP.TC
LESSON PLAN
CONTINUED
PAGE 2

GRADE 4 - DAY 7
COMPUTER LITERACY
TEACHER'S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING TODAY'S CLASS MEETING.

STUDENT INVOLVEMENT:
The students will be working independently on a quiz.
The students will be working on a Commodore with a partner.
The students will work toward correctly completing a worksheet.

STUDENT EVALUATION:
The students' quizzes will be evaluated giving one point for each correct answer.
The students' progress on the worksheets should be evaluated and recorded on the basis of five points for a correctly completed worksheet.

ADDITIONAL TOPIC:
The students could write a program that will print their initials.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
INSTRUCTIONS: FILL-IN THE BLANKS WITH THE CORRECT ANSWER/RESPONSE:

1. THE TWO KEYS PRESSED TO TURN ON THE REVERSE COLOR, (RVS ON), ARE:
   THE _________________ KEY AND THE NUMBER _______.

2. THE TWO KEYS PRESSED TO TURN OFF THE REVERSE COLOR, (RVS OFF), ARE:
   THE _________________ KEY AND THE NUMBER _______.

3. WRITE A LINE OF PROGRAMMING THAT WILL MAKE A RED COLOR BAR 5 SPACES LONG, A WHITE COLOR BAR 5 SPACES LONG AND A BLUE COLOR BAR 5 SPACES LONG.
   SOME OF THE CODES YOU WILL NEED ARE:
   <RED> ====> <C3>,   <WHITE> ====> <C2>,   <BLUE> ====> <C7>
INSTRUCTIONS: FILL-IN THE BLANKS WITH THE CORRECT ANSWER/RESPONSE:

1. THE TWO KEYS PRESSED TO TURN ON THE REVERSE COLOR, (RVS ON), ARE:
   THE ______ CONTROL ______ KEY AND THE NUMBER ____ 9 ____.

2. THE TWO KEYS PRESSED TO TURN OFF THE REVERSE COLOR, (RVS OFF), ARE:
   THE ______ CONTROL ______ KEY AND THE NUMBER ____ 0 ____.

3. WRITE A LINE OF PROGRAMMING THAT WILL MAKE A RED COLOR BAR 5 SPACES LONG, A WHITE COLOR BAR 5 SPACES LONG AND A BLUE COLOR BAR 5 SPACES LONG.

SOME OF THE CODES YOU WILL NEED ARE:

<RED> =====> <C3>,   <WHITE> =====> <C2>,   <BLUE> =====> <C7>

20 PRINT "<C9><C3><5 SPACES><C2><5 SPACES><C7><5 SPACES><C0>" (10 PTS)
ENTER THE FOLLOWING PROGRAM:

```
10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,8 : POKE 53281,8
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
```

TYPE "RUN" AFTER COMPLETING EACH OF THE FOLLOWING LINES OF PROGRAMMING:

```
60 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
70 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
80 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
90 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
100 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
110 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
120 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
130 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
140 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
150 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
160 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
170 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
180 END
```
ENTER THE FOLLOWING PROGRAM:

10 REM "HELLO PROGRAM"
15 REM "YOUR NAME AND SECTION"
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,8 : POKE 53281,8
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X

TYPE "RUN" AFTER COMPLETING EACH OF THE FOLLOWING LINES OF PROGRAMMING:

60 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
70 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
80 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
90 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
100 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
110 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
120 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
130 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
140 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
150 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
160 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
170 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
180 END

LINES 60 THROUGH 90 AND 140 THROUGH 170 ARE ALL THE SAME AND CAN BE COPIED INSTEAD OF TYPED IN INDIVIDUALLY. THE SAME IS TRUE FOR LINES 100 THROUGH 130. TO COPY A LINE, ENTER THE LINE THE FIRST TIME, THEN CHANGE THE LINE NUMBER AND PRESS THE RETURN KEY.

G4.D07.W7.TC
GRADE 4 - DAY 8
COMPUTER LITERACY
TEACHER’S LESSON PLAN

INSTRUCTIONAL AIDS: 

TOOLS, EQUIPMENT AND MATERIALS:

COPIES OF THE NECESSARY HANDOUTS 

CHALK, ERASER AND PENCILS

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT, STUDENT EVALUATION, ADDITIONAL TOPIC

OBJECTIVE FOR THE DAY:

THE STUDENTS WILL WORK ON A GRAPHICS PROGRAM CALLED CLOWN AND BE PREPARED FOR A TEST ON DAY 10. OPTIONAL: THE STUDENTS WILL LEARN HOW TO USE A DISK DRIVE.

INTRODUCTION:

MOVE THE CLASS TO THE COMPUTER ROOM AND PROCEED WITH THE LESSON FOR THE DAY.

PRESENTATION:

DISTRIBUTE COPIES OF:

WORKSHEET #8 (G4.D08.W8.SC)

HAVE THE STUDENTS ENTER THE PROGRAM FROM WORKSHEET #8.

REMIND THE STUDENTS TO CHECK EACH LINE BY EXECUTING THE PROGRAM LINE BY LINE.

BEFORE THE END OF THE CLASS TIME, HAVE THE STUDENTS STOP WORKING AND GUIDE THEM THROUGH THE PROCESS OF SAVING THEIR WORK ON A DISK.
GRADE 4 - DAY 8
COMPUTER LITERACY
TEACHER'S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT, STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:

REVIEW THE MATERIAL DISCUSSED DURING THE COURSE AND REMIND THE STUDENTS TO REVIEW ALL MATERIAL IN PREPARATION FOR A FINAL TEST ON DAY TEN.

STUDENT INVOLVEMENT:

THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER. THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:

THE STUDENTS' PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON THE BASIS OF FIVE POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:

THE STUDENTS COULD WRITE A PROGRAM THAT WILL PRINT A CLOWN OF THEIR OWN DESIGN.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
ENTER THE FOLLOWING PROGRAM:

10 REM ____________ <PROGRAM NAME>
15 REM ____________ <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,6 : POKE 53281,6
30 FOR X = 1 TO 8
40 PRINT
50 NEXT X
60 PRINT "<17 SPACES><C9><C1><8 SPACES><C0>"
70 PRINT "<17 SPACES><C9><C1><8 SPACES><C0>"
80 PRINT "<15 SPACES><C9><C1><12 SPACES><C0>"
90 PRINT "<16 SPACES><C9><C2><10 SPACES><C0>"
100 PRINT "<16 SPACES><C9><C2><1 SPACE><C1><2 SPACES><C2><4 SPACES><C1><2 SPACES><C2><1 SPACE><C0>"
110 PRINT "<16 SPACES><C9><C2><4 SPACES><C1><2 SPACES><C2><4 SPACES><C0>"
120 PRINT "<16 SPACES><C9><C2><2 SPACES><C1><1 SPACE><C2><4 SPACES><C1><1 SPACE><C2><2 SPACES><C0>"
130 PRINT "<16 SPACES><C9><C2><3 SPACES><C1><4 SPACES><C2><3 SPACES><C0>"
140 PRINT "<16 SPACES><C9><C2><10 SPACES><C0>"
150 END
ENTER THE FOLLOWING PROGRAM:

10 REM <CLOWN PROGRAM WITH A FACE>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,6 : POKE 53281,6
30 FOR X = 1 TO 8
40 PRINT
50 NEXT X
60 PRINT "<17 SPACES><C9><C1><8 SPACES><C0>"
70 PRINT "<17 SPACES><C9><C1><8 SPACES><C0>"
80 PRINT "<15 SPACES><C9><C1><12 SPACES><C0>"
90 PRINT "<16 SPACES><C9><C2><10 SPACES><C0>"
100 PRINT "<16 SPACES><C9><C2><1 SPACE><C1><2 SPACES><C2><4 SPACES><C1><2 SPACES><C2><1 SPACE><C0>"
110 PRINT "<16 SPACES><C9><C2><4 SPACES><C1><2 SPACES><C2><4 SPACES><C0>"
120 PRINT "<16 SPACES><C9><C2><2 SPACES><C1><1 SPACE><C2><4 SPACES><C1><1 SPACE><C2><2 SPACES><C0>"
130 PRINT "<16 SPACES><C9><C2><3 SPACES><C1><4 SPACES><C2><3 SPACES><C0>"
140 PRINT "<16 SPACES><C9><C2><10 SPACES><C0>"
150 END
ENTER THE FOLLOWING PROGRAM:

```
10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,6 : POKE 53281,6
30 FOR X = 1 TO 7
40 PRINT
50 NEXT X
60 PRINT "<15 SP><C9><C1><1 SP><C7><3 SP><C1><1 SP><C0>"
70 FOR X = 1 TO 4
80 PRINT "<15 SP><C9><C1><5 SP><C0>"
90 NEXT X
95 PRINT "<16 SP><C9><C1><12 SP><C0>"
100 FOR X = 1 TO 3
110 PRINT "<16 SP><C9><C1><10 SP><C0>"
120 NEXT X
130 PRINT "<17 SP><C9><C1><1 SP><C7><1 SP><C1><1 SP><C7><3 SP><C1>
   <1 SP><C7><1 SP><C1><1 SP><C0>"
140 PRINT "<17 SP><C9><C1><1 SP><C7><1 SP><C1><1 SP><C7><3 SP><C1>
   <1 SP><C7><1 SP><C1><1 SP><C0>"
150 PRINT "<16 SP><C9><C1><4 SP><C7><2 SP><C1><4 SP><C0>"
160 END
```
ENTER THE FOLLOWING PROGRAM:

10 REM <PUPPY DOG>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,6 : POKE 53281,6
30 FOR X = 1 TO 7
40 PRINT
50 NEXT X
60 PRINT "<15 SP><C9><C1><1 SP><C7><3 SP><C1><1 SP><C0>"
70 FOR X = 1 TO 4
80 PRINT "<15 SP><C9><C1><5 SP><C0>"
90 NEXT X
95 PRINT "<16 SP><C9><C1><12 SP><C0>"
100 FOR X = 1 TO 3
110 PRINT "<16 SP><C9><C1><10 SP><C0>"
120 NEXT X
130 PRINT "<17 SP><C9><C1><1 SP><C7><1 SP><C1><1 SP><C7><3 SP><C1>
<1 SP><C7><1 SP><C1><1 SP><C0>"
140 PRINT "<17 SP><C9><C1><1 SP><C7><1 SP><C1><1 SP><C7><3 SP><C1>
<1 SP><C7><1 SP><C1><1 SP><C0>"
150 PRINT "<16 SP><C9><C1><4 SP><C7><2 SP><C1><4 SP><C0>"
160 END
ENTER THE FOLLOWING PROGRAM:

10 REM <PROGRAM NAME>

15 REM <YOUR NAME AND SECTION>

20 PRINT "<SHIFT/CLR-HOME>"

25 POKE 53280,2 : POKE 53281,2

30 FOR X = 1 TO 4

40 PRINT

50 NEXT X

60 PRINT "<C9><C7><4 SP><C3><1 SP><C7><5 SP><C3><1 SP><C7><4 SP><C3>
\n1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>
\n1 SP><C7><3 SP><C7><1 SP><C0>"

70 PRINT "<C9><C7><1 SP><C3><4 SP><C7><1 SP><C3><1 SP><C7><4 SP><C3>
\n1 SP><C7><1 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>
\n1 SP><C3><1 SP><C7><1 SP><C3><4 SP><C7><1 SP><C3><2 SP><C7>
\n1 SP><C7><2 SP><C3><2 SP><C7><1 SP><C0>"

80 PRINT "<C9><C7><3 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
\n1 SP><C7><1 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>
\n1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
\n1 SP><C7><2 SP><C3><2 SP><C7><1 SP><C0>"

90 PRINT "<C9><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><3 SP><C7>
\n1 SP><C7><1 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>
\n1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7>
\n1 SP><C7><2 SP><C3><2 SP><C7><1 SP><C0>"

100 PRINT "<C9><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
\n1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7>
\n1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
\n1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"

110 END

G4.D09.W9A.SC.E
ENTER THE FOLLOWING PROGRAM:

```
10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP>
   <7><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><4 SP><C0>"
70 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP>
   <7><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><4 SP><C0>"
80 PRINT "<C9><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><4 SP><C3>
   <1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP>
   <7><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><4 SP><C0>"
90 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP>
   <7><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><2 SP><C0>"
100 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP>
   <7><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><2 SP><C0>"
110 END
```
GRADE 4 - DAY 9
COMPUTER LITERACY
WORKSHEET 9A
STUDENT'S COPY #2

NAME ____________________ 
SECTION ____________________
GRADE 4 - DAY 9
COMPUTER LITERACY
WORKSHEET 9A FOR IRVING
STUDENT'S COPY

ENTER THE FOLLOWING PROGRAM:

10 REM      <PROGRAM NAME>
15 REM      <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><1SP><C3> \\
<3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7> \\
<1 SP><C3><1 SP><C7><4 SP><C0>"
70 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1SP><C3> \\
<1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7> \\
<2 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><C0>"
80 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><4 SP><C3><2 SP><C7><1SP><C3> \\
<1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7> \\
<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><2 SP><C0>"
90 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1SP><C3> \\
<3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7> \\
<1 SP><C3><2 SP><C7><2 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><2 SP><C7> \\
<1 SP><C0>"
100 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1SP><C3> \\
<3 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7> \\
<1 SP><C3><1 SP><C7><4 SP><C0>"
110 END

G4.D09.W9A.SC.I
ENTER THE FOLLOWING PROGRAM:

10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2: POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP
60 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP>
70 PRINT "<C9><C7><1 SP><C3><3 SP><C7><1 SP><C7><1 SP><C7><2 SP><C7><1 SP><C7><2 SP><C7><1 SP><C7><2 SP><C7><1 SP><C7><2 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP>
80 PRINT "<C9><C7><2 SP><C7><1 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP>
90 PRINT "<C9><C7><2 SP><C7><1 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP>
100 PRINT "<C9><C7><2 SP><C7><1 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP><C7><3 SP><C7><1 SP>
110 END
ENTER THE FOLLOWING PROGRAM:

10  REM  "<PROGRAM NAME>

15  REM  "<YOUR NAME AND SECTION>

20  PRINT "<SHIFT/CLR-HOME>"

25  POKE 53280,2 : POKE 53281,2

30  FOR X = 1 TO 4

40  PRINT

50  NEXT X

60  PRINT "<C9><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>

61  <1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7>

62  <1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><4 SP><C0>"

70  PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><4 SP><C7>

71  <1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><2 SP><C3>

72  <2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C3><4 SP><C0>"

80  PRINT "<C9><C7><1 SP><C3><1 SP><C7><3 SP><C3><2 SP><C7><4 SP><C3>

81  <1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>

82  <1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><2 SP><C3>

83  <1 SP><C7><2 SP><C0>"

90  PRINT "<C9><C7><1 SP><C3><4 SP><C7><1 SP><C3><4 SP><C7><1 SP><C3><4 SP><C7>

91  <1 SP><C7><1 SP><C3><5 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7>

92  <1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><2 SP><C3>

93  <1 SP><C7><1 SP><C3><2 SP><C3><1 SP><C7><1 SP><C3><1 SP><C3><1 SP><C0>"

100 PRINT "<C9><C7><1 SP><C3><4 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7>

101 <1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>

102 <1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3>

103 <1 SP><C7><4 SP><C0>"

110 END
ENTER THE FOLLOWING PROGRAM:

10 REM  EMERSON SCHOOL PROGRAM

15 REM  <YOUR NAME AND SECTION>

20 PRINT "<SHIFT/CLR-HOME>"

25 POKE 53280,2 : POKE 53281,2

30 FOR X = 1 TO 4

40 PRINT

50 NEXT X

60 PRINT "<C9><C7><4 SP><C3><1 SP><C7><5 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7>

100 END

NAME ____________________________

SECTION __________
ENTER THE FOLLOWING PROGRAM:

10 REM HIWATHA SCHOOL PROGRAM
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT 
50 NEXT X
60 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7>"
4 SP><C3><1 SP><C7><5 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>"
1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3>""
70 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7>"
3 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7>"
1 SP><C7><1 SP><C3>""
80 PRINT "<C9><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><4 SP><C3>"
1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
4 SP><C3><3 SP><C7><1 SP><C3><3 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>"
90 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
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1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>""
100 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><5 SP><C3><1 SP><C7>"
1 SP><C3><2 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
110 END

NAME ___________________________  
SECTION ___________
ENTER THE FOLLOWING PROGRAM:

10 REM ___ IRVING SCHOOL PROGRAM ___
15 REM ___ <YOUR NAME AND SECTION> ___

20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2

30 FOR X = 1 TO 4

40 PRINT

50 NEXT X

60 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><1SP><C3> <3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7> <1 SP><C3><1 SP><C7><4 SP><C0>"

70 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1SP><C3> <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7> <2 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"

80 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><4 SP><C3><2 SP><C7><1SP><C3> <1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7> <1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><2 SP><C0>"

90 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1SP><C3> <1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7> <1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"

100 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1SP><C3> <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7> <1 SP><C3><1 SP><C7><4 SP><C0>"

110 END
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</table>
ENTER THE FOLLOWING PROGRAM:

10 REM KOMENSKY SCHOOL PROGRAM

15 REM <YOUR NAME AND SECTION>

20 PRINT "<SHIFT/CLR-HOME>"

25 POKE 53280,2 : POKE 53281,2

30 FOR X = 1 TO 4

40 PRINT

50 NEXT X

60 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><3 SP><C3>

70 PRINT "<C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>

80 PRINT "<C9><C7><2 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>

90 PRINT "<C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>

100 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><3 SP><C3>

110 END
ENTER THE FOLLOWING PROGRAM:

10 REM PERSHING SCHOOL PROGRAM
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<C9><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>
   <1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7>
   <1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><4 SP><C0>"
70 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><4 SP><C7>
   <1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><4 SP><C7>
   <2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"
80 PRINT "<C9><C7><4 SP><C3><1 SP><C7><3 SP><C3><2 SP><C7><4 SP><C3>
   <1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
   <1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"
90 PRINT "<C9><C7><1 SP><C3><4 SP><C7><1 SP><C3><4 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><5 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7>
   <1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><2 SP><C3>
   <1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C0>"
100 PRINT "<C9><C7><1 SP><C3><4 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3>
   <2 SP><C7><1 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7>
   <1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C0>"
110 END
OBJECTIVE FOR THE DAY:

THE STUDENTS WILL REVIEW WITH THE TEACHER THE COMPUTER PROGRAMMING SKILLS AND TAKE A TEST.

INTRODUCTION:

REVIEW WITH THE STUDENTS THE MATERIAL COVERED AT THE PREVIOUS CLASSES AND GIVE A TEST IN THE HOMEROOM.

PRESENTATION:

DISTRIBUTE COPIES OF:

TEST #2 (G4.D10.T2.SC)

ADMINISTER THE TEST.

INSTRUCTIONS FOR THE MATCHING SECTION:
"THERE ARE 12 DEFINITIONS AND 12 WORDS. WRITE THE LETTER A - L ON THE LINE NEXT TO THE CORRECT DEFINITION. EACH LINE IS WORTH ONE POINT."

INSTRUCTIONS FOR THE TRUE AND FALSE SECTION:
"THERE ARE 6 TRUE OR FALSE QUESTIONS. WRITE A "T" OR A "F" ON THE LINE NEXT TO THE PROBLEM NUMBER. EACH LINE IS WORTH ONE POINT."

INSTRUCTIONS FOR PAGE TWO OF THE TEST:
"THE FIRST TWO PROBLEMS ARE WORTH ONE POINT EACH AND THE THIRD PROBLEM IS WORTH 10 POINTS."
SUMMARY:
If there is time available, you could go over the test.

STUDENT INVOLVEMENT:
The students will be working independently on a test.

STUDENT EVALUATION:
The students' tests will be evaluated giving the appropriate point value for each correct answer.

ADDITIONAL TOPIC:

Check that all computers, monitors and disk drives are turned off.
MATCHING: LISTEN TO THE TEACHER'S INSTRUCTIONS.

1. THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS.  
   A. DISK DRIVE
2. FIVE MAIN PARTS OF A MICROCOMPUTER USED IN THIS MINI-COURSE.  
   B. COMPUTER
3.                                                    
4.                                                    
5.                                                    
6.                                                    
7. THE KEY YOU MUST PRESS TO ENTER INFORMATION INTO THE COMPUTER'S MEMORY.  
   C. BASIC
8. THE COMMAND THAT SHOWS YOU THE PROGRAM THAT IS IN THE COMPUTER'S MEMORY.  
   D. MONITOR
9. THE COMMAND THAT EXECUTES (OR CARRIES OUT) THE PROGRAM IN THE COMPUTER'S MEMORY.  
   E. RETURN
10. THE COMMAND THAT ERASES THE PROGRAM IN THE COMPUTER'S MEMORY.  
    F. RUN
11. IT MUST APPEAR AT THE BEGINNING OF EACH LINE OF A PROGRAM.  
    G. MEMORY
12. A MACHINE WHICH PERFORMS TASKS AT A HIGH RATE OF SPEED WITH GREAT ACCURACY.  
    H. LINE NUMBER
I. LIST
J. KEYBOARD
K. NEW
L. CPU

TRUE OR FALSE: LISTEN TO THE TEACHER'S INSTRUCTIONS.

13. PRESSING ONLY THE CLR-HOME KEY CLEARS THE SCREEN AND SENDS THE CURSOR TO THE UPPER LEFT CORNER.  
14. A PROGRAM IS A LIST OF INSTRUCTIONS (STATEMENTS) FOR THE COMPUTER TO FOLLOW.  
15. THE WORD THAT IS FOUND IN THE LAST LINE OF A PROGRAM IS: "STOP".  
16. THE MESSAGE THE COMPUTER PRINTS WHEN IT DOES NOT UNDERSTAND YOU IS: "?SYNTAX ERROR".  
17. THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE THE NEXT LETTER YOU TYPE GOES IS CALLED THE CURSOR.  
18. ALL COMMANDS ARE THE SAME FOR ANY COMPUTER.  

INSTRUCTIONS: FILL-IN THE BLANKS WITH THE CORRECT ANSWER/RESPONSE:

1. THE TWO KEYS PRESSED TO TURN ON THE REVERSE COLOR, (RVS ON), ARE:
   THE __________________ KEY AND THE NUMBER _______.

2. THE TWO KEYS PRESSED TO TURN OFF THE REVERSE COLOR, (RVS OFF), ARE:
   THE __________________ KEY AND THE NUMBER _______.

3. WRITE A LINE OF PROGRAMMING THAT WILL MAKE A RED COLOR BAR 5 SPACES LONG, A
   WHITE COLOR BAR 5 SPACES LONG AND A BLUE COLOR BAR 5 SPACES LONG.

SOME OF THE CODES YOU WILL NEED ARE:

<RED> ====> <C3>,
<WHITE> ====> <C2>,
<BLUE> ====> <C7>
MATCHING: LISTEN TO THE TEACHER'S INSTRUCTIONS.

C. 1. THE NAME OF THE COMPUTER LANGUAGE USED IN THIS CLASS.

J. 2. FIVE MAIN PARTS OF A MICROCOMPUTER USED IN THIS MINI-COURSE.

D. 3.

A. 4.

G. 5.

L. 6.

E. 7. THE KEY YOU MUST PRESS TO ENTER INFORMATION INTO THE COMPUTER'S MEMORY.

I. 8. THE COMMAND THAT SHOWS YOU THE PROGRAM THAT IS IN THE COMPUTER'S MEMORY.

F. 9. THE COMMAND THAT EXECUTES (OR CARRIES OUT) THE PROGRAM IN THE COMPUTER'S MEMORY.

K. 10. THE COMMAND THAT ERASES THE PROGRAM IN THE COMPUTER'S MEMORY.

H. 11. IT MUST APPEAR AT THE BEGINNING OF EACH LINE OF A PROGRAM.

B. 12. A MACHINE WHICH PERFORMS TASKS AT A HIGH RATE OF SPEED WITH GREAT ACCURACY.

TRUE OR FALSE: LISTEN TO THE TEACHER'S INSTRUCTIONS.

F. 13. PRESSING ONLY THE CLR-HOME KEY CLEARS THE SCREEN AND SENDS THE CURSOR TO THE UPPER LEFT CORNER.

T. 14. A PROGRAM IS A LIST OF INSTRUCTIONS (STATEMENTS) FOR THE COMPUTER TO FOLLOW.

F. 15. THE WORD THAT IS FOUND IN THE LAST LINE OF A PROGRAM IS: "STOP".

T. 16. THE MESSAGE THE COMPUTER PRINTS WHEN IT DOES NOT UNDERSTAND YOU IS: "?SYNTAX ERROR".

T. 17. THE LITTLE SQUARE THAT MOVES ALONG THE SCREEN SHOWING WHERE THE NEXT LETTER YOU TYPE GOES IS CALLED THE CURSOR.

F. 18. ALL COMMANDS ARE THE SAME FOR ANY COMPUTER.
Instructions: Fill-in the blanks with the correct answer/response:

1. The two keys pressed to turn on the reverse color, (RVS On), are:
   The ___CONTROL___ key and the number ___9__.

2. The two keys pressed to turn off the reverse color, (RVS Off), are:
   The ___CONTROL___ key and the number ___0__.

3. Write a line of programming that will make a red color bar 5 spaces long, a white color bar 5 spaces long and a blue color bar 5 spaces long.

Some of the codes you will need are:

<RED>====> <C3>,
<WHITE>====> <C2>,
<BLUE>====> <C7>

20 PRINT "<C9><C3><5 SPACES><C2><5 SPACES><C7><5 SPACES><CO>" (10 PTS)

Suggested grading:

A = 27 TO 30 PTS
B = 24 TO 26 PTS
C = 21 TO 23 PTS
D = 18 TO 20 PTS
F = 0 TO 17 PTS
DISTRICT 100
FIFTH GRADE
COMPUTER CURRICULUM

CHARLES S. SAUNDERS
SUMMER OF 1987
OBJECTIVES FOR THE FIFTH GRADE COMPUTER CLASSES

DAY 1: THE STUDENTS WILL REVIEW THE COMPUTER PROGRAMMING TAUGHT IN FOURTH GRADE, BE GIVEN THEIR MAJOR GRAPHICS PROGRAM ASSIGNMENT AND BE PREPARED FOR A QUIZ ON DAY 2.


DAY 3: THE STUDENTS WILL LEARN HOW TO CONTROL THE OUTPUT OF A PROGRAM BY USING THE "TAB" AND DOWN COMMANDS AND BE PREPARED FOR A QUIZ ON DAY 4.

DAY 4: THE STUDENTS WILL PRACTICE IDENTIFYING ERRORS IN A PROGRAM, USE THE "FOR-NEXT" COMMAND AND BE PREPARED FOR A QUIZ ON DAY 5.


DAY 6: THE STUDENTS WILL USE THE "LOAD", "SAVE" AND "POKE" COMMANDS. THE STUDENTS WILL WORK ON A SAMPLE GRAPHICS PROGRAM, START WRITING THEIR OWN GRAPHICS PROGRAMS AND TAKE HOME A QUIZ DUE ON DAY 7.

DAY 7: THE STUDENTS WILL USE THE SAVE REPLACE COMMAND AND THE "VERIFY" COMMAND. THE STUDENTS WILL WORK ON SAMPLE GRAPHICS PROGRAM, CONTINUE WRITING THEIR OWN GRAPHICS PROGRAMS AND BE PREPARED FOR A TEST ON DAY 10.

DAY 8: THE STUDENTS WILL WORK ON SAMPLE GRAPHICS PROGRAM, CONTINUE WRITING THEIR OWN GRAPHICS PROGRAMS AND BE PREPARED FOR A TEST ON DAY 10.

DAY 9: THE STUDENTS WILL FINISH WRITING THEIR OWN GRAPHICS PROGRAMS, WORK ON SAMPLE GRAPHICS PROGRAM AND BE PREPARED FOR A TEST ON DAY 10.

DAY 10: THE STUDENTS WILL REVIEW WITH THE TEACHER THE COMPUTER PROGRAMMING SKILLS AND TAKE A TEST.

B. OBJECTIVES
<table>
<thead>
<tr>
<th>DAY</th>
<th>TERMS</th>
<th>RESERVED WORDS OR COMMANDS</th>
<th>STUDENT ACTIVITIES</th>
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<td>CLR-HOME</td>
<td>REVIEW THE FOURTH GRADE CURRICULUM</td>
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<td>KEYBOARD MEMORY</td>
<td>SHIFT/CLR-HOME NEW LIST</td>
<td>WRITE OUT A SAMPLE PROGRAM</td>
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<td>DISK DRIVE CPU</td>
<td>REM PRINT TAB(#) END RUN</td>
<td>RECEIVE MAJOR GRAPHICS PROGRAM ASSIGNMENT</td>
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<td>REVIEW ENTERING, RUNNING AND LISTING A PROGRAM</td>
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<td>CLEAR THE SCREEN</td>
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<td>FOR - NEXT</td>
<td>QUIZ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FIND ERRORS IN A PROGRAM (TAKE-HOME) (DUE DAY 5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USE THE FOR - NEXT COMMAND</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>LOOP COUNTER</td>
<td>IF - THEN X = X + 1</td>
<td>COLLECT PROGRAM AND GIVE QUIZ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USE THE IF - THEN, X = X + 1 AND GOTO COMMANDS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CHECK MAJOR GRAPHICS PICTURE</td>
<td></td>
</tr>
<tr>
<td>DAY</td>
<td>TERMS</td>
<td>RESERVED WORDS OR COMMANDS</td>
<td>STUDENT ACTIVITIES</td>
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<tr>
<td>-----</td>
<td>----------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>6</td>
<td>POKE COMMANDS</td>
<td>POKE</td>
<td>GIVE QUIZ AND HANDOUT TAKE-HOME QUIZ (DUE DAY 7)</td>
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<td></td>
<td></td>
<td>LOAD</td>
<td>WRITE COLOR GRAPHICS PROGRAM</td>
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<tr>
<td></td>
<td></td>
<td>SAVE</td>
<td>AND WORK ON MAJOR GRAPHICS PROGRAM</td>
</tr>
<tr>
<td>7</td>
<td>NONE</td>
<td>SAVE &amp; REPLACE</td>
<td>WRITE COLOR GRAPHICS PROGRAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VERIFY</td>
<td>AND WORK ON MAJOR GRAPHICS PROGRAM</td>
</tr>
<tr>
<td>8</td>
<td>NONE</td>
<td>NONE</td>
<td>WRITE COLOR GRAPHICS PROGRAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FROM A PICTURE AND WORK ON MAJOR GRAPHICS PROGRAM</td>
</tr>
<tr>
<td>9</td>
<td>NONE</td>
<td>NONE</td>
<td>WORK ON MAJOR GRAPHICS PROGRAM OR WRITE COLOR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GRAPHICS PROGRAM FROM A PICTURE</td>
</tr>
<tr>
<td>10</td>
<td>NONE</td>
<td>NONE</td>
<td>TEST</td>
</tr>
</tbody>
</table>

C. DAILY GOALS
THE FILES ON THE DISK ARE CATALOGUED IN THE ORDER IN WHICH THEY ARE TO BE USED.
THERE IS A DIRECTORY AT THE BACK WHICH REFLECTS WHICH FILES ARE LOCATED ON EACH
SIDE OF THE DISK. THERE IS A TEACHER'S LESSON PLAN FOR EACH DAY, ALONG WITH
THE NECESSARY QUIZZES AND HANDOUTS FOR THE STUDENTS WITH A TEACHER'S VERSION OF
THE SAME QUIZZES AND HANDOUTS WITH A FEW ADDITIONAL NOTES. FOR VARIETY, THERE
MAY BE ONE OR TWO VERSIONS OF EACH QUIZ TO BE GIVEN TO THE STUDENTS AS OUTLINED
IN THE LESSON PLANS.

AFTER THIS PAGE IN THIS MANUAL, THE FILES THAT ARE PRINTED IN THE DRAFT MODE
(LIGHT) ARE FOR THE TEACHER, AND THE FILES THAT ARE PRINTED IN THE NEAR LETTER
QUALITY MODE (DARK) ARE FOR THE STUDENTS.

THE DISTRICT'S COMPUTER COMMITTEE WOULD APPRECIATE HAVING CHANGES, IMPROVEMENTS
AND/OR ADDITIONS TO THIS CURRICULUM DONE IN SUCH A WAY THAT THE INFORMATION
STORED ON THIS DISK IS UPDATED TO BE CONSISTENT WITH THE MATERIAL BEING TAUGHT
TO THE STUDENTS. BY WORKING WITH THE DISTRICT'S COMPUTER COMMITTEE THIS GOAL
CAN BE ACHIEVED.
### Grade 5 - Day 1
**Computer Literacy**
**Teacher's Lesson Plan**

<table>
<thead>
<tr>
<th>Instructional Aids:</th>
<th>Tools, Equipment and Materials:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copies of the necessary handouts</td>
<td>Chalk, eraser and pencils</td>
</tr>
<tr>
<td>A Transparency of Worksheet #1 (Teacher's Version)</td>
<td>Overhead projector</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective, Introduction, Presentation, Summary, Student Involvement, Student Evaluation, Additional Topic</th>
</tr>
</thead>
</table>

**Objective for the Day:**
The students will review the computer programming taught in Fourth Grade, be given their major graphics program assignment and be prepared for a quiz on Day 2.

**Introduction:**
Introduce yourself and complete Worksheet #1 with the students in the homeroom.

**Presentation:**
It is important to plan your time so there will be enough time left over to complete the material covered in the additional topic section also.

Distribute copies of:

**Worksheet #1 (G5.D01.W1.SC) Student's Copy**

Using an overhead projector and a transparency of the teacher's copy of Worksheet #1, read each term/definition and have the students write the term/definition on the appropriate line on the worksheet. Emphasize that the students should study these definitions some time before the next class meeting because there will be a quiz on the twenty definitions.

Distribute copies of:

**Worksheet #1 (G5.D01.W1.TC) Teacher's Copy**

After the students complete Worksheet #1, collect the student's copy for grading and exchange it for a teacher's copy so the students have a worksheet to study from.

This topic will also be on the quiz tomorrow, so it is important to cover this material on Day 1. Have the students turn the teacher's copy of Worksheet #1 over, and on the back have the students write the program with the proper information substituted for the comments found inside the `<>` brackets. (Program is in the additional topic section.)

G5.D01.LP.TC
GOBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT, STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING TODAY'S CLASS MEETING.

STUDENT INVOLVEMENT:
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:
THE STUDENTS' PROGRESS ON THIS WORKSHEET SHOULD BE EVALUATED AND RECORDED GIVING ONE POINT FOR EACH CORRECTLY COMPLETED TERM/DEFINITION.

ADDITIONAL TOPIC:

10 REM NAME AND ADDRESS PROGRAM
20 PRINT "<SHIFT/CLR-HOME>
30 PRINT "<YOUR FIRST AND LAST NAME>"
40 PRINT "<STREET ADDRESS >"
50 PRINT "<CITY, STATE ZIPCODE>"
60 END

DISCUSS THE MAJOR GRAPHICS PROGRAM ASSIGNMENT. HAVE SOME GOOD AND NOT SO GOOD SAMPLES OF GRAPHICS TO SHOW THE STUDENTS. THE STUDENTS SHOULD START THINKING OF A PICTURE AND BEGIN COLORING IN A STUDENT HANDOUT #1 SO THEY WILL HAVE IT DONE BY DAY 5.

DISTRIBUTE COPIES OF:
STUDENT HANDOUT #1 (G5.D01.SH1.TS)

LEAVE A FOLDER WITH EXTRA COPIES OF STUDENT HANDOUT #1 IN THE HOMEROOM.
G5.D01.LP.TC
1. _______ - A MACHINE WHICH PERFORMS TASKS AT A HIGH SPEED WITH GREAT ACCURACY.

THERE ARE FIVE PARTS TO A COMPUTER SYSTEM:

2. _______ - A DEVICE WITH KEYS USED TO INPUT INFORMATION INTO THE COMPUTER SYSTEM.
3. _______ - A T.V.-LIKE UNIT CONNECTED TO PART OF THE COMPUTER SYSTEM.
4. _______ - A DEVICE THAT IS CONNECTED TO THE COMPUTER SYSTEM AND ALLOWS THE LOADING AND SAVING OF PROGRAMS.
5. _______ - A PLACE IN THE COMPUTER WHERE A PROGRAM IS STORED.
6. _______ - THE INITIALS TO: CENTRAL PROCESSING UNIT.

7. cursor
8. return key
9. clr-home
10. shift/clr-home
11. program
12. basic
13. line number
14. REM
15. PRINT
16. TAB(#)
17. END
18. RUN
19. LIST
20. NEW
1. computer - A MACHINE WHICH PERFORMS TASKS AT A HIGH SPEED WITH GREAT ACCURACY.

THERE ARE FIVE PARTS TO A COMPUTER SYSTEM:

2. keyboard - A DEVICE WITH KEYS USED TO INPUT INFORMATION INTO THE COMPUTER SYSTEM.
3. monitor - A T.V.-LIKE UNIT CONNECTED TO PART OF THE COMPUTER SYSTEM.
4. disk drive - A DEVICE THAT IS CONNECTED TO THE COMPUTER SYSTEM AND ALLOWS THE LOADING AND SAVING OF PROGRAMS.
5. memory - A PLACE IN THE COMPUTER WHERE A PROGRAM IS STORED.
6. cpu - THE INITIALS TO: CENTRAL PROCESSING UNIT.

7. cursor - BLINKING BOX THAT SHOWS WHERE YOU ARE ON THE SCREEN
8. return key - KEY PRESSED TO ENTER INFORMATION INTO THE MEMORY
9. clr-home - SENDS THE CURSOR TO THE UPPER LEFT CORNER (HOME)
10. shift/clr-home - CLEAR THE SCREEN AND SENDS THE CURSOR HOME

11. program - GROUP OF STATEMENTS FOR THE COMPUTER TO FOLLOW
12. basic - THE COMPUTER LANGUAGE USED IN THIS CLASS
13. line number - APPEARS AT THE BEGINNING OF EACH LINE OF A PROGRAM
14. REM - COMMAND TO INCLUDE REMARKS THAT DON'T CHANGE THE PROGRAM
15. PRINT - COMMAND TO DISPLAY CHARACTERS IN THE OUTPUT OF A PROGRAM
16. TAB(#) - COMMAND USED TO MOVE OUTPUT TO THE RIGHT ON THE SCREEN
17. END - COMMAND USED ON THE LAST LINE OF A PROGRAM
18. RUN - COMMAND TO EXECUTE (START) THE PROGRAM
19. LIST - COMMAND TO DISPLAY THE PROGRAM IN MEMORY ON THE SCREEN
20. NEW - COMMAND TO ERASE THE CURRENT PROGRAM FROM MEMORY
### LESSON PLAN

**GRADE 5 - DAY 2**  
**COMPUTER LITERACY**  
**TEACHER’S LESSON PLAN**

<table>
<thead>
<tr>
<th>INSTRUCTIONAL AIDS:</th>
<th>TOOLS, EQUIPMENT AND MATERIALS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPIES OF THE NECESSARY HANDOUTS AND QUIZ 1 - DAY 1</td>
<td>CHALK, ERASER AND PENCILS</td>
</tr>
</tbody>
</table>

**OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT, STUDENT EVALUATION, ADDITIONAL TOPIC**

**OBJECTIVE FOR THE DAY:**  
The students will review the operating procedures of the Commodore computer and enter programs into the computer, use the "GOTO" command, use the color graphics commands and be prepared for a quiz on Day 3.

**INTRODUCTION:**  
Review with the students the material covered at the previous class and give a quiz in the homeroom.

**PRESENTATION:**

Distribute copies of:  

**WORKSHEET #2 (G5.D02.W2.SC)**  

Reading from the teacher's copy of the worksheet #2, have the students proceed with Step 1. Emphasize to the students that they should review the material covered during the class period some time before the next class meeting because there will be a quiz on any of the material, next time we meet. Assist the students on Worksheet #2 by checking off and recording the completion of Step 1. Have the students do steps 3 - 5. When the students are ready for Step 6, assist the students in doing steps 7 - 10 by asking the necessary questions.

When the students are done with Worksheet #2,

Distribute copies of:

**STUDENT HANDOUT #2 (G5.D02.SH2.SC)**  
**WORKSHEET #2A (G5.D02.W2A.SC)**  

Remind the students that the `< >` brackets are used to inform them of information that should be entered using the proper key strokes or the appropriate data.

G5.D02.LP.TC
GRADE 5 - DAY 2
COMPUTER LITERACY
TEACHER’S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING TODAY’S CLASS MEETING.
REVIEW WHAT THE STUDENTS SHOULD BE WORKING ON FOR THEIR MAJOR GRAPHICS PROGRAM.
(PICTURE DUE DAY 5)

STUDENT INVOLVEMENT:
THE STUDENTS WILL BE WORKING INDEPENDENTLY ON A QUIZ.
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:
THE STUDENTS’ QUIZZES WILL BE EVALUATED GIVING ONE POINT FOR EACH CORRECT ANSWER.
THE STUDENTS’ PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON THE BASIS OF TEN POINTS FOR A CORRECTLY COMPLETED WORKSHEET. (1-1/2 PAGES)

ADDITIONAL TOPIC:
IF THE STUDENTS FINISH WITH WORKSHEET #2 AND THE FIRST HALF OF WORKSHEET #2A, THERE IS AN EXTRA CREDIT SECTION ON THE SECOND HALF OF WORKSHEET #2A.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.

G5.DO2.LP.TC
MATCHING:

1. ERASES THE CURRENT PROGRAM FROM MEMORY.   A. SHIFT/CLR-HOME
2. DISPLAYS CHARACTERS IN OUTPUT OF A PROGRAM.  B. PROGRAM
3. THE COMPUTER LANGUAGE USED IN THIS CLASS.    C. LIST
4. EXECUTES THE PROGRAM CURRENTLY IN MEMORY.    D. NEW
5. A T.V.-LIKE UNIT CONNECTED TO THE COMPUTER.   E. CURSOR
6. CLEARS THE SCREEN AND SENDS THE CURSOR       F. RUN
   TO THE UPPER LEFT CORNER OF THE MONITOR.      G. RETURN
7. COMMAND THAT DISPLAYS THE PROGRAM IN        H. MONITOR
   MEMORY ON THE SCREEN.                         I. BASIC
8. BLINKING BOX THAT SHOWS WHERE YOU ARE        J. PRINT
   WORKING ON THE SCREEN.                        
9. KEY PRESSED TO ENTER THE INFORMATION        
   INTO THE COMPUTER'S MEMORY.                   
10. A GROUP OF STATEMENTS COMBINED TOGETHER    
    FOR THE COMPUTER TO FOLLOW.                  

TRUE OR FALSE:

1. LINE NUMBERS MUST ALWAYS BE INCREMENTED BY 10'S. 
2. WHEN THE COMPUTER IS TURNED OFF, YOUR PROGRAM IS LOST.
3. THE SHIFT KEY CAUSES THE UPPER CHARACTER ON A KEY TO BE PRINTED.
4. IF YOU CLEAR THE SCREEN, YOUR PROGRAM WILL BE CLEARED FROM THE COMPUTER'S MEMORY.
5. A COMPUTER IS A MACHINE THAT PERFORMS TASKS AT A HIGH SPEED WITH GREAT ACCURACY.

WRITING A PROGRAM:

A. WRITE A PROGRAM TO DISPLAY YOUR NAME AND ADDRESS.
   (USE BACK OF PAPER IF NECESSARY.)

B. WHAT COMMAND WOULD YOU USE TO EXECUTE THIS PROGRAM? ______________

C. WHAT COMMAND WILL DISPLAY YOUR PROGRAM STATEMENTS BACK ON THE SCREEN? ______________
MATCHING:

D 1. ERASES THE CURRENT PROGRAM FROM MEMORY. A. SHIFT/CLR-HOME
J 2. DISPLAYS CHARACTERS IN OUTPUT OF A PROGRAM. B. PROGRAM
I 3. THE COMPUTER LANGUAGE USED IN THIS CLASS. C. LIST
F 4. EXECUTES THE PROGRAM CURRENTLY IN MEMORY. D. NEW
H 5. A T.V.-LIKE UNIT CONNECTED TO THE COMPUTER. E. CURSOR
A 6. CLEARS THE SCREEN AND SENDS THE CURSOR TO THE UPPER LEFT CORNER OF THE MONITOR. F. RUN
C 7. COMMAND THAT DISPLAYS THE PROGRAM IN MEMORY ON THE SCREEN. G. RETURN
E 8. BLINKING BOX THAT SHOWS WHERE YOU ARE WORKING ON THE SCREEN. H. MONITOR
G 9. KEY PRESSED TO ENTER THE INFORMATION INTO THE COMPUTER'S MEMORY. I. BASIC
J 10. A GROUP OF STATEMENTS COMBINED TOGETHER FOR THE COMPUTER TO FOLLOW. J. PRINT

TRUE OR FALSE:

F 1. LINE NUMBERS MUST ALWAYS BE INCREMENTED BY 10'S. 
T 2. WHEN THE COMPUTER IS TURNED OFF, YOUR PROGRAM IS LOST.
T 3. THE SHIFT KEY CAUSES THE UPPER CHARACTER ON A KEY TO BE PRINTED.
F 4. IF YOU CLEAR THE SCREEN, YOUR PROGRAM WILL BE CLEARED FROM THE COMPUTER'S MEMORY.
T 5. A COMPUTER IS A MACHINE THAT PERFORMS TASKS AT A HIGH SPEED WITH GREAT ACCURACY.

WRITING A PROGRAM:

A. WRITE A PROGRAM TO DISPLAY YOUR NAME AND ADDRESS.
   USE BACK OF PAPER IF NECESSARY.
   10 REM NAME AND ADDRESS PROGRAM
   20 PRINT"<SHIFT/CLR-HOME>
   30 PRINT"<STUDENT'S FIRST AND LAST NAME>"
   40 PRINT"<STREET ADDRESS>"
   50 PRINT"<CITY, STATE ZIPCODE>"
   60 END
B. WHAT COMMAND WOULD YOU USE TO EXECUTE THIS PROGRAM? RUN
C. WHAT COMMAND WILL DISPLAY YOUR PROGRAM STATEMENTS BACK ON THE SCREEN? LIST
MATCHING:

1. ERASES THE CURRENT PROGRAM FROM MEMORY.  A. SHIFT/CLR-HOME
2. DISPLAYS CHARACTERS IN OUTPUT OF A PROGRAM.  B. PROGRAM
3. THE COMPUTER LANGUAGE USED IN THIS CLASS.  C. LIST
4. EXECUTES THE PROGRAM CURRENTLY IN MEMORY.  D. NEW
5. A T.V.-LIKE UNIT CONNECTED TO THE COMPUTER.  E. CURSOR
6. CLEARS THE SCREEN AND SENDS THE CURSOR TO THE UPPER LEFT CORNER OF THE MONITOR.  F. RUN
7. COMMAND THAT DISPLAYS THE PROGRAM IN MEMORY ON THE SCREEN.  G. RETURN
8. BLINKING BOX THAT SHOWS WHERE YOU ARE WORKING ON THE SCREEN.  H. MONITOR
9. KEY PRESSED TO ENTER THE INFORMATION INTO THE COMPUTER'S MEMORY.  I. BASIC
10. A GROUP OF STATEMENTS COMBINED TOGETHER FOR THE COMPUTER TO FOLLOW.  J. PRINT

TRUE OR FALSE:

1. LINE NUMBERS MUST ALWAYS BE INCREMENTED BY 10'S.
2. WHEN THE COMPUTER IS TURNED OFF, YOUR PROGRAM IS LOST.
3. THE SHIFT KEY CAUSES THE UPPER CHARACTER ON A KEY TO BE PRINTED.
4. IF YOU CLEAR THE SCREEN, YOUR PROGRAM WILL BE CLEARED FROM THE COMPUTER'S MEMORY.
5. A COMPUTER IS A MACHINE THAT PERFORMS TASKS AT A HIGH SPEED WITH GREAT ACCURACY.

WRITING A PROGRAM:

A. WRITE A PROGRAM TO DISPLAY YOUR NAME AND ADDRESS.
   (USE BACK OF PAPER IF NECESSARY.)
   10 REM NAME AND ADDRESS PROGRAM
   20 PRINT"<SHIFT/CLR-HOME>
   30 PRINT"______________________________"
   40 PRINT"______________________________"
   50 PRINT"______________________________"
   60 END

B. WHAT COMMAND WOULD YOU USE TO EXECUTE THIS PROGRAM? ____________

C. WHAT COMMAND WILL DISPLAY YOUR PROGRAM STATEMENTS BACK ON THE SCREEN? ____________
MATCHING:

D 1. ERASES THE CURRENT PROGRAM FROM MEMORY.  A. SHIFT/CLR-HOME
J 2. DISPLAYS CHARACTERS IN OUTPUT OF A PROGRAM.  B. PROGRAM
I 3. THE COMPUTER LANGUAGE USED IN THIS CLASS.  C. LIST
E 4. EXECUTES THE PROGRAM CURRENTLY IN MEMORY.  D. NEW
H 5. A T.V.-LIKE UNIT CONNECTED TO THE COMPUTER.  E. CURSOR
A 6.Clears the screen and sends the cursor to the upper left corner of the monitor.  F. RUN
C 7. COMMAND THAT DISPLAYS THE PROGRAM IN MEMORY ON THE SCREEN.  G. RETURN
E 8. BLINKING BOX THAT SHOWS WHERE YOU ARE WORKING ON THE SCREEN.  H. MONITOR
G 9. KEY PRESSED TO ENTER THE INFORMATION INTO THE COMPUTER’S MEMORY.  I. BASIC
B 10. A GROUP OF STATEMENTS COMBINED TOGETHER FOR THE COMPUTER TO FOLLOW.  J. PRINT

TRUE OR FALSE:

_ F_ 1. LINE NUMBERS MUST ALWAYS BE INCREMENTED BY 10’S.
_ T_ 2. WHEN THE COMPUTER IS TURNED OFF, YOUR PROGRAM IS LOST.
_ T_ 3. THE SHIFT KEY CAUSES THE UPPER CHARACTER ON A KEY TO BE PRINTED.
_ F_ 4. IF YOU CLEAR THE SCREEN, YOUR PROGRAM WILL BE CLEARED FROM THE COMPUTER’S MEMORY.
_ T_ 5. A COMPUTER IS A MACHINE THAT PERFORMS TASKS AT A HIGH SPEED WITH GREAT ACCURACY.

WRITING A PROGRAM:

A. WRITE A PROGRAM TO DISPLAY YOUR NAME AND ADDRESS.
   (USE BACK OF PAPER IF NECESSARY.)
   10 REM NAME AND ADDRESS PROGRAM
   20 PRINT ”<SHIFT/CLR-HOME>”
   30 PRINT ”<STUDENT’S FIRST AND LAST NAME>”
   40 PRINT ”<STREET ADDRESS>”
   50 PRINT ”<CITY, STATE ZIPCODE>”
   60 END
B. WHAT COMMAND WOULD YOU USE TO EXECUTE THIS PROGRAM? —RUN—
C. WHAT COMMAND WILL DISPLAY YOUR PROGRAM STATEMENTS BACK ON THE SCREEN? —LIST—

G5.D02.Q1A.TC
## COLOR CODES

<table>
<thead>
<tr>
<th>PRESS</th>
<th>COLOR</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTRL 1</td>
<td>BLACK</td>
<td></td>
</tr>
<tr>
<td>CTRL 2</td>
<td>WHITE</td>
<td></td>
</tr>
<tr>
<td>CTRL 3</td>
<td>RED</td>
<td></td>
</tr>
<tr>
<td>CTRL 4</td>
<td>CYAN</td>
<td></td>
</tr>
<tr>
<td>CTRL 5</td>
<td>PURPLE</td>
<td></td>
</tr>
<tr>
<td>CTRL 6</td>
<td>GREEN</td>
<td></td>
</tr>
<tr>
<td>CTRL 7</td>
<td>BLUE</td>
<td></td>
</tr>
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<td>CTRL 8</td>
<td>YELLOW</td>
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<td>ORANGE</td>
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</tr>
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<td>CE 2</td>
<td>BROWN</td>
<td></td>
</tr>
<tr>
<td>CE 3</td>
<td>LT. RED</td>
<td></td>
</tr>
<tr>
<td>CE 4</td>
<td>GRAY #1</td>
<td></td>
</tr>
<tr>
<td>CE 5</td>
<td>GRAY #2</td>
<td></td>
</tr>
<tr>
<td>CE 6</td>
<td>LT. GREEN</td>
<td></td>
</tr>
<tr>
<td>CE 7</td>
<td>LT. BLUE</td>
<td></td>
</tr>
<tr>
<td>CE 8</td>
<td>GRAY #3</td>
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</tr>
<tr>
<td>CTRL 9</td>
<td>REVERSE ON</td>
<td></td>
</tr>
<tr>
<td>CTRL 0</td>
<td>REVERSE OFF</td>
<td></td>
</tr>
</tbody>
</table>

Creative Learning Association
Charleston, IL 61920

G5.D02.SH2.CC
1. Fill in the blanks to complete a program to print your first names.

```rem program to print our names
20 "<shift/clear-home>"
30 print "(name)"
40 print "(name)"
50"
```

2. Raise your hand to have your completed program checked.

3. Turn on the computer and the monitor.

4. Clear the screen.

5. Enter the program to print your first names.

6. Raise your hand to have your program checked.

7. Execute your program.

8. Clear the screen.

9. Have the computer display the program on the screen.

10. Erase the program from the computer's memory.

11. Ask the teacher for the next page.
1. Fill in the blanks to complete a program to print your first names.

10 REM PROGRAM TO PRINT OUR NAMES
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<YOUR FIRST NAME>"
40 PRINT "<YOUR PARTNER'S FIRST NAME>"
50 END

2. Raise your hand to have your completed program checked.

3. Turn on the computer and the monitor. (Each student turns on an item.)

4. Clear the screen. <SHIFT/CLR-HOME>

5. Enter the program to print your first names.

6. Raise your hand to have your program checked. (Have the students proceed with steps 7 - 10 only in your presence.)

7. Execute your program. (RUN)

8. Clear the screen. <SHIFT/CLR-HOME>

9. Have the computer display the program on the screen. (LIST)

10. Erase the program from the computer's memory. (NEW)

11. Ask the teacher for the next page.
1. Enter the following program, using the <control 9> to enter "RVS ON" and <control 3> to enter "RED". The color black is entered using <control 1>. You should be able to figure out how to enter the "RVS OFF" yourself. If you need a hint, ask your teacher!

```
10 REM RED AND BLACK COLOR BARS
20 PRINT "<SHIFT CLR/HOME>"
30 PRINT "<RVS ON><RED><10 SPACES><CO>"
40 PRINT "<RVS ON><BLACK><10 SPACES><CO>"
50 PRINT "<RVS OFF> THAT'S ALL!"
60 END
```

2. Execute the program, list the program on the screen and then raise your hand to have your program checked.

3. Replace line #50 with:

```
50 GOTO 20
```

4. Execute the program, list the program on the screen and then raise your hand to have your program checked.

Extra Credit:

A. Enter this program:

```
10 REM PROGRAM TO UNDERSTAND THE GOTO COMMAND
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "THE GOTO COMMAND ALLOWS YOU"
40 PRINT "TO REPEAT A STATEMENT OVER AND OVER"
50 PRINT "PRESS THE STOP BUTTON TO END PROGRAM"
60 GOTO 20
70 END
```

B. Use today's lesson in order to develop a program that will color the screen all one color. (Do not use a POKe statement and as a hint, the length of one line is 39 spaces.)
1. Enter the following program, using the <CONTROL 9> to enter "RVS ON" and <CONTROL 3> to enter "RED". The color black is entered using <CONTROL 1>. You should be able to figure out how to enter the "RVS OFF" yourself. If you need a hint, ask your teacher!

```
10 REM RED AND BLACK COLOR BARS
20 PRINT "<SHIFT CLR/HOME>"
30 PRINT "<RVS ON><RED><10 SPACES><CO>"
40 PRINT "<RVS ON><BLACK><10 SPACES><CO>"
50 PRINT "<RVS OFF> THAT'S ALL!"
60 END
```

(Have the students take turns entering lines.)

2. Execute the program, list the program on the screen and then raise your hand to have your program checked.

3. Replace line #50 with:

```
50 GOTO 20
```

4. Execute the program, list the program on the screen and then raise your hand to have your program checked.

Extra Credit:

A. Enter this program:

```
10 REM PROGRAM TO UNDERSTAND THE GOTO COMMAND
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "THE GOTO COMMAND ALLOWS YOU"
40 PRINT "TO REPEAT A STATEMENT OVER AND OVER"
50 PRINT "PRESS THE STOP BUTTON TO END PROGRAM"
60 GOTO 20
70 END
```

B. Use today's lesson in order to develop a program that will color the screen all one color. (Do not use a POKE statement and as a hint, the length of one line is 39 spaces.)

```
10 REM COLOR THE SCREEN
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<C9><C1-C8 OR C=1-C=8><39 SP><CO>"
35 X = X + 1
36 IF X = 22 THEN GOTO 50
40 GOTO 30
50 END
```

(G5.DO2.W2A.TC)
LESSON PLAN

GRADE 5 - DAY 3
COMPUTER LITERACY
TEACHER'S LESSON PLAN

INSTRUCTIONAL AIDS: TOOLS, EQUIPMENT AND MATERIALS:
COPIES OF THE NECESSARY HANDOUTS AND CHALK, ERASER AND PENCILS
QUIZ 2 - DAY 2

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

OBJECTIVE FOR THE DAY:
THE STUDENTS WILL LEARN HOW TO CONTROL THE OUTPUT OF A PROGRAM BY USING THE
"TAB" AND DOWN COMMANDS AND BE PREPARED FOR A QUIZ ON DAY 4.

INTRODUCTION:
REVIEW WITH THE STUDENTS THE MATERIAL COVERED AT THE PREVIOUS CLASS AND GIVE A
QUIZ IN THE HOME ROOM.

PRESENTATION:
DISTRIBUTE COPIES OF:
WORKSHEET #3 (G5.D03.W3.SC)

READING FROM THE TEACHER'S COPY OF THE WORKSHEET #3, READ THE INSTRUCTIONS
INCLUDED IN STEP 1. EMPHASIZE TO THE STUDENTS THAT THEY SHOULD REVIEW THE
MATERIAL COVERED DURING THE CLASS PERIOD SOME TIME BEFORE THE NEXT CLASS
MEETING BECAUSE THERE WILL BE A QUIZ ON ANY OF THE MATERIAL, NEXT TIME WE MEET.
ASSIST THE STUDENTS ON WORKSHEET #3 BY CHECKING OFF AND RECORDING THE
COMPLETION OF EACH STEP. QUESTIONS THAT COULD BE ASKED:
1. WHAT IS DIFFERENT ABOUT THE PROGRAM NOW?
2. HOW DID YOU PRINT A BLANK LINE?
3. WHAT COMMAND WAS IT THAT MOVED THE MESSAGE TO THE CENTER OF THE SCREEN?
4. WHAT COMMAND WAS IT THAT MOVED THE MESSAGE TO THE MIDDLE OF THE SCREEN?

WHEN THE STUDENTS ARE DONE WITH WORKSHEET #3,
DISTRIBUTE COPIES OF:
WORKSHEET #3A (G5.D03.W3A.SC)

G5.D03.LP.TC
SUMMARY:

REVIEW THE MATERIAL DISCUSSED DURING TODAY'S CLASS MEETING.
REVIEW WHAT THE STUDENTS SHOULD BE WORKING ON FOR THEIR MAJOR GRAPHICS PROGRAM.
(PICTURE DUE DAY 5)

STUDENT INVOLVEMENT:

THE STUDENTS WILL BE WORKING INDEPENDENTLY ON A QUIZ.
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:

THE STUDENTS' QUIZZES WILL BE EVALUATED GIVING ONE POINT FOR EACH CORRECT ANSWER.
THE STUDENTS' PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON THE BASIS OF TEN POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:

IF THE STUDENTS FINISH WITH WORKSHEET #3, THEY COULD BEGIN WORKING ON WORKSHEET #3A.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
INSTRUCTIONS: FILL-IN THE BLANKS WITH THE CORRECT ANSWER/RESPONSE.

1. THE RESERVED WORD USED TO INCLUDE INFORMATION (REMARKS) IN A PROGRAM WHICH DOES NOT CHANGE THE PROGRAM:

2. THE SYMBOL " " APPEARS IN A PROGRAM STATEMENT WHEN YOU PRESS THE

3. WRITE A LINE OF PROGRAMMING TO GIVE A PROGRAM A TITLE/REMARK WHICH SAYS THE FOLLOWING: PROGRAM TO PRINT MY NAME.

4. WRITE A LINE OF PROGRAMMING TO CLEAR THE SCREEN.

5. WRITE A LINE OF PROGRAMMING TO DISPLAY YOUR NAME.

6. WRITE A LINE OF PROGRAMMING THAT IS ALWAYS USED AS A LAST STATEMENT IN A PROGRAM.

7. THE COMMAND USED TO HAVE THE COMPUTER EXECUTE (START) YOUR PROGRAM IS:

8. THE COMMAND USED TO DISPLAY THE PROGRAM IN MEMORY ON THE SCREEN:

9. THE TWO KEYS PRESSED TO TURN ON THE REVERSE COLOR, (RVS ON):

   THE ___________________ KEY AND THE NUMBER ________.

10. WRITE A LINE OF PROGRAMMING THAT WILL MAKE A BLACK COLOR BAR, 12 SPACES LONG.

   ______________________
INSTRUCTIONS: FILL-IN THE BLANKS WITH THE CORRECT ANSWER/RESPONSE.

1. THE RESERVED WORD USED TO INCLUDE INFORMATION (REMARKS) IN A PROGRAM WHICH DOES NOT CHANGE THE PROGRAM:

   REM

2. THE SYMBOL " " APPEARS IN A PROGRAM STATEMENT WHEN YOU PRESS THE

   SHIFT & CLR-HOME KEYS.

3. WRITE A LINE OF PROGRAMMING TO GIVE A PROGRAM A TITLE/REMARK WHICH SAYS THE FOLLOWING: PROGRAM TO PRINT MY NAME.

   10 REM PROGRAM TO PRINT MY NAME

4. WRITE A LINE OF PROGRAMMING TO CLEAR THE SCREEN.

   20 PRINT "<SHIFT/CLR-HOME>"

5. WRITE A LINE OF PROGRAMMING TO DISPLAY YOUR NAME.

   30 PRINT "<STUDENT'S NAME>"

6. WRITE A LINE OF PROGRAMMING THAT IS ALWAYS USED AS A LAST STATEMENT IN A PROGRAM.

   40 END

7. THE COMMAND USED TO HAVE THE COMPUTER EXECUTE (START) YOUR PROGRAM IS:

   RUN

8. THE COMMAND USED TO DISPLAY THE PROGRAM IN MEMORY ON THE SCREEN:

   LIST

9. THE TWO KEYS PRESSED TO TURN ON THE REVERSE COLOR, (RVS ON):


10. WRITE A LINE OF PROGRAMMING THAT WILL MAKE A BLACK COLOR BAR, 12 SPACES LONG.

     35 PRINT "<C9><C1><12 SP><C0>"

     OR

     35 PRINT "<RVS ON><BLACK><12 SPACES><RVS OFF>"
1. LISTEN TO THE TEACHER'S INSTRUCTIONS AND ENTER THE FOLLOWING PROGRAM:

```
10 REM LEARNING TO PRINT
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<TEACHER'S NAME>"
40 END
```

2. BETWEEN LINE 30 AND 40, ADD THE LINE: IS MY COMPUTER TEACHER.

```
35 PRINT "IS MY COMPUTER TEACHER."
```

3. BELOW THIS LINE, ADD: AT <NAME OF YOUR SCHOOL>.

```
37 PRINT "AT <NAME OF YOUR SCHOOL>"
```

4. ADD A BLANK LINE BETWEEN THE LINES OF THE MESSAGE.

```
32 PRINT
36 PRINT
```

5. MODIFY LINES 30, 35 AND 37 TO CENTER THE MESSAGE ON THE SCREEN.

```
30 PRINT TAB(15) "<TEACHER'S NAME>"
35 PRINT TAB(15) "IS MY COMPUTER TEACHER."
37 PRINT TAB(15) "AT <NAME OF YOUR SCHOOL>"
```

6. MODIFY LINE 30 TO MOVE THE MESSAGE TO THE MIDDLE OF THE SCREEN.
   (THE INVERSE "Q" IS ENTERED BY HOLDING THE CONTROL KEY WHILE PRESSING THE DOWN ARROW.)

```
30 PRINT TAB(15) "QQQQQQQQQQ<TEACHER'S NAME>"
```

ASK TEACHER FOR THE NEXT PAGE.
READ STEP 1 TO THE STUDENTS:

1. THIS WORKSHEET IS ONE COMPLETE PROGRAM. DO NOT USE THE RESERVED WORD
"NEW" UNTIL THE TEACHER INSTRUCTS YOU. ENTER THE FOLLOWING PROGRAM,
EXECUTE THE PROGRAM AND LIST THE PROGRAM ON THE SCREEN AT EACH STEP. WAIT
FOR THE TEACHER AFTER COMPLETING EACH STEP.

```
10 REM LEARNING TO PRINT
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<TEACHER'S NAME>"
40 END
```

2. BETWEEN LINE 30 AND 40, ADD THE LINE: IS MY COMPUTER TEACHER.

```
10 REM LEARNING TO PRINT
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<TEACHER'S NAME>"
*35 PRINT "IS MY COMPUTER TEACHER."
40 END
```

3. BELOW THIS LINE, ADD: AT <NAME OF YOUR SCHOOL>.

```
10 REM LEARNING TO PRINT
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<TEACHER'S NAME>"
*35 PRINT "IS MY COMPUTER TEACHER."
*36 PRINT "AT <NAME OF YOUR SCHOOL>"
40 END
```

4. ADD A BLANK LINE BETWEEN THE LINES OF THE MESSAGE.

```
10 REM LEARNING TO PRINT
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<TEACHER'S NAME>"
*32 PRINT
35 PRINT "IS MY COMPUTER TEACHER."
*36 PRINT
37 PRINT "AT <NAME OF YOUR SCHOOL>"
40 END
```

5. MODIFY LINES 30, 35 AND 37 TO CENTER THE MESSAGE ON THE SCREEN.

```
10 REM LEARNING TO PRINT
20 PRINT "<SHIFT/CLR-HOME>"
*30 PRINT TAB(15) "<TEACHER'S NAME>"
32 PRINT
*35 PRINT TAB(15) "IS MY COMPUTER TEACHER."
36 PRINT
*37 PRINT TAB(15) "AT <NAME OF YOUR SCHOOL>"
40 END
```

6. MODIFY LINE 30 TO MOVE THE MESSAGE TO THE MIDDLE OF THE SCREEN.
   (THE INVERSE "Q" IS ENTERED BY HOLDING THE CONTROL KEY WHILE PRESSING THE
   DOWN ARROW.)

```
10 REM LEARNING TO PRINT
20 PRINT "<SHIFT/CLR-HOME>"
*30 PRINT TAB(15) "QQQQQQQQQQ<TEACHER'S NAME>"
32 PRINT
35 PRINT TAB(15) "IS MY COMPUTER TEACHER."
36 PRINT
37 PRINT TAB(15) "AT <NAME OF YOUR SCHOOL>"
40 END
```

ASK TEACHER FOR THE NEXT PAGE.
1. LISTEN TO THE TEACHER'S INSTRUCTIONS. CLEAR MEMORY AND ENTER A PROGRAM WHICH WOULD PRINT YOUR NAME AND YOUR PARTNER'S NAME ON TWO SEPARATE LINES.

2. ADD LINES OF PROGRAMMING TO PUT A COLOR BAR UNDER YOUR NAME AND YOUR PARTNER'S NAME. YOU MAY USE ANY COLOR EXCEPT THE BACKGROUND COLOR.

3. COPY AND MODIFY THE PROGRAM TO CENTER THE SAME MESSAGE ON THE SCREEN.(15)

4. COPY AND MODIFY THE PROGRAM TO MOVE THE SAME MESSAGE TO THE MIDDLE OF THE SCREEN.(8 AND 15)

5. ADD A LINE OF PROGRAMMING TO ADD A COLOR BAR. THE COLOR BAR SHOULD BE 10 SPACES RED, 10 SPACES WHITE AND 10 SPACES BLUE.
READ STEP 1 TO THE STUDENTS:

1. THIS WORKSHEET IS ONE COMPLETE PROGRAM. DO NOT USE THE RESERVED WORD "NEW" UNTIL THE TEACHER INSTRUCTS YOU. AFTER COMPLETING EACHSTEP, EXECUTE THE PROGRAM AND LIST THE PROGRAM. WAIT FOR THE TEACHER BEFORE GOING ON TO THE NEXT STEP. CLEAR MEMORY AND ENTER A PROGRAM WHICH WOULD PRINT YOUR NAME AND YOUR PARTNER'S NAME ON TWO SEPARATE LINES.

10 REM PROGRAM TO PRINT OUR NAMES
20 PRINT "<SHIFT/CLR-HOME>
30 PRINT "<STUDENT'S NAME>"
40 PRINT "<PARTNER'S NAME>"
140 END

2. ADD LINES OF PROGRAMMING TO PUT A COLOR BAR UNDER YOUR NAME AND YOUR PARTNER'S NAME. YOU MAY USE ANY COLOR EXCEPT THE BACKGROUND COLOR.

10 REM PROGRAM TO PRINT OUR NAMES
20 PRINT "<SHIFT/CLR-HOME>
30 PRINT "<STUDENT'S NAME>"
35 PRINT "<C9><C#><XX SP><CO>"
40 PRINT "<PARTNER'S NAME>"
45 PRINT "<C9><C#><XX SP><CO>"
140 END

3. COPY AND MODIFY THE PROGRAM TO CENTER THE SAME MESSAGE ON THE SCREEN. (15)

10 REM PROGRAM TO PRINT OUR NAMES
20 PRINT "<SHIFT/CLR-HOME>
30 PRINT "<STUDENT'S NAME>"
35 PRINT "<C9><C#><XX SP><CO>"
40 PRINT "<PARTNER'S NAME>"
45 PRINT "<C9><C#><XX SP><CO>"
50 PRINT TAB(15) "<STUDENT'S NAME>"
60 PRINT TAB(15) "<C9><C#><XX SP><CO>"
70 PRINT TAB(15) "<PARTNER'S NAME>"
80 PRINT TAB(15) "<C9><C#><XX SP><CO>"
90 PRINT TAB(15) "QQQQQQQQ<STUDENT'S NAME>"
100 PRINT TAB(15) "<C9><C#><XX SP><CO>"
110 PRINT TAB(15) "<PARTNER'S NAME>"
120 PRINT TAB(15) "<C9><C#><XX SP><CO>"
130 PRINT "<C9><C3><10 SP><C2><10 SP><C4><10 SP><CO>"
140 END

4. COPY AND MODIFY THE PROGRAM TO MOVE THE SAME MESSAGE TO THE MIDDLE OF THE SCREEN. (8 AND 15)

10 REM PROGRAM TO PRINT OUR NAMES
20 PRINT "<SHIFT/CLR-HOME>
30 PRINT "<STUDENT'S NAME>"
35 PRINT "<C9><C#><XX SP><CO>"
40 PRINT "<PARTNER'S NAME>"
45 PRINT "<C9><C#><XX SP><CO>"
50 PRINT TAB(15) "<STUDENT'S NAME>"
60 PRINT TAB(15) "<C9><C#><XX SP><CO>"
70 PRINT TAB(15) "<PARTNER'S NAME>"
80 PRINT TAB(15) "<C9><C#><XX SP><CO>"
90 PRINT TAB(15) "QQQQQQQQ<STUDENT'S NAME>"
100 PRINT TAB(15) "<C9><C#><XX SP><CO>"
110 PRINT TAB(15) "<PARTNER'S NAME>"
120 PRINT TAB(15) "<C9><C#><XX SP><CO>"
130 PRINT "<C9><C3><10 SP><C2><10 SP><C4><10 SP><CO>"
140 END

5. ADD A LINE OF PROGRAMMING TO ADD A COLOR BAR. THE COLOR BAR SHOULD BE 10 SPACES RED, 10 SPACES WHITE AND 10 SPACES BLUE.

*130 PRINT "<C9><C3><10 SP><C2><10 SP><C4><10 SP><CO>"
OBJECTIVE FOR THE DAY:
The students will practice identifying errors in a program, use the "For-Next" command and be prepared for a quiz on Day 5.

INTRODUCTION:
Review with the students the material covered at the previous class and give a quiz in the homeroom.

PRESENTATION:
Distribute copies of:

WORKSHEET #4 (G5.D04.W4.SC)
This worksheet is to be completed as homework. The worksheet will be due at the next class meeting. One hint you might want to give is that there are two lines that do not have any error, but might not be in the proper sequence.

Distribute copies of:

WORKSHEET #4A (G5.D04.W4A.SC)
This worksheet has three programs. Instruct students not to use the reserved word "NEW" until you instruct them to do so. The students should enter the program, execute the program and list the program on the screen at each step. Instruct students to wait for you to check their programs after completing each numbered step.
LESSON PLAN CONTINUED PAGE 2

GRADE 5 - DAY 4
COMPUTER LITERACY
TEACHER'S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:

REVIEW THE MATERIAL DISCUSSED DURING THE COURSE AND REMIND THE STUDENTS TO
STUDY ALL MATERIAL IN PREPARATION FOR THE QUIZ AT THE NEXT CLASS MEETING.
REVIEW WHAT THE STUDENTS SHOULD BE WORKING ON FOR THEIR MAJOR GRAPHICS PROGRAM.
(PICTURE DUE DAY 5)

STUDENT INVOLVEMENT:

THE STUDENTS WILL BE WORKING INDEPENDENTLY ON A QUIZ.
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:

THE STUDENTS' QUIZZES WILL BE EVALUATED GIVING ONE POINT FOR EACH CORRECT
ANSWER.
THE STUDENTS' PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON
THE BASIS OF TEN POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:

IF THE STUDENTS FINISH WITH WORKSHEET #4A, THEY CAN PROCEED TO WORK ON
CORRECTING WORKSHEET #4. IF THERE IS TIME AVAILABLE, THE STUDENTS CAN ENTER
WORKSHEET #4 INTO THE COMPUTER.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.

G5.D04.LP.TC
INSTRUCTIONS: FILL-IN THE BLANKS WITH THE CORRECT ANSWER/RESPONSE.

1. THE RESERVED WORD USED TO INCLUDE INFORMATION (REMARKS) IN A PROGRAM WHICH DOES NOT CHANGE THE PROGRAM:

2. THE SYMBOL " " APPEARS IN A PROGRAM STATEMENT WHEN YOU PRESS THE & _______ & _______ KEYS.

3. WRITE A LINE OF PROGRAMMING TO GIVE A PROGRAM A TITLE/REMARK WHICH SAYS THE FOLLOWING: PROGRAM TO PRINT MY NAME.

4. WRITE A LINE OF PROGRAMMING TO CLEAR THE SCREEN.

5. WRITE A LINE OF PROGRAMMING TO DISPLAY YOUR NAME.

6. WRITE A LINE OF PROGRAMMING THAT IS ALWAYS USED AS A LAST STATEMENT IN A PROGRAM.

7. THE COMMAND USED TO HAVE THE COMPUTER EXECUTE (START) YOUR PROGRAM IS:

8. THE COMMAND USED TO DISPLAY THE PROGRAM IN MEMORY ON THE SCREEN:

9. THE TWO KEYS PRESSED TO TURN ON THE REVERSE COLOR, (RVS ON):

   THE ___________ KEY AND THE NUMBER ________.

10. WRITE A LINE OF PROGRAMMING THAT WILL MAKE A BLACK COLOR BAR, 12 SPACES LONG.
INSTRUCTIONS: FILL-IN THE BLANKS WITH THE CORRECT ANSWER/RESPONSE.

1. THE RESERVED WORD USED TO INCLUDE INFORMATION (REMARKS) IN A PROGRAM WHICH DOES NOT CHANGE THE PROGRAM:

   REM

2. THE SYMBOL " " APPEARS IN A PROGRAM STATEMENT WHEN YOU PRESS THE

   SHIFT & CLR-HOME KEYS.

3. WRITE A LINE OF PROGRAMMING TO GIVE A PROGRAM A TITLE/REMARK WHICH SAYS THE FOLLOWING: PROGRAM TO PRINT MY NAME.

   10 REM PROGRAM TO PRINT MY NAME

4. WRITE A LINE OF PROGRAMMING TO CLEAR THE SCREEN.

   20 PRINT "<SHIFT/CLR-HOME>"

5. WRITE A LINE OF PROGRAMMING TO DISPLAY YOUR NAME.

   30 PRINT "<STUDENT'S NAME>"

6. WRITE A LINE OF PROGRAMMING THAT IS ALWAYS USED AS A LAST STATEMENT IN A PROGRAM.

   40 END

7. THE COMMAND USED TO HAVE THE COMPUTER EXECUTE (START) YOUR PROGRAM IS:

   RUN

8. THE COMMAND USED TO DISPLAY THE PROGRAM IN MEMORY ON THE SCREEN:

   LIST

9. THE TWO KEYS PRESSED TO TURN ON THE REVERSE COLOR, (RVS ON):


10. WRITE A LINE OF PROGRAMMING THAT WILL MAKE A BLACK COLOR BAR, 12 SPACES LONG.

   35 PRINT "<C9><C1><12 SP><C0>"
   OR 35 PRINT "<RVS ON><BLACK><12 SPACES><RVS OFF>"
THERE ARE TEN MISTAKES IN THE FOLLOWING PROGRAM, ONE IN EACH LINE.

FIND EACH MISTAKE, CORRECT IT, AND GIVE THE CORRECTED WORKSHEET TO YOUR TEACHER BY THE NEXT CLASS MEETING. IF YOU HAVE TIME, YOU CAN ENTER THE PROGRAM INTO A COMPUTER IN YOUR HOMEROOM TO SEE IF YOU HAVE IT CORRECT.

10 REM "COMPUTER PROGRAMMING"

20 PRINT <SHIFT/CLR-HOME>

30 PRINT (10) "COMPUTER PROGRAMMING"

40 PRINT BLANK

50 PRINT TAB(16) "EASY AS"

60 "PRINT"

70 PRINT TAB(18) "IS AS"

80 PRINT

90 PRINT "TAB(16) CAN BE!"

100 PRINT END
THERE ARE TEN MISTAKES IN THE FOLLOWING PROGRAM, ONE IN EACH LINE.

FIND EACH MISTAKE, CORRECT IT, AND GIVE THE CORRECTED WORKSHEET TO YOUR TEACHER BY THE NEXT CLASS MEETING. IF YOU HAVE TIME, YOU CAN ENTER THE PROGRAM INTO A COMPUTER IN YOUR HOMEROOM TO SEE IF YOU HAVE IT CORRECT.

10 REM "COMPUTER PROGRAMMING" 10 REM COMPUTER PROGRAMMING

20 PRINT <SHIFT/CLR-HOME> 20 PRINT "<SHIFT/CLR-HOME>"

30 PRINT (10)"COMPUTER PROG."

30 PRINT TAB(10)"COMPUTER PROGRAMMING"

40 PRINT BLANK

40 PRINT

50 PRINT TAB(16) "EASY AS"

50 PRINT TAB(16) "EASY AS"

60 "PRINT"

60 PRINT

70 PRINT TAB(18) "IS AS"

70 PRINT TAB(18) "IS AS"

80 PRINT

80 PRINT

90 PRINT "TAB(16) CAN BE!"

90 PRINT TAB(16) "CAN BE!"

100 PRINT END 100 END
1. ENTER THE FOLLOWING PROGRAM:

```
5 REM NAME PROGRAM
10 PRINT "<SHIFT/CLR-HOME>"
20 PRINT "<YOUR FIRST AND LAST NAME>"
30 PRINT "<YOUR PARTNER'S FIRST AND LAST NAME>"
40 GOTO 10
50 END
```

2. ADD LINES #20 AND #30:

```
20 FOR T = 1 TO 500
30 NEXT T
```

3. ADD LINES #60 AND #70:

```
60 FOR T = 1 TO 500
70 NEXT T
```

1. ENTER THE FOLLOWING PROGRAM:

```
10 REM COLOR BAR PROGRAM
20 PRINT "<SHIFT/CLR-HOME>"
30 FOR X = 1 TO 10
40 PRINT "<RVS ON><YELLOW><10 SPACES>"
50 NEXT X
60 END
```

1. ENTER THE FOLLOWING PROGRAM:

```
10 REM COUNT TO TEN PROGRAM
15 PRINT "<SHIFT/CLR-HOME>"
20 FOR X = 1 TO 10
30 PRINT X
40 NEXT X
50 END
```

2. WRITE AN ADDITIONAL LINE TO THIS PROGRAM SO THAT A BLANK LINE PRINTS OUT BETWEEN EACH LINE.

3. MODIFY A LINE OF THE PROGRAM TO MOVE THE PRINTED NUMBERS TO THE CENTER OF THE SCREEN.
1. **ENTER THE FOLLOWING PROGRAM:**

   ```
   5 REM NAME PROGRAM
   10 PRINT "<SHIFT/CLR-HOME>"
   40 PRINT "<YOUR FIRST AND LAST NAME>"
   50 PRINT "<YOUR PARTNER'S FIRST AND LAST NAME>"
   80 GOTO 10
   90 END
   ```

2. **ADD LINES #20 AND #30:**

   ```
   20 FOR T = 1 TO 500
   30 NEXT T
   ```
   
   MAKES THE PROGRAM PAUSE
   AFTER CLEARING THE SCREEN

3. **ADD LINES #60 AND #70:**

   ```
   60 FOR T = 1 TO 500
   70 NEXT T
   ```
   
   MAKES THE PROGRAM PAUSE
   AFTER PRINTING NAMES

1. **ENTER THE FOLLOWING PROGRAM:**

   ```
   10 REM COLOR BAR PROGRAM
   20 PRINT "<SHIFT/CLR-HOME>"
   30 FOR X = 1 TO 10
   40 PRINT "<RVS ON><YELLOW><10 SPACES>"
   50 NEXT X
   60 END
   ```

1. **ENTER THE FOLLOWING PROGRAM:**

   ```
   10 REM COUNT TO TEN PROGRAM
   15 PRINT "<SHIFT/CLR-HOME>"
   20 FOR X = 1 TO 10
   30 PRINT <X>
   40 NEXT X
   50 END
   ```

2. **WRITE AN ADDITIONAL LINE TO THIS PROGRAM SO THAT A BLANK LINE PRINTS OUT BETWEEN EACH LINE.**

   ```
   35 PRINT
   ```

3. **MODIFY A LINE OF THE PROGRAM TO MOVE THE PRINTED NUMBERS TO THE CENTER OF THE SCREEN.**

   ```
   30 PRINT TAB(20) <X>
   ```

G5.D04.W4A.TC
LESSON PLAN

GRADE 5 - DAY 5
COMPUTER LITERACY
TEACHER'S LESSON PLAN

INSTRUCTIONAL AIDS:

COPIES OF THE NECESSARY HANDOUTS AND QUIZ 4 - DAY 4

TOOLS, EQUIPMENT AND MATERIALS:

CHALK, ERASER AND PENCILS

OBJECTIVE FOR THE DAY:


INTRODUCTION:

COLLECT WORKSHEET #4 FROM THE STUDENTS, THEN REVIEW WITH THE STUDENTS THE MATERIAL COVERED AT THE PREVIOUS CLASS AND GIVE A QUIZ IN THE HOMEROOM.

PRESENTATION:

DISTRIBUTE COPIES OF:

WORKSHEET #5 (G5.D05.W5.SC)

READ THE DEFINITIONS IN ITEMS # 1-4 AND HAVE THE STUDENTS SUGGEST WHAT THE TERMS MIGHT BE. AFTER SPENDING A LIMITED AMOUNT OF TIME, MAKE SURE THE STUDENTS ALL HAVE THE SAME AND CORRECT TERMS FOR THE DEFINITIONS.

CONTINUE WITH WORKSHEET #5, AND HAVE THE STUDENTS ENTER PROGRAMS, TAKING TURNS EITHER LINE BY LINE OR PROGRAM BY PROGRAM. THIS WORKSHEET HAS THREE SEPARATE PROGRAMS. THE STUDENTS SHOULD ENTER A PROGRAM, EXECUTE THE PROGRAM, LIST THE PROGRAM AND WAIT FOR THE TEACHER TO CHECK THEIR WORK AFTER COMPLETING EACH PROGRAM BEFORE GOING TO THE NEXT PROGRAM. REMIND THE STUDENTS TO ENTER "NEW" BEFORE STARTING THE NEXT PROGRAM. WHILE THE STUDENTS ARE WORKING ON WORKSHEET #5, CHECK EACH STUDENT'S MAJOR GRAPHICS PICTURE.

DISTRIBUTE COPIES OF:

STUDENT HANDOUT #3 (G5.D05.SH3.SC) (2 PAGES)

THIS IS A TWO PAGE WORKSHEET THE STUDENTS CAN WRITE THEIR MAJOR GRAPHICS PROGRAM ON.

G5.D05.LP.TC
GRADE 5 - DAY 5
COMPUTER LITERACY
'TEACHER'S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING THE COURSE AND REMIND THE STUDENTS TO
STUDY ALL MATERIAL IN PREPARATION FOR THE QUIZ AT THE NEXT CLASS MEETING.
REVIEW WHAT THE STUDENTS SHOULD BE WORKING ON FOR THEIR MAJOR GRAPHICS PROGRAM.

STUDENT INVOLVEMENT:
THE STUDENTS WILL BE WORKING INDEPENDENTLY ON A QUIZ.
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:
THE STUDENTS' QUIZZES WILL BE EVALUATED GIVING ONE POINT FOR EACH CORRECT
ANSWER.
THE STUDENTS' PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON
THE BASIS OF TEN POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:
IF THE STUDENTS FINISH WITH WORKSHEET #5, THE STUDENTS CAN BE GIVEN WORKSHEET
#5A.

DISTRIBUTE COPIES OF:
WORKSHEET #5A (G5.D05.W5A.SC)

THIS WORKSHEET IS ONE COMPLETE PROGRAM. THE INSTRUCTIONS ARE ON THE TEACHER'S
COPY.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
1. WRITE A PROGRAM TO PRINT YOUR NAME AND ADDRESS 10 SPACES TO THE RIGHT ON THE SCREEN.

10

20

30

40

50

60

2. ADD A LINE TO PRINT YOUR PHONE NUMBER UNDER YOUR ADDRESS.

55

3. ADD LINES TO PRINT A BLANK LINE BETWEEN THE LINES OF THE MESSAGE.

35

45

52

4. MODIFY LINE 30 TO MOVE THE MESSAGE DOWN 5 LINES.

30

G5.D05.Q4.SC
1. WRITE A PROGRAM TO PRINT YOUR NAME AND ADDRESS 10 SPACES TO THE RIGHT ON THE SCREEN.

   10 REM NAME AND ADDRESS PROGRAM

   20 PRINT "<SHIFT/CLR-HOME>"

   30 PRINT TAB(10) "<FIRST AND LAST NAME>"

   40 PRINT TAB(10) "<STREET ADDRESS>"

   50 PRINT TAB(10) "<CITY, STATE ZIPCODE>"

   60 END

2. ADD A LINE TO PRINT YOUR PHONE NUMBER UNDER YOUR ADDRESS.

   55 PRINT TAB(10) "<PHONE NUMBER>"

3. ADD LINES TO PRINT A BLANK LINE BETWEEN THE LINES OF THE MESSAGE.

   35 PRINT

   45 PRINT

   52 PRINT

4. MODIFY LINE 30 TO MOVE THE MESSAGE DOWN 5 LINES.

   30 PRINT TAB(10) "<FIRST AND LAST NAME>"
10 REM <PROGRAM NAME>

15 REM <YOUR NAME AND SECTION>

20 PRINT "<SHIFT/CLR-HOME>"

25 POKE 53280,1 : POKE 53281,1

G5.D05.SH3.GP
WRITE THE TERMS FOR THE FOLLOWING DEFINITIONS:

1. ______ - PART OF THE PROGRAM TELLING THE COMPUTER TO DO SOMETHING OVER AND OVER.

2. ______ - COMMAND TELLING THE COMPUTER TO GO DIRECTLY TO A CERTAIN LINE OF THE PROGRAM.

3. ______ - PART OF THE PROGRAM WHICH COUNTS THE NUMBER OF TIMES SOMETHING IS DONE.

4. ______ - COMMAND TO EVALUATE PROGRAM AND TAKE GIVEN ACTION.

DEMONSTRATION PROGRAMS:

1. ENTER THE FOLLOWING PROGRAM USING THE GOTO COMMAND:

   10 REM USING GOTO
   20 PRINT "<SHIFT/CLR-HOME>"
   30 PRINT "THIS LINE WILL RUN FOREVER"
   40 GOTO 30
   50 END

2. ENTER THE FOLLOWING PROGRAM USING A COUNTER:

   10 REM USING A COUNTER
   20 PRINT "<SHIFT/CLR-HOME>"
   25 C = C + 1
   30 PRINT C
   40 GOTO 25
   50 END

3. ENTER THE FOLLOWING PROGRAM USING AN IF - THEN COMMAND WITH A COUNTER:

   10 REM USING IF-THEN WITH A COUNTER
   20 PRINT "<SHIFT/CLR-HOME>"
   30 PRINT "IF-THEN TELLS YOU HOW MANY TIMES TO REPEAT"
   35 C = C + 1
   40 IF C < 5 THEN GOTO 30
   50 END
WRITE THE TERMS FOR THE FOLLOWING DEFINITIONS:

1. **Loop** - Part of the program telling the computer to do something over and over.

2. **Goto** - Command telling the computer to go directly to a certain line of the program.

3. **Counter** - Part of the program which counts the number of times something is done.

4. **If - Then** - Command to evaluate program and take given action.

DEMONSTRATION PROGRAMS:

1. ENTER THE FOLLOWING PROGRAM USING THE GOTO COMMAND:

```
10 REM USING GOTO
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "THIS LINE WILL RUN FOREVER"
40 GOTO 30
50 END
```

2. ENTER THE FOLLOWING PROGRAM USING A COUNTER:

```
10 REM USING A COUNTER
20 PRINT "<SHIFT/CLR-HOME>"
25 C = C + 1
30 PRINT C
40 GOTO 25
50 END
```

3. ENTER THE FOLLOWING PROGRAM USING AN IF - THEN COMMAND WITH A COUNTER:

```
10 REM USING IF-THEN WITH A COUNTER
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "IF-THEN TELLS YOU HOW MANY TIMES TO REPEAT"
35 C = C + 1
40 IF C < 5 THEN GOTO 30
50 END
```
LISTEN TO THE TEACHER'S INSTRUCTIONS.

1. PRINTING A COLOR BAR:

```
10 REM BLACK COLOR BAR
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,1:POKE 53281,1
30 PRINT "<C9><C1><39 SP><C0>"
50 END
```

2. PRINTING COLOR BARS USING THE GOTO COMMAND:

(ADD LINE 40)

```
10 REM BLACK COLOR BAR
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,1:POKE 53281,1
30 PRINT "<C9><C1><39 SP><C0>"
*40 GOTO 30
50 END
```

3. PRINTING COLOR BARS USING THE IF - THEN COMMAND:

(ADD LINE 35 AND MODIFY LINE 40)

```
10 REM BLACK COLOR BAR
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,1:POKE 53281,1
30 PRINT "<C9><C1><39 SP><C0>"
*35 C = C + 1
*40 IF C < 5 THEN GOTO 30
50 END
```

4. COLOR THE FULL SCREEN:

(MODIFY LINE 40)

```
10 REM BLACK COLOR BAR
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,1:POKE 53281,1
30 PRINT "<C9><C1><39 SP><C0>"
35 C = C + 1
*40 IF C < 21 THEN GOTO 30
50 END
```

G5.D05.W5A.SC
THIS WORKSHEET IS ONE COMPLETE PROGRAM. DO NOT USE THE RESERVED WORD "NEW" UNTIL THE TEACHER INSTRUCTS YOU. AFTER COMPLETING EACH STEP, EXECUTE THE PROGRAM AND LIST THE PROGRAM. WAIT FOR THE TEACHER BEFORE GOING ON TO THE NEXT STEP.

1. PRINTING A COLOR BAR:

```
10 REM BLACK COLOR BAR
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,1:POKE 53281,1
30 PRINT "<C9><C1><39 SP><CO>
50 END
```

2. PRINTING COLOR BARS USING THE GOTO COMMAND:

(ADD LINE 40)

```
10 REM BLACK COLOR BAR
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,1:POKE 53281,1
30 PRINT "<C9><C1><39 SP><CO>
*40 GOTO 30
50 END
```

3. PRINTING COLOR BARS USING THE IF - THEN COMMAND:

(ADD LINE 35 AND MODIFY LINE 40)

```
10 REM BLACK COLOR BAR
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,1:POKE 53281,1
30 PRINT "<C9><C1><39 SP><CO>
*35 C = C + 1
*40 IF C < 5 THEN GOTO 30
50 END
```

4. COLOR THE FULL SCREEN:

(MODIFY LINE 40)

```
10 REM BLACK COLOR BAR
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,1:POKE 53281,1
30 PRINT "<C9><C1><39 SP><CO>
35 C = C + 1
*40 IF C < 21 THEN GOTO 30
50 END
```

G5.D05.W5A.TC
OBJECTIVE FOR THE DAY:

THE STUDENTS WILL USE THE "LOAD", "SAVE" AND "POKE" COMMANDS. THE STUDENTS WILL WORK ON A SAMPLE GRAPHICS PROGRAM, START WRITING THEIR OWN GRAPHICS PROGRAMS AND TAKE HOME A QUIZ DUE ON DAY 7.

INTRODUCTION:

REVIEW WITH THE STUDENTS THE MATERIAL COVERED AT THE PREVIOUS CLASSES AND GIVE A QUIZ IN THE HOMEROOM.

DISTRIBUTE COPIES OF:

QUIZ #6 (G5.D07.Q6.SC) (DUE DAY 7)
STUDENT HANDOUT #4 (G5.D07.SH4.CC)
STUDENT HANDOUT #5 (G5.D07.SH5.DD)

PRESENTATION:

THE STUDENTS WILL FIND A DISK AT THEIR ASSIGNED STATIONS. THE TEACHER SHOULD GUIDE THE STUDENTS THROUGH THE USE OF A DISK DRIVE. HAVE THE STUDENTS PROPERLY PLACE THE DISK INTO THE DISK DRIVE AND USE THE LOAD COMMAND TO TRANSFER A COPY OF A PROGRAM FROM DISK TO THE COMPUTER'S MEMORY. HAVE THE STUDENTS EXECUTE THE PROGRAM. WHEN THE PROGRAM IS DONE, CLEAR MEMORY.

DISTRIBUTE COPIES OF:

*WORKSHEET #6 (G5.D06.W6.SC)
WORKSHEET #6 (G5.D06.W6.SC2)


THE STUDENTS SHOULD BE ABLE TO ENTER THE PROGRAM FROM THE GRAPHICS. IT MIGHT BE HELPFUL TO GIVE THE STUDENTS THE GRAPHICS WORKSHEET A DAY EARLIER, SO THEY COULD WRITE OUT THE PROGRAM AS HOMEWORK. THE GRAPHICS PICTURE FOR A SPECIFIC WORKSHEET ALWAYS HAS THE CODE "SC2" FOR THE STUDENT'S COPY AND "TC2" FOR THE TEACHER'S COPY. WHEN THE STUDENTS CORRECTLY COMPLETE THE WORKSHEET OR RUN OUT OF TIME, SHOW THE STUDENTS HOW TO SAVE THE PROGRAM.

G5.D06.LP.TC
GRADE 5 - DAY 6
COMPUTER LITERACY
TEACHER'S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:
REVIEW THE MATERIAL DISCUSSED DURING THE COURSE AND REMIND THE STUDENTS TO
STUDY ALL MATERIAL IN PREPARATION FOR A FINAL TEST ON DAY TEN.
REMINd THE STUDENTS THAT THEIR MAJOR GRAPHICS PICTURE SHOULD BE DONE AND THE
STUDENTS SHOULD BE WORKING ON THEIR MAJOR GRAPHICS PROGRAM BECAUSE THE TWO
ITEMS ARE DUE ON DAY 10.

STUDENT INVOLVEMENT:
THE STUDENTS WILL BE WORKING INDEPENDENTLY ON A QUIZ.
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:
THE STUDENTS' QUIZZES WILL BE EVALUATED GIVING ONE POINT FOR EACH CORRECT
ANSWER.
THE STUDENTS' PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON
THE BASIS OF TEN POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:
IF THE STUDENTS FINISH WITH WORKSHEET #6, THE STUDENTS SHOULD BEGIN WRITING OUT
THE PROGRAM FOR THEIR MAJOR GRAPHICS PICTURE AND FINISH THE PROGRAM AS
HOMEWORK. THE STUDENTS SHOULD NOT ATTEMPT TO ENTER THIS PROGRAM UNTIL THEY
HAVE THE FIRST PAGE OF STUDENT HANDOUT #3 DONE AND THE TEACHER HAS CHECKED IT.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.

G5.D06.LP.TC
1. WRITE A PROGRAM TO PRINT YOUR NAME AND ADDRESS 10 SPACES TO THE RIGHT ON THE SCREEN.

10

20

30

40

50

60

2. ADD A LINE TO PRINT YOUR PHONE NUMBER UNDER YOUR ADDRESS.

55

3. ADD LINES TO PRINT A BLANK LINE BETWEEN THE LINES OF THE MESSAGE.

35

45

52

4. MODIFY LINE 30 TO MOVE THE MESSAGE DOWN 5 LINES.

30

G5.D06.Q5.SC
1. WRITE A PROGRAM TO PRINT YOUR NAME AND ADDRESS 10 SPACES TO THE RIGHT ON THE SCREEN.

   10 REM NAME AND ADDRESS PROGRAM
   
   20 PRINT "<SHIFT/CLR-HOME>"
   
   30 PRINT TAB(10) "<FIRST AND LAST NAME>"
   
   40 PRINT TAB(10) "<STREET ADDRESS>"
   
   50 PRINT TAB(10) "<CITY, STATE ZIPCODE>"
   
   60 END

2. ADD A LINE TO PRINT YOUR PHONE NUMBER UNDER YOUR ADDRESS.

   55 PRINT TAB(10) "<PHONE NUMBER>"

3. ADD LINES TO PRINT A BLANK LINE BETWEEN THE LINES OF THE MESSAGE.

   35 PRINT
   
   45 PRINT
   
   52 PRINT

4. MODIFY LINE 30 TO MOVE THE MESSAGE DOWN 5 LINES.

   30 PRINT TAB(10) "QQQQQ<FIRST AND LAST NAME>"
INSTRUCTIONS: FILL-IN THE BLANKS WITH THE CORRECT ANSWER/RESPONSE.

1. ________ - PART OF THE PROGRAM TELLING THE COMPUTER TO DO SOMETHING OVER AND OVER.

2. ________ - COMMAND TELLING THE COMPUTER TO GO DIRECTLY TO A CERTAIN LINE OF THE PROGRAM.

3. ________ - PART OF THE PROGRAM WHICH COUNTS THE NUMBER OF TIMES SOMETHING IS DONE.

4. ________ - COMMAND TO EVALUATE PROGRAM AND TAKE GIVEN ACTION.

10 REM USING GOTO
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "THIS LINE WILL RUN FOREVER"

5. 40 ________ 30
50 END

10 REM USING A COUNTER
20 PRINT "<SHIFT/CLR-HOME>"
6. 25 ________ +
30 PRINT C

7. 40 ________ 25
50 END

10 REM USING IF-THEN WITH A COUNTER
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "IF-THEN TELLS YOU HOW MANY TIMES TO REPEAT"
8. 35 ________ +
9. 40 ________ C < 5 ________ ________ ________ 30
50 END

G5.DO6.Q8.SC
INSTRUCTIONS: FILL-IN THE BLANKS WITH THE CORRECT ANSWER/RESPONSE.

1. **LOOP** - PART OF THE PROGRAM TELLING THE COMPUTER TO DO SOMETHING OVER AND OVER.

2. **GOTO** - COMMAND TELLING THE COMPUTER TO GO DIRECTLY TO A CERTAIN LINE OF THE PROGRAM.

3. **COUNTER** - PART OF THE PROGRAM WHICH COUNTS THE NUMBER OF TIMES SOMETHING IS DONE.

4. **IF - THEN** - COMMAND TO EVALUATE PROGRAM AND TAKE GIVEN ACTION.

```
10 REM USING GOTO
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "THIS LINE WILL RUN FOREVER"
5. 40 **GOTO** 30
50 END

10 REM USING A COUNTER
20 PRINT "<SHIFT/CLR-HOME>"
6. 25 C = C + 1
30 PRINT C
7. 40 *GOTO* 25
50 END

10 REM USING IF-THEN WITH A COUNTER
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "IF-THEN TELLS YOU HOW MANY TIMES TO REPEAT"
8. 35 C = C + 1
9. 40 **IF** C < 5 **THEN** **GOTO** 30
50 END
```

G5.D06.Q6.TC
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<th>NUMBER</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
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<td>0</td>
<td>BLACK</td>
</tr>
<tr>
<td>1</td>
<td>WHITE</td>
</tr>
<tr>
<td>2</td>
<td>RED</td>
</tr>
<tr>
<td>3</td>
<td>CYAN (DARK BLUE)</td>
</tr>
<tr>
<td>4</td>
<td>PURPLE</td>
</tr>
<tr>
<td>5</td>
<td>GREEN</td>
</tr>
<tr>
<td>6</td>
<td>BLUE</td>
</tr>
<tr>
<td>7</td>
<td>YELLOW</td>
</tr>
<tr>
<td>8</td>
<td>ORANGE</td>
</tr>
<tr>
<td>9</td>
<td>BROWN</td>
</tr>
<tr>
<td>10</td>
<td>LT. RED</td>
</tr>
<tr>
<td>11</td>
<td>GRAY # 1</td>
</tr>
<tr>
<td>12</td>
<td>GRAY # 2</td>
</tr>
<tr>
<td>13</td>
<td>LT. GREEN</td>
</tr>
<tr>
<td>14</td>
<td>LT. BLUE</td>
</tr>
<tr>
<td>15</td>
<td>GRAY # 3</td>
</tr>
</tbody>
</table>
ENTER THE FOLLOWING PROGRAM:

```
10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,8 : POKE 53281,8
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
```

ENTER "RUN" AFTER COMPLETING EACH OF THE FOLLOWING LINES OF PROGRAMMING:

```
60 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
70 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
80 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
90 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
100 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
110 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
120 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
130 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
140 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
150 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
160 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
170 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
180 END
```

G5.D06.W6.SC
ENTER THE FOLLOWING PROGRAM:

10 REM <HELLO_PROGRAM>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,8 : POKE 53281,8
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X

ENTER "RUN" AFTER COMPLETING EACH OF THE FOLLOWING LINES OF PROGRAMMING:

60 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
70 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
80 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
90 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
100 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
110 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
120 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
130 PRINT "<C9><C1><15 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>"
140 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
150 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
160 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
170 PRINT "<C9><C1><5 SPACES><C0><5 SPACES><C9><C1><5 SPACES><C0>
<5 SPACES><C9><C1><5 SPACES><C0>"
180 END

LINES 60 THROUGH 90 AND 140 THROUGH 170 ARE ALL THE SAME AND CAN BE COPIED
INSTEAD OF ENTERED IN INDIVIDUALLY. THE SAME IS TRUE FOR LINES 100 THROUGH
130. TO COPY A LINE, ENTER THE LINE THE FIRST TIME, THEN CHANGE THE LINE
NUMBER AND PRESS THE RETURN KEY.
GRADE 5 - DAY 7
COMPUTER LITERACY
TEACHER’S LESSON PLAN

INSTRUCTIONAL AIDS:

TOOLS, EQUIPMENT AND MATERIALS:

COPIES OF THE NECESSARY HANDBIDS
CHALK, ERASER AND PENCILS
6 DISKS (6 FOR THE STUDENTS)

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

OBJECTIVE FOR THE DAY:

THE STUDENTS WILL USE THE SAVE & REPLACE COMMAND AND THE "VERIFY" COMMAND. THE
STUDENTS WILL WORK ON SAMPLE GRAPHICS PROGRAM, CONTINUE WRITING THEIR OWN
GRAPHICS PROGRAMS AND BE PREPARED FOR A TEST ON DAY 10.

INTRODUCTION:

COLLECT FROM THE STUDENTS:

QUIZ #6 (G5.D06.Q6.SC) (DUE DAY 7)

MOVE THE CLASS TO THE COMPUTER ROOM AND PROCEED WITH THE LESSON FOR THE DAY.

PRESENTATION:

THE STUDENTS WILL FIND A DISK AT THEIR ASSIGNED STATIONS. HAVE THE STUDENTS
PROPERLY PLACE THE DISK INTO THE DISK DRIVE AND USE THE LOAD COMMAND TO
TRANSFER A COPY OF YESTERDAY'S PROGRAM FROM DISK TO THE COMPUTER'S MEMORY. HAVE
THE STUDENTS EXECUTE THE PROGRAM. IF THE PROGRAM IS NOT COMPLETE, THE STUDENTS
SHOULD FINISH THE PROGRAM AND SAVE THE PROGRAM USING THE SAVE AND REPLACE
COMMAND AND VERIFY COMMAND. IF THE PROGRAM IS COMPLETELY DONE, CLEAR MEMORY.

DISTRIBUTE COPIES OF:

*WORKSHEET #7 (G5.D07.W7.SC)
WORKSHEET #7 (G5.D07.W7.SC2)

ALL FUTURE SCHOOL YEARS, GIVE THE STUDENTS ONLY A COPY OF THE GRAPHICS.

THE STUDENTS SHOULD BE ABLE TO ENTER THE PROGRAM FROM THE GRAPHICS. IT MIGHT
BE HELPFUL TO GIVE THE STUDENTS THE GRAPHICS WORKSHEET A DAY EARLIER, SO THEY
COULD WRITE OUT THE PROGRAM AS HOMEWORK. THE GRAPHICS PICTURE FOR A SPECIFIC
WORKSHEET ALWAYS HAS THE CODE "SC2" FOR THE STUDENT'S COPY AND "TC2" FOR THE
TEACHER'S COPY. WHEN THE STUDENTS CORRECTLY COMPLETE THE WORKSHEET OR RUN OUT
OF TIME, HAVE THE STUDENTS SAVE THE PROGRAM.

G5.D07.LP.TC
REVIEW THE MATERIAL DISCUSSED DURING THE COURSE AND REMIND THE STUDENTS TO STUDY ALL MATERIAL IN PREPARATION FOR A FINAL TEST ON DAY TEN. REMIND THE STUDENTS THAT THEIR MAJOR GRAPHICS PICTURE SHOULD BE DONE AND THE STUDENTS SHOULD BE WORKING ON THEIR MAJOR GRAPHICS PROGRAM BECAUSE THE TWO ITEMS ARE DUE ON DAY 10.

STUDENT INVOLVEMENT:
THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER. THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:
THE STUDENTS’ QUIZZES WILL BE EVALUATED GIVING ONE POINT FOR EACH CORRECT ANSWER. THE STUDENTS’ PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON THE BASIS OF TEN POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:
IF THE STUDENTS FINISH WITH WORKSHEET #7, THE STUDENTS SHOULD BEGIN WRITING OUT THE PROGRAM FOR THEIR MAJOR GRAPHICS PICTURE AND FINISH THE PROGRAM AS HOMEWORK. THE STUDENTS SHOULD NOT ATTEMPT TO ENTER THIS PROGRAM UNTIL THEY HAVE THE FIRST PAGE OF STUDENT HANDOUT #3 DONE AND THE TEACHER HAS CHECKED IT.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
ENTER THE FOLLOWING PROGRAM:

10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,6:POKE 53281,6
30 FOR X = 1 TO 8
40 PRINT
50 NEXT X
60 PRINT "<17 SP><C9><C1><8 SP><CO>"
70 PRINT "<17 SP><C9><C1><8 SP><CO>"
80 PRINT "<15 SP><C9><C1><12 SP><CO>"
90 FOR Y = 1 TO 6
100 PRINT "<16 SP><C9><C2><10 SP><CO>"
110 NEXT Y
120 END

MODIFY THE ABOVE PROGRAM TO ADD SOMETHING TO THE CENTER AREA OF THE GRAPHICS PICTURE. USE THE CODES <C9> FOR <RVS ON>, <CO> FOR <RVS OFF>, <C1> FOR <BLACK> AND <C2> FOR <WHITE>. BELOW IS THE BASIC FORMAT THAT YOU SHOULD USE WHENEVER YOU WRITE A GRAPHICS PROGRAM.

90 PRINT "< SP><C ><C >< SP><C >"
100 PRINT "< SP><C ><C >< SP><C >< SP><C >< SP>"
110 PRINT "< SP><C ><C >< SP><C >< SP><C >< SP><C >< SP><C >"
120 PRINT "< SP><C ><C >< SP><C >< SP><C >< SP><C >< SP><C >"
130 PRINT "< SP><C ><C >< SP><C >< SP><C >< SP><C >< SP><C >"
140 PRINT "< SP><C ><C >< SP><C >< SP><C >"
150 END

G5.D07.W7.SC
ENTER THE FOLLOWING PROGRAM:

```
10 REM <CLOWN PROGRAM WITHOUT A FACE>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,6 : POKE 53281,6
30 FOR X = 1 TO 8
40 PRINT
50 NEXT X
60 PRINT "<17 SP><C9><C1><8 SP><C0>"
70 PRINT "<17 SP><C9><C1><8 SP><C0>"
80 PRINT "<15 SP><C9><C1><12 SP><C0>"
90 FOR Y = 1 TO 6
100 PRINT "<16 SP><C9><C2><10 SP><C0>"
110 NEXT Y
120 END
```

MODIFY THE ABOVE PROGRAM TO ADD SOMETHING TO THE CENTER AREA OF THE GRAPHICS PICTURE. USE THE CODES <C9> FOR <RVS ON>, <C0> FOR <RVS OFF>, <C1> FOR <BLACK> AND <C2> FOR <WHITE>. BELOW IS THE BASIC FORMAT THAT YOU SHOULD USE WHENEVER YOU WRITE A GRAPHICS PROGRAM.

```
90 PRINT "<16 SP><C9><C2><10 SP><C0>"
100 PRINT "<16 SP><C9><C2><1 SP><C1><2 SP><C2><4 SP><C1><2 SP>
\<C2><1 SP><C0>"
110 PRINT "<16 SP><C9><C2><4 SP><C1><2 SP><C2><4 SP><C0>"
120 PRINT "<16 SP><C9><C2><2 SP><C1><1 SP><C2><4 SP><C1><1 SP>
\<C2><2 SP><C0>"
130 PRINT "<16 SP><C9><C2><3 SP><C1><4 SP><C2><3 SP><C0>"
140 PRINT "<16 SP><C9><C2><10 SP><C0>"
150 END
```

COPY LINE 100 FROM PROGRAM PROVIDED TO LINE 90 OF MODIFICATIONS
DELETE LINES 100 - 120 (OPTIONAL)
ADD LINES 100 - 150

G5.D07.W7.TC
## Lesson Plan

**Objective for the Day:**

The students will work on sample graphics program, continue writing their own graphics programs and be prepared for a test on Day 10.

### Introduction:

Move the class to the computer room and proceed with the lesson for the day.

### Presentation:

The students will find a disk at their assigned stations. Have the students properly place the disk into the disk drive and use the load command to transfer a copy of yesterday’s program from disk to the computer’s memory. Have the students execute the program. If the program is not complete, the students should finish the program and save the program using the save and replace command and verify command. If the program is completely done, clear memory.

Distribute copies of:

- *Worksheet #8 (G5.D08.W8.SC)
- Worksheet #8 (G5.D08.W8.SC2)

*For the 1987-1988 school year, give the students a copy of the program. All future school years, give the students only a copy of the graphics.*

The students should be able to enter the program from the graphics. It might be helpful to give the students the graphics worksheet a day earlier, so they could write out the program as homework. The graphics picture for a specific worksheet always has the code "SC2" for the student's copy and "TC2" for the teacher’s copy. When the students correctly complete the worksheet or run out of time, have the students save the program.

G5.D08.LP.TC
GRADE 5 - DAY 8
COMPUTER LITERACY
TEACHER’S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:

REVIEW THE MATERIAL DISCUSSED DURING THE COURSE AND REMIND THE STUDENTS TO
STUDY ALL MATERIAL IN PREPARATION FOR A FINAL TEST ON DAY TEN.
REMINDS THE STUDENTS THAT THEIR MAJOR GRAPHICS PICTURE SHOULD BE DONE AND THE
STUDENTS SHOULD BE WORKING ON THEIR MAJOR GRAPHICS PROGRAM BECAUSE THE TWO
ITEMS ARE DUE ON DAY 10.

STUDENT INVOLVEMENT:

THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
THE STUDENTS WILL WORK TOWARD CORRECTLY COMPLETING A WORKSHEET.

STUDENT EVALUATION:

THE STUDENTS’ PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON
THE BASIS OF TEN POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:

IF THE STUDENTS FINISH WITH WORKSHEET #8, THE STUDENTS SHOULD BEGIN WRITING OUT
THE PROGRAM FOR THEIR MAJOR GRAPHICS PICTURE AND FINISH THE PROGRAM AS
HOMEWORK. THE STUDENTS SHOULD NOT ATTEMPT TO ENTER THIS PROGRAM UNTIL THEY
HAVE THE FIRST PAGE OF STUDENT HANDOUT #3 DONE AND THE TEACHER HAS CHECKED IT.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
ENTER THE FOLLOWING PROGRAM:

10 REM <PROGRAM_NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,6 : POKE 53281,6
30 FOR X = 1 TO 7
40 PRINT
50 NEXT X
60 PRINT "<15 SP><C9><C1><1 SP><C7><3 SP><C1><1 SP><C0>"
70 FOR X = 1 TO 4
80 PRINT "<15 SP><C9><C1><5 SP><C0>"
90 NEXT X
95 PRINT "<16 SP><C9><C1><12 SP><C0>"
100 FOR X = 1 TO 3
110 PRINT "<16 SP><C9><C1><10 SP><C0>"
120 NEXT X
130 PRINT "<17 SP><C9><C1><1 SP><C7><1 SP><C1><1 SP><C7><3 SP><C1> <1 SP><C7><1 SP><C1><1 SP><C0>"
140 PRINT "<17 SP><C9><C1><1 SP><C7><1 SP><C1><1 SP><C7><3 SP><C1> <1 SP><C7><1 SP><C1><1 SP><C0>"
150 PRINT "<16 SP><C9><C1><4 SP><C7><2 SP><C1><4 SP><C0>"
160 END
ENTER THE FOLLOWING PROGRAM:

10 REM "<PUPPY DOG>

15 REM "<YOUR NAME AND SECTION>

20 PRINT "<SHIFT/CLR-HOME>

25 POKE 53280,6 : POKE 53281,6

30 FOR X = 1 TO 7

40 PRINT

50 NEXT X

60 PRINT "<15 SP><C9><C1><1 SP><C7><3 SP><C1><1 SP><C0>"

70 FOR X = 1 TO 4

80 PRINT "<15 SP><C9><C1><5 SP><C0>

90 NEXT X

95 PRINT "<16 SP><C9><C1><12 SP><C0>"

100 FOR X = 1 TO 3

110 PRINT "<16 SP><C9><C1><10 SP><C0>"

120 NEXT X

130 PRINT "<17 SP><C9><C1><1 SP><C7><1 SP><C1><1 SP><C7><3 SP><C1><1 SP><C7><1 SP><C1><1 SP><C0>"

140 PRINT "<17 SP><C9><C1><1 SP><C7><1 SP><C1><1 SP><C7><3 SP><C1><1 SP><C7><1 SP><C1><1 SP><C0>"

150 PRINT "<16 SP><C9><C1><4 SP><C7><2 SP><C1><4 SP><C0>"

160 END

G5.DO8.W8.TC
# LESSON PLAN

## GRADE 5 - DAY 9
COMPUTER LITERACY
TEACHER'S LESSON PLAN

<table>
<thead>
<tr>
<th>INSTRUCTIONAL AIDS:</th>
<th>TOOLS, EQUIPMENT AND MATERIALS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPIES OF THE NECESSARY HANOUTS</td>
<td>CHALK, ERASER AND PENCILS</td>
</tr>
<tr>
<td></td>
<td>6 DISKS (6 FOR THE STUDENTS)</td>
</tr>
</tbody>
</table>

| OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT, STUDENT EVALUATION, ADDITIONAL TOPIC |

**OBJECTIVE FOR THE DAY:**

The students will finish writing their own graphics programs, work on sample graphics program and be prepared for a test on Day 10.

**INTRODUCTION:**

Move the class to the computer room and proceed with the lesson for the day.

**PRESENTATION:**

The students will find a disk at their assigned stations. Have the students properly place the disk into the disk drive and use the Load Command to transfer a copy of yesterday's program from disk to the computer's memory. Have the students execute the program. If the program is not complete, the students should finish the program and save the program using the Save and Replace Command and verify command. If the program is completely done, clear memory.

If the students have finished worksheet #8, the students should begin writing out the program for their major graphics picture and finish the program as homework. The students should not attempt to enter this program until they have the first page of student handout #3 done and the teacher has checked it.
LESSON PLAN
CONTINUED
PAGE 2

GRADE 5 - DAY 9
COMPUTER LITERACY
TEACHER'S LESSON PLAN

OBJECTIVE, INTRODUCTION, PRESENTATION, SUMMARY, STUDENT INVOLVEMENT,
STUDENT EVALUATION, ADDITIONAL TOPIC

SUMMARY:

REVIEW THE MATERIAL DISCUSSED DURING THE COURSE AND REMIND THE STUDENTS TO
STUDY ALL MATERIAL IN PREPARATION FOR A FINAL TEST ON DAY TEN.
REMIND THE STUDENTS THAT THEIR MAJOR GRAPHICS PICTURE SHOULD BE DONE AND THE
STUDENTS SHOULD BE WORKING ON THEIR MAJOR GRAPHICS PROGRAM BECAUSE THE TWO
ITEMS ARE DUE ON DAY 10.

STUDENT INVOLVEMENT:

THE STUDENTS WILL BE WORKING ON A COMMODORE WITH A PARTNER.
The students will work toward correctly completing a worksheet.

STUDENT EVALUATION:

THE STUDENTS’ PROGRESS ON THE WORKSHEETS SHOULD BE EVALUATED AND RECORDED ON
THE BASIS OF TEN POINTS FOR A CORRECTLY COMPLETED WORKSHEET.

ADDITIONAL TOPIC:

IF THE STUDENTS HAVE THEIR MAJOR GRAPHICS PICTURE AND PROGRAM DONE,
DISTRIBUTE COPIES OF:

*WORKSHEET #9 (G5.D09.W9.SC)
WORKSHEET #9 (G5.D09.W9.SC2)

ALL FUTURE SCHOOL YEARS, GIVE THE STUDENTS ONLY A COPY OF THE GRAPHICS.

THE STUDENTS SHOULD BE ABLE TO ENTER THE PROGRAM FROM THE GRAPHICS. IT MIGHT
BE HELPFUL TO GIVE THE STUDENTS THE GRAPHICS WORKSHEET A DAY EARLIER, SO THEY
COULD WRITE OUT THE PROGRAM AS HOMEWORK. THE GRAPHICS PICTURE FOR A SPECIFIC
WORKSHEET ALWAYS HAS THE CODE "SC2" FOR THE STUDENT’S COPY AND "TC2" FOR THE
TEACHER’S COPY. WHEN THE STUDENTS CORRECTLY COMPLETE THE WORKSHEET OR RUN OUT
OF TIME, HAVE THE STUDENTS SAVE THE PROGRAM.

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
G5.D09.LP.TC
ENTER THE FOLLOWING PROGRAM:

10 REM ________ <PROGRAM NAME>________
15 REM ________ <YOUR NAME AND SECTION> _______
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<C9><C7><4 SP><C3><1 SP><C7><5 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C0>"
70 PRINT "<C9><C7><1 SP><C3><4 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><4 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"
80 PRINT "<C9><C7><3 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><4 SP><C3><2 SP><C7><1 SP><C3><4 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"
90 PRINT "<C9><C7><1 SP><C3><3 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><4 SP><C7><1 SP><C3><5 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"
100 PRINT "<C9><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><4 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"
110 END
ENTER THE FOLLOWING PROGRAM:

10 REM <PROGRAM NAME>

15 REM <YOUR NAME AND SECTION>

20 PRINT "<SHIFT/CLR-HOHE>"

25 POKE 53280,2 : POKE 53281,2

30 FOR X = 1 TO 4

40 PRINT

50 NEXT X

60 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
<1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7>
<4 SP><C3><1 SP><C7><5 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>
<1 SP><C7><4 SP><C0>"

70 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
<1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7>
<3 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7>
<1 SP><C7><1 SP><C0>"

80 PRINT "<C9><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><4 SP><C3>
<1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
<4 SP><C3><3 SP><C7><1 SP><C3><3 SP><C7><4 SP><C3><1 SP><C7><4 SP><C0>"

90 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
<1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>
<3 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7>
<1 SP><C3><2 SP><C7><1 SP><C0>"

100 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
<1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><5 SP><C7><1 SP><C3>
<1 SP><C7><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
<2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C0>"

110 END
ENTER THE FOLLOWING PROGRAM:

```
10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2: POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
61 PRINT "<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
62 PRINT "<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
63 PRINT "<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
64 PRINT "<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
65 PRINT "<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
66 PRINT "<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
67 PRINT "<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
68 PRINT "<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
69 PRINT "<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>"
70 END
```

G5.D09.W9.SC.I
ENTER THE FOLLOWING PROGRAM:

```
10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><3 SP><C3>
   <1 SP><C7><5 SP><C3><1 SP><C7><3 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7>
   <1 SP><C3><1 SP><C7><3 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C0>
   "
70 PRINT "<C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>
   <1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><2 SP><C3><2 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C0>
   "
80 PRINT "<C9><C7><2 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
   <2 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
   <1 SP><C7><3 SP><C3><1 SP><C7><2 SP><C3><5 SP><C7><1 SP><C0>
   "
90 PRINT "<C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3>
   <1 SP><C3><3 SP><C7><1 SP><C3><2 SP><C7><2 SP><C3><3 SP><C7><1 SP><C3>
   <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><4 SP><C7><1 SP><C0>
   "
100 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><3 SP><C3>
   <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><3 SP><C3>
   <1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><3 SP><C3><1 SP><C7>
   <2 SP><C7><1 SP><C3><3 SP><C7><1 SP><C0>
   "
110 END
```

ENTER THE FOLLOWING PROGRAM:

10 REM <PROGRAM NAME>
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<C9><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>
<1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>
<1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7>
<4 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7>
<1 SP><C7><2 SP><C7><1 SP><C3><1 SP><C7><2 SP><C7><1 SP><C3>
<2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"

70 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
<4 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
<1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>
<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7>
<4 SP><C7><2 SP><C7><1 SP><C3><1 SP><C7><2 SP><C7><1 SP><C3>
<2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"

80 PRINT "<C9><C7><4 SP><C3><1 SP><C7><3 SP><C3><2 SP><C7><4 SP><C3>
<1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>
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<1 SP><C7><2 SP><C7><1 SP><C3><1 SP><C7><2 SP><C7><1 SP><C3>
"110 END
ENTER THE FOLLOWING PROGRAM:

10 REM EMERSON SCHOOL PROGRAM
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<C9><C7><4 SP><C3><1 SP><C7><5 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7>
1 SP><C3><3 SP><C7><1 SP><C0>"
70 PRINT "<C9><C7><1 SP><C3><4 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><4 SP><C7><1 SP><C3><1 SP><C7><2 SP><C3><2 SP><C7>
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1 SP><C7><2 SP><C3><2 SP><C7><1 SP><C0>"
80 PRINT "<C9><C7><3 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
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90 PRINT "<C9><C7><1 SP><C3><3 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
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100 PRINT "<C9><C7><4 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
1 SP><C7><2 SP><C3><2 SP><C7><1 SP><C0>"
110 END

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EMERSON
ENTER THE FOLLOWING PROGRAM:

10 REM HIAWATHA SCHOOL PROGRAM
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
   "<1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7>"
   "<4 SP><C3><1 SP><C7><5 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>"
   "<1 SP><C7><4 SP><C0>"
70 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
   "<1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7>"
   "<1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3>"
   "<3 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7>"
   "<1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><4 SP><C0>"
80 PRINT "<C9><C7><4 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
   "<1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7>"
   "<4 SP><C3><3 SP><C7><1 SP><C3><3 SP><C7><4 SP><C3><1 SP><C7><4 SP><C0>"
90 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
   "<1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7>"
   "<1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3>"
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   "<1 SP><C3><2 SP><C7><1 SP><C0>"
100 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
   "<1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><5 SP><C7>"
   "<1 SP><C3><2 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>"
   "<2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C0>"
110 END
HIPHOP
ENTER THE FOLLOWING PROGRAM:

10 REM _______ IRVING SCHOOL PROGRAM
15 REM _______ <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><1SP><C3> <3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7> <1 SP><C3><1 SP><C7><4 SP><C0>"
70 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1SP><C3> <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7> <2 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C0>"
80 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1SP><C3> <1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7> <1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C0>"
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100 PRINT "<1 SP><C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1SP><C3> <3 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7> <1 SP><C3><1 SP><C7><4 SP><C0>"
110 END
ENTER THE FOLLOWING PROGRAM:

10 REM KOMENSKY SCHOOL PROGRAM
15 REM <YOUR NAME AND SECTION>
20 PRINT "<SHIFT/CLR-HOME>"
25 POKE 53280,2 : POKE 53281,2
30 FOR X = 1 TO 4
40 PRINT
50 NEXT X
60 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><3 SP><C3>
    <1 SP><C7><5 SP><C3><1 SP><C7><3 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7>
    <1 SP><C3><1 SP><C7><3 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>
    <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"
70 PRINT "<C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>
    <1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><2 SP><C3><2 SP><C7>
    <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"
80 PRINT "<C9><C7><2 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
    <1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><2 SP><C3><2 SP><C7>
    <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C0>"
90 PRINT "<C9><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3>
    <1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><2 SP><C3><2 SP><C7>
    <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C0>"
100 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>
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    <1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C0>"
110 END
ENTER THE FOLLOWING PROGRAM:

10 REM  PERSHING SCHOOL PROGRAM

15 REM  <YOUR NAME AND SECTION>  

20 PRINT "<SHIFT/CLR-HOME>"

25 POKE 53280,2 : POKE 53281,2

30 FOR X = 1 TO 4

40 PRINT

50 NEXT X

60 PRINT "<C9><C7><4 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><4 SP><C3>  
"<1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7>  
"<1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C3><1 SP><C7><4 SP><C0>"

70 PRINT "<C9><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3>  
"<4 SP><C7><1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><4 SP><C7>  
"<1 SP><C3><2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><2 SP><C3>  
"<2 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"

80 PRINT "<C9><C7><4 SP><C3><3 SP><C3><2 SP><C7><4 SP><C3><1 SP><C7>  
"<1 SP><C7><4 SP><C3><1 SP><C7><3 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7>  
"<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C0>"

90 PRINT "<C9><C7><1 SP><C3><4 SP><C7><1 SP><C3><4 SP><C7><1 SP><C3>  
"<1 SP><C7><1 SP><C3><5 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7>  
"<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7><2 SP><C3>  
"<1 SP><C7><1 SP><C3><2 SP><C7><1 SP><C0>"

100 PRINT "<C9><C7><1 SP><C3><4 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3>  
"<1 SP><C7><1 SP><C3><1 SP><C7><4 SP><C3><1 SP><C7><1 SP><C3><2 SP><C7>  
"<1 SP><C3><1 SP><C7><1 SP><C3><1 SP><C7><1 SP><C3><3 SP><C7><1 SP><C0>"

110 END
OBJECTIVE FOR THE DAY:

INTRODUCTION:

REVIEW WITH THE STUDENTS THE MATERIAL COVERED AT THE PREVIOUS CLASSES AND GIVE A TEST IN THE HOME ROOM.

PRESENTATION:

DISTRIBUTE COPIES OF:

TEST #1 (G5.D010.T1.SC)

ADMINISTER THE TEST.

INSTRUCTIONS FOR THE MATCHING SECTION:
"THERE ARE 12 DEFINITIONS AND 12 WORDS. WRITE THE LETTER A - L ON THE LINE NEXT TO THE CORRECT DEFINITION. EACH LINE IS WORTH ONE POINT."

INSTRUCTIONS FOR THE TRUE AND FALSE SECTION:
"THERE ARE 7 TRUE OR FALSE QUESTIONS. WRITE A "T" OR A "F" ON THE LINE NEXT TO THE PROBLEM NUMBER. EACH LINE IS WORTH ONE POINT."

INSTRUCTIONS FOR PAGE TWO OF THE TEST:
"THE FIRST PROGRAM HAS SIX LINES OF PROGRAMMING. EACH LINE IS WORTH ONE POINT. COMPLETE THE LINES WITH THE PROPER PROGRAMMING. PROBLEMS B, C AND D ARE EACH WORTH ONE POINT. THE SECOND PROGRAM HAS TWO LINES OF PROGRAMMING. COMPLETE THE LINES WITH THE PROPER PROGRAMMING. EACH LINE IS WORTH ONE POINT."

COLLECT FROM THE STUDENTS:

MAJOR GRAPHICS PICTURE

MAJOR GRAPHICS PROGRAM

G5.D10.LP.TC
IF THERE IS TIME AVAILABLE, YOU COULD DISCUSS THE QUESTIONS THAT WERE ON TODAY'S TEST.

STUDENT INVOLVEMENT:

THE STUDENTS WILL BE WORKING INDEPENDENTLY ON A TEST.

STUDENT EVALUATION:

THE STUDENTS' TESTS WILL BE EVALUATED GIVING THE APPROPRIATE POINT VALUE FOR EACH CORRECT ANSWER.
THE STUDENTS' MAJOR GRAPHICS PICTURE WILL BE EVALUATED GIVING 24 POINTS FOR A COMPLETED PICTURE.
THE STUDENTS' MAJOR GRAPHICS PROGRAM WILL BE EVALUATED GIVING 26 POINTS FOR A CORRECTLY COMPLETED PROGRAM.

ADDITIONAL TOPIC:

CHECK THAT ALL COMPUTERS, MONITORS AND DISK DRIVES ARE TURNED OFF.
MATCHING:

1. COMMAND THAT ERASES THE PROGRAM CURRENTLY IN MEMORY.  A. SHIFT/CLR-HOME
2. COMMAND THAT DISPLAYS CHARACTERS IN THE OUTPUT OF A PROGRAM.  B. PROGRAM
3. THE COMPUTER LANGUAGE USED IN THIS CLASS.  C. LIST
4. COMMAND THAT EXECUTES THE PROGRAM CURRENTLY IN MEMORY.  D. NEW
5. A T.V.-LIKE UNIT CONNECTED TO THE COMPUTER.  E. CURSOR
6. CLEAR THE SCREEN AND SENDS THE CURSOR TO THE UPPER LEFT CORNER OF THE MONITOR.  F. REM
7. COMMAND THAT DISPLAYS THE PROGRAM IN MEMORY ON THE SCREEN.  G. RETURN
8. BLINKING BOX THAT SHOWS WHERE YOU ARE WORKING ON THE SCREEN.  H. MONITOR
9. KEY PRESSED TO ENTER INFORMATION INTO THE COMPUTER'S MEMORY.  I. SAVE
10. A GROUP OF STATEMENTS COMBINED TOGETHER FOR THE COMPUTER TO FOLLOW.  J. PRINT
11. COMMAND THAT ALLOWS THE WRITER TO PUT REMARKS INTO A PROGRAM WITHOUT CHANGING THE PROGRAM.  K. RUN
12. COMMAND THAT TELLS THE COMPUTER TO MOVE A PROGRAM FROM THE COMPUTER ONTO A DISK.  L. BASIC

TRUE OR FALSE:

1. LINE NUMBERS MUST ALWAYS BE INCREMENTED BY 10'S.  A.
2. WHEN THE COMPUTER IS TURNED OFF, YOUR PROGRAM IS LOST.  B.
3. DEBUGGING IS DONE WHEN A PROGRAM HAS A SYNTAX ERROR.  C.
4. IF YOU CLEAR THE SCREEN, YOUR PROGRAM WILL BE CLEARED FROM THE COMPUTER'S MEMORY.  D.
5. A COMPUTER IS A MACHINE THAT PERFORMS TASKS AT A HIGH SPEED WITH GREAT ACCURACY.  E.
6. THE COMMAND TO TRANSFER A COPY OF YOUR PROGRAM FROM DISK TO THE COMPUTER'S MEMORY IS KNOWN AS LOAD.  F.
7. ALL COMMANDS ARE THE SAME FOR ANY COMPUTER.  G.
WRITING A PROGRAM:

A. WRITE A PROGRAM TO DISPLAY YOUR FULL NAME AND COMPLETE ADDRESS IN THE SCREEN.

```
10 REM ____________________________
20 PRINT __________________________
30 __________________________
40 __________________________
50 __________________________
60 __________________________
```

B. COMMAND YOU WOULD USE TO EXECUTE THIS PROGRAM: __________________________

C. COMMAND THAT WILL DISPLAY THE PROGRAM IN MEMORY ON THE SCREEN: __________

D. COMMAND THAT IS MISSING FROM THIS STATEMENT:

```
30 _________ 53280,14
```

E. LINE 30 AND 40 ARE MISSING. WRITE A LINE OF PROGRAMMING THAT WILL PRODUCE ONLY THE FOLLOWING:

A COLOR BAR FOUR SPACES OF BLACK AND FOUR SPACES OF YELLOW

```
10 REM TEST PROGRAM
20 REM QUESTION IS WORTH 2 POINTS
30 PRINT "_______________________"
40 __________________________
50 END
```

MATCHING:

A. SHIFT/CLR-HOME
B. PROGRAM
C. LIST
D. NEW
E. CURSOR
F. REM
G. RETURN
H. MONITOR
I. SAVE
J. PRINT
K. RUN
L. BASIC

TRUE OR FALSE:

F. 1. Line numbers must always be incremented by 10's.
F. 2. When the computer is turned off, your program is lost.
F. 3. Debugging is done when a program has a syntax error.
F. 4. If you clear the screen, your program will be cleared from the computer's memory.
F. 5. A computer is a machine that performs tasks at a high speed with great accuracy.
F. 6. The command to transfer a copy of your program from disk to the computer's memory is known as LOAD.
F. 7. All commands are the same for any computer.
A. WRITE A PROGRAM TO DISPLAY YOUR FULL NAME AND COMPLETE ADDRESS IN THE SCREEN.

```
10 REM NAME AND ADDRESS PROGRAM
20 PRINT "<SHIFT/CLR-HOME>"
30 PRINT "<FIRST AND LAST NAME>"
40 PRINT "<STREET ADDRESS>"
50 PRINT "<CITY, STATE ZIPCODE>"
60 END
```

B. COMMAND YOU WOULD USE TO EXECUTE THIS PROGRAM: RUN

C. COMMAND THAT WILL DISPLAY THE PROGRAM IN MEMORY ON THE SCREEN: LIST

D. COMMAND THAT IS MISSING FROM THIS STATEMENT:

```
30 POKE 53280,14
```

E. LINE 30 AND 40 ARE MISSING. WRITE A LINE OF PROGRAMMING THAT WILL PRODUCE ONLY THE FOLLOWING:

```
A COLOR BAR FOUR SPACES OF BLACK AND FOUR SPACES OF YELLOW
```

```
10 REM TEST PROGRAM
20 REM QUESTION IS WORTH 2 POINTS
30 PRINT "<SHIFT/CLR-HOME>"
40 PRINT "<C9><C1><4 SP><C8><4 SP><C0>"
50 END
```
CRITIQUE OF OLD CURRICULUM FOR FOURTH GRADE

The old curriculum for Fourth Grade was written with the intention to introduce some of the terms and to have the students master some of the skills used in basic computer programming. This included various activities from learning the names of the different parts of a computer system to using the computer to enter simple graphics programs. The old curriculum for the Fourth Grade was a five day program which consisted of a one page chart which had a row for each day's lesson and columns for: (a) terms for which the definitions were to be taught; (b) commands used in programming a computer which the students were to learn; and (c) activities which the students would perform. This chart was included with the curriculum to give some direction as to the order of the material to be covered. The student handouts which accompanied the chart consisted of nine pages. The handouts were set up for the students to either fill in the blanks or enter programming while reading along with the teacher.

There were no explicit written instruction as to how to share time on the computer operating with two students per computer. In the previous years of
teaching, the former instructor had each student entering his/her own work; this meant that after the first student entered a specific program, the teacher had to go to that computer, approve the work, clear the memory and then have the second student enter the same program. This created a volatile situation with disciplining the students while they were not involved in the activities, and this really slowed the progress of the curriculum.

The first day began with an introduction of the keyboard of the computer. The first handout was a blank version of the keyboard with the instructions, "Color in the 5 rows on keyboard." This instruction was misleading, as it was not intended that the students "color" them. It would have been clearer if the instructions had been, "Write in the correct characters and symbols for each key from the keyboard."

The second page for day one was a handout to guide the students in learning the meanings of the terms computer, cursor and monitor. The definitions for computer and monitor were never given in the handout, and the definition of cursor was not clearly stated. The students were expected to know these terms so they should have been clearly identified by underlining the
terms the students would be responsible to know on a test and should have been clearly defined.

The second half of this page contained an activity to learn the command "CLR/HOME." The students used the handout by reading along with the teacher and typing certain words in on the keyboard. The activity was appropriate but needed clearer instructions and guidance. Also there was some art work on this page, a graphic showing a television being cleaned with an eraser by a walking house with the codes "CTRL" and "CLR" written across the roof. This art work was not consistent with the text; the command being taught used the keys labeled "SHIFT" and "CLR/HOME." There is a key with the code "CTRL" on it, but it was not the key being discussed in this handout.

The last activity for the first day had the students entering some lines of text and turning the computer on and off before and after each line. While the goal was only to demonstrate how to turn the computer on and off (the lines of text entered were irrelevant), this causes unnecessary stress to the computer and is a practice that should be avoided.

Day two started with the definitions of: computer commands, program, line number; and the reserved words:
new, return, print, and run stated at the beginning of the first of two handouts. There were some definitions and instructions to read and a line of programming to enter. The statement was very simple and there could have been a better example. Again, some additional artwork was incorporated at the bottom of the page. The second page for this day, continued with more lines of programming mixed in with a few more definitions and artwork. There were two concepts the students had to master. First, that in order to enter a line of programming the return key has to be pressed after each statement. This was demonstrated by entering a statement that would print the word "HI." The second concept was demonstrated by entering the words "GIVE ME CANDY." The intention of entering this statement was to show that if not done properly, an error message of "?syntax error" would be printed on the screen. Day two ended with entering a couple of programs. These programs resulted in output of cute phrases that really did not relate to the task at hand. It would have made the programs more relevant if it had emphasized the important differences between a statement and a program.

The third and fourth days' handouts consisted of a
total of three pages of programs with four definitions which were written at the beginning of the day three handout. In completing these handouts, students had nine programs to enter. There was very little instruction given to the students with these programs. Day three began with the definitions of each of the basic parts of a computer, basic language, list and end. The main concept being emphasized in the handout this day was that, in programming, the order in which you enter the lines of programming is not critical because the computer will read the lines in the sequence of the line numbers assigned and entered with the program. The first program had the students entering nine statements nonsequentially that according to assigned line numbers would spell the word "SPAGHETTI" when listed or executed. The second program dealt with the same concept and when executed, produced the phrase "MARY HAD A LITTLE LAMB." If the students finished early, the handout for day four could be given since it had seven programs, more than enough programs for both day three and day four. The programs for days three and four had a variety of rhymes and entertaining messages as output but did not help keep the students aware of the computer skills that were
supposed to be emphasized by the handout.

There were two pages of extra material related to math and how the computer could be useful in doing calculations. This extra material dealt with teaching the difference between entering a mathematical equation with and without quotation marks, as well as the use of the semi-colon to have the computer give more than one response per line of programming. These two pages were completely inappropriate for Fourth Grade students at the level of mastery indicated by the other handouts; the students were just beginning to comprehend basic programming.

For the fifth and final day there was a test; three versions were provided, none of which were very well made. The first form used matching columns and fill in the blank activities, while the second and third forms used a question and short answer structure along with fill in the blank activities. Additionally, all three tests required the students to write two short programs as the final portion of the test. The definitions used in the tests were not identical to the definitions presented in the handouts. There were very limited instructions on the test itself, and with the lack of lesson plans for the teacher, there was no
guidance as to what was to be considered a passing score.

Generally, the old curriculum for Fourth Grade was very vague as to how it was to be used. The student handouts did not have any consistent titles or page numbers to indicate the intended order of completion. There were no suggestions as to how to score or grade the students' work either in the classroom activities or on the test. There were no written objectives included in the curriculum. With a majority of the materials on which the students worked being graded subjectively, the evaluating was made much more difficult.

The major problems with the format of this old curriculum were the lack of instructions for the teacher and the students to read before entering information into the computer, the need for guidance as to what the entering of a program was supposed to be teaching the student, and how the student would know if the output of the program was correct. There was also no provision on the handouts reminding the student to have the teacher check the work before continuing. All of these factors made the old curriculum very difficult for the teacher as well as the students.
RATIONALE OF NEW CURRICULUM FOR FOURTH GRADE

The new curriculum for Fourth Grade contains all the materials needed by the teacher and the students for the ten day course teaching beginning programming in Basic on a Commodore Computer.

One of the main improvements that this curriculum has is the medium on which the written material is stored. The entire curriculum is stored on data disks for AppleWorks, since most school districts use Apple Computers. This gives the district a clear and defined curriculum that is stored on a medium that is easy to access and reproduce and can accept modification to keep the curriculum up to date.

The new curriculum for the Fourth Grade is intended to be taught in ten days. The district decided to increase this from five days to give the same amount of time to both the Fourth and Fifth Grade levels. The Fourth Grade curriculum begins by listing the ten daily objectives. The next two pages give a chart showing the terms, reserved words or commands and activities the students will be covering on each day of the course. These pages are for the teacher's benefit and to aid in any review done by a curriculum.
committee.

The materials for each of the ten days begins with a lesson plan, two pages in length, which is divided into seven sections. The first section is the restatement of the objective for that day. It is important to read this objective to the students each day so they become involved in accomplishing the objective. The objective section is followed by the introduction section. This section contains the information to begin the day's activities and is intended to assure that each day begins, except for the first day, with a review of the material from the day before. On the first day, this section lays out the ground rules for the teacher to convey to the students.

The section of the lesson plan which follows the introduction is the presentation section. This includes the information needed to explain the lesson for the day to the students. This third section is intended to give clear directions on how to work with the class through the handout(s) and worksheet(s) for the day. This section is supported by another addition to the curriculum found on a teacher's copy of the students' worksheet. The teacher's copy has all the information found on the student's copy with a few
additional comments. The teacher can use this copy like a script to direct the work of the students.

The fourth section, the summary, recaps the important points of the day's lesson and is intended to be covered with the students at the end of each class.

The next two sections, student involvement and student evaluation, clearly state what is expected from the students and how the students will be graded. These sections were an important improvement in the lesson plan in the evaluation of the students' progress. The old curriculum did not have material that would help the teacher evaluate the students' progress. It is important to inform the students that the materials completed in class earn given point values when completed properly, as do quizzes and tests. It is the total number of points earned that determines each student's grade. When the students are advised of the evaluation system, they know what they must do to improve their grades and can take responsibility accordingly.

The final part of the teacher's lesson plan is the additional topic section. This gives enrichment suggestions for students who finish the planned activities early.
Each of the ten daily lesson plans is followed by the student’s and teacher’s versions of all quizzes, handouts, worksheets or tests that will be used that day. There are three handouts, sixteen worksheets, four quizzes and two tests included in the curriculum. All of the materials given to the students have information in the upper left hand corner identifying the purpose of the sheet. There is a place in the upper right hand corner for the students to write their names and class sections. For the teacher’s purposes, all pages are clearly marked with special coded numbers in the lower left-hand corner so they can be found easily on the data disk on which the curriculum is stored for copying purposes or for making improvements.

The three handouts are a blank keyboard, a list of the color bar codes, and a list of the poke color codes. Handouts generally contain informational charts while worksheets contain instructional activities. The student’s version of a worksheet always begins with a list of the definitions that will be covered that day, followed by step-by-step instructions and clear explanations of what the day’s tasks are. It’s important to note that the teacher’s version of the worksheets contains the same information with
additional instructions that clarify the students' tasks for the day.

The work done on the worksheet receives a point value that is used by the teacher to evaluate the students. The four quizzes are given on the second, third, fourth and seventh days of class. On the preceding days the students are made aware that at the next class meeting they will be taking a quiz. There are two tests in the curriculum, one given on day five and the other on day ten. These worksheets, quizzes and tests give the teacher an objective means of evaluating the students.

In addition to creating a more effective format for the curriculum, the content of the curriculum was altered to stress consistency in definitions and in building concepts on previously covered concepts and to incorporate an explanation for the students of what the goal of each activity was so that they would be able to anticipate a correct result.

The first day of the ten day course begins by the teacher giving a brief outline of the expectations of the course and how the students will be evaluated. This is followed by spending some time becoming familiar with the keyboard by filling in a handout that
contains a blank copy of the keyboard with the proper characters or functions of all the keys. The definitions for day one are listed at the beginning of the first worksheet which the students receive as soon as they have completed the keyboard handout. All of the definitions are read, and the students are reminded about the quiz to be given the next time they meet. The worksheet directs the students to type phrases on the computer to get accustomed to using two hands on the keyboard and feeling for the keys instead of looking at them. Also, the students are taught the use of the "clr/home" key with and without the shift key.

The second day begins with a quiz reviewing the seven definitions learned on day one. The students are given a worksheet which has another seven definitions that the students are expected to know for the quiz the next day. On the second day the students begin work on actual lines of programming. The objective of the programming activity is to teach the students two concepts of line by line programming. The first concept is understanding what the error message "?syntax error" means. The second concept is understanding the difference between a single line of programming, called a statement, and two or more lines
of programming, known as a program.

Another important change in the new curriculum is that the students, still in pairs, take turns entering statements into their assigned computer, while their partners are directed to proofread the statements. With two students to a computer, it is important to balance the amount of time each student spends working at the keyboard and to keep both actively participating in the activity.

Day three has a quiz to start the lesson. This is followed by seven new terms/commands on the worksheet. Now that the students have had an opportunity to enter some short programs, they are given a program that is determined by the school they attend. The program when executed will show the name of their school, but the lines of the program are scrambled. By using a word that is familiar to all the students, it helps in motivating the students to accomplish the task of getting the program to come out correctly.

The fourth day is opened with a quiz covering the seven terms/commands learned the day before. Today the students are still working in pairs on the computer, but for the first time each of them has a complete program to enter into the computer. While one student
is entering his/her program, the partner should be writing out the output of the program on the worksheets.

The fifth and half-way point of the curriculum is a day set aside for testing. It is important to review the material that the students are going to be quizzed or tested on before giving the quiz or test.

There is no quiz on day six because the degree of difficulty in the material being introduced requires the entire class period. The students begin to work with the color codes that will be used to create graphics programs. (One of the major errors made in the old curriculum was teaching the students an incorrect way of making a color bar on the screen that did not involve programming.) With this new lesson it is important to stress the way being presented in this lesson is the correct way to create colors in any program or work.

The seventh day begins with a quiz reviewing the color bar commands learned the day before. After the quiz the students begin to enter some sample, full-screen graphics programs by carefully taking turns typing in, one line at a time, the program statements given to them by the teacher. The students should check
their work after entering each statement. The students work on this type of material for days seven through nine. The tenth and final day of the course the students have a test reviewing again all the material covered during the course.
CRITIQUE OF OLD CURRICULUM FOR FIFTH GRADE

The old curriculum for Fifth Grade was a ten day program which consisted of a pre-test given on the first day followed by nine lesson plans, twenty-one handouts, two graphics programs, one blank text screen and a test.

The pre-test was comprised of ten matching columns problems, five true or false statements, one question for which the students had to write a program and a couple of one word answer questions related to programming. The intent of the pre-test was to review the commands and terms covered in the old curriculum for Fourth Grade. However, more than seventy-five percent of the pre-test used different words or phrases to describe concepts and define terms than had been taught in the old curriculum for Fourth Grade, making it difficult for the students recognize the material. It was also not the appropriate material to give to students on the first day due to the long interval of time between the two courses and the short duration of the earlier course. The first day could have been better spent reviewing the material with a review worksheet rather than creating a situation in which
failure was the more likely outcome.

The lesson plans, titled Computer Literacy, consisted of two sections. The first section of the lesson plans listed the definitions of the commands and terms to be taught during that day's lesson. The goal of the first section of the lesson plans was to introduce the new terms and commands to the students. Having the definitions in the lesson plans was ineffective as the students were not given the same written information in the handouts on the same day. The second section was titled "Procedures" and gave a description of the day's activities. If the intent of the second section of the lesson plans was to give the teacher a series of instructions to help guide the students through the activities for that day, these procedures did not accomplish this. The procedures included a list of what was to be handed out and collected, but lacked any details as to what the daily objectives were or any clearly defined steps that the teacher and the students were to be following.

The student handouts, at least one was to be given each day, contained the programs that the students were to enter into the computer. Most of the handouts began with a teacher-performed program, in which the teacher
entered a program at one of the computers while the students watched over the teacher's shoulder. This was not an effective activity as the students were generally not attentive and would generally prefer to be at the computer themselves.

The activity sheets, available on certain days, were used as extra credit material. Most of the programs used on these pages lacked explanations of what programming skills were being emphasized. There was also a limited amount of instructions other than, "Enter the following program." It was very rare for any student to have the opportunity to work any of the extra credit handouts because having two students at a computer, each having to enter the program independently, did not leave enough time for extra work. Most of these activities did not relate to the remainder of the curriculum; the time spent on these activities sheets would have been better spent with materials related to the final graphics project.

The student handout for day one had three programs for the students to enter in the computer. The purpose of the programs was to review the skills learned in Fourth Grade. The teacher's lesson plans contained the definitions for six terms/commands; however, while the
programs used some of these terms/commands, nowhere were there any instructions telling the teacher to write, say or use these terms/commands with the students. The programs used for day one were to emphasize that the order in which the lines are entered does not matter because the computer will rearrange them. The programs contained inappropriate phrases that distracted the students from the task at hand. The instructions given with the three programs did not instruct the students to check with the teacher to approve their progress after each program or step, making the material less effective.

The programs on day two were to teach the use of the color bar codes and the reserved word "GOTO." The lesson plan contained the definitions for loop and "GOTO," but the students were not given the definitions in writing. The procedures only contained the instructions to do the teacher-performed activities and have the students complete the handouts. One of the handouts was a listing of the color bar codes. The quality of the printing of this handout made it very difficult for the students to read it. Considering this was the first experience working with color codes, it would be important to give the students good quality
handouts. The last handout given to the students began with a teacher-performed activity. The goal of this program was for the students to be able to comprehend the use of color code commands. This teacher-performed activity was followed by two programs for the student to enter in the computer using the color bar codes and the "GOTO" command. A third program only used the "GOTO" command and again contained statements that did not relate to the topic of computer programming. An activities handout for day two was available for students who finished their work early. This extra credit work contained three more programs. The first two programs helped reinforce the skills employed in using the color code commands, while the third program did not have any value relative to the material for the day.

The day three through day seven lesson plans and student handouts followed the same pattern. The lesson plan would list the new terms for the day and the procedures for the teacher. If two handouts with programs were available on a given day the students were expected to complete the first one while the second handout was used as extra credit for those students who finished the other handout early.
The lesson plan for day three contained the definition for the "LET" command and the procedures for the teacher to follow. The programs on the handout began with a program for the teacher to do as a demonstration followed by three programs for the students to work on. The extra credit activities handout contained two activities to have the students create programs to meet specific requirements which were not appropriate for their level.

The fourth day's lesson plan contained the definitions for the "FOR-NEXT" and the "REM" commands. The handout consisted of two teacher-performed activities followed by two activities for the students to perform. The programs the students were to enter used the "FOR-NEXT" command, but the only program that used the "REM" command was one of the teacher-performed programs. The extra credit activities handout contained three challenging problems to write some programs. The level of these programs was well above the activities performed by the entire class and above the abilities of most of the students.

Day five did not have any new terms/commands. The procedure section only contained one step which said, "1. Handout student activities. Help as needed."
This was not enough information for the teacher to present the lesson for the day. The student handout for day five had two programs for the students to write or enter into the computer after the teacher demonstrated by entering a program as an example of what the students would be doing. The intent of the programs was to review and reinforce the many uses of the "FOR-NEXT" command. The extra credit activity handout had two programs for the students to enter into the computer. It would appear that these programs just reinforced typing skills because there was no explanation included with the programs as to any other purpose.

On the sixth day the students were given a four page handout to read as homework. The material in these four pages explained the use of the tape unit known as datassette and was discussed on day seven. The new commands given in the lesson plan for day six were "IF-THEN" and "INPUT." The student handout contained the teacher-performed program, followed by two programs for the students to enter. The extra credit activity sheet also contained two programs. Again, these programs apparently just reinforced typing skills because there was no explanation included with
the programs as to their purpose.

On day seven a summary sheet containing the definitions of the terms and commands from day one through day seven was included in a handout. As helpful as this comprehensive handout of definitions was, the students should have been given the definitions in writing on the day they were introduced. On day seven the routine was broken with the discussion of the handouts that had been given on day six for the students to read as homework. The material covered the use of the "LOAD" and "SAVE" commands when operating a datassette unit. The student handout for day seven contained a teacher-performed activity. This was followed by some programs to be entered by the students and saved on tape. But these programs did not contain any instructions as to when to use these new commands.

The eighth and ninth day handouts were different from those of earlier days. The students were given a text screen page on which they were to create a picture of some object by coloring the individual squares of a text screen. The text screen was a reproduction of the screen of the monitor showing each of the forty spaces on twenty-four lines. On day eight a graphic sheet of the head of a clown with no face was used as a
teacher-performed activity to show the students what was expected in their own graphics program. Also for day eight there was a graphics program that would create a picture of a dog for day eight to enter into the computer before the students began working on their own graphics programs. These would have been very good practice programs and helped the students understand the use of the color codes but should have been introduced to the students earlier. The final graphics assignment also should have been introduced earlier than day eight or nine. The students had part of the eighth class period and all of the ninth class period to enter their own personal graphics program.

The last day was spent taking a test. The final test contained ten matching column problems followed by three programs which the students were to write. The complexity of the programs which the students were expected to write using "FOR-NEXT," "IF-THEN" and "INPUT" statements was beyond the level of the students' knowledge, considering the amount of time spent using those terms in class.

The Fifth Grade curriculum was lacking in many respects. The "Procedures" portion of the teacher's lesson plan didn't give the teacher much guidance. The
student handouts did have some form of a title, such as a heading in the left-hand corner, but there wasn't a place to have the students write their names and there weren't page numbers to indicate the order of completion. There were a lot of rhymes and phrases used in all the programs and even though they were entertaining they detracted from or did not add meaning to the activities.

Two other factors that made the curriculum difficult, not only for the students but also for the teacher, were the lack of some written explanation of what the student was to be learning with each program and the lack of some written explanation as to how the student would be evaluated. The inadequate lesson plans, handouts with little or no instructions and programs containing distracting and non-relating phrases and a final graphics assignment not given to the students early enough for them to complete, clearly suggests the need for a new curriculum with some depth.
RATIONALE OF NEW CURRICULUM FOR FIFTH GRADE

The new curriculum for Fifth Grade is a continuation of the new Fourth Grade curriculum. The Fifth Grade curriculum begins with the statement of the ten daily objectives for this curriculum. Again, this is followed by a two page chart outlining terms, reserved words or commands and activities that the students are to cover each day in the Fifth Grade curriculum.

Each of the ten days begins with a teacher’s lesson plan which is divided into seven parts. The lesson plans for the new curriculum for Fifth Grade are made from the same template as the lesson plans used in the new curriculum for Fourth Grade. The first part is the restating of the objective for that day, followed by the introduction, the presentation, the summary, the student involvement, the student evaluation and the additional topic. Each of the ten daily lesson plans is again followed by a student’s and teacher’s version of each of the quizzes, handouts and worksheets that will be used for that day. There are a total of twenty-one worksheets, five handouts, six quizzes, two tests and sixteen graphics.
One of the major changes from the old to the new curriculum is the elimination of the wasted time of having both students on one computer entering a program. Instead, the students should follow the instructions and take turns each entering a line at a time into the computer as the teacher requests. This allows each student an equal amount of opportunity in improving his/her skills of using the keyboard. While one student is entering information into the computer, the partner would be proof-reading the results on the screen for errors.

The first day of the course is spent reviewing the terms and commands learned in Fourth Grade. The first day’s activities consist of completing a fill in the blank worksheet. The worksheet contains a total of twenty terms and/or commands. The students fill in the blanks with the definitions from a transparency as the teacher reviews each one. At the end of the period the students turn in this page for grading and are given a copy of the teacher’s version to study for a quiz to be given the next day.

Continuing on the first day, the students receive a blank text screen handout that will be used to complete their final graphics assignment. The students
are given five days to fill in a picture on an entire
text screen using any kind of colored pens/pencils.
The text screen is a graph of what can be seen on the
monitor. The picture is limited to 39 spaces across
the screen and 21 lines down the screen. The reason
for the limitations is that the picture will begin to
scroll if made larger. The picture can be of any
object or design accepted by the teacher. One of the
most significant changes in the order of the Fifth
Grade curriculum is this explanation of the major
graphics assignment on day one instead of day eight or
nine. By assigning this portion on day one with a due
date of day five, it helped to improve the percentage
of students having accomplished the assignment.

The second day begins with a quiz on the material
reviewed during day one. This is followed by a two
page worksheet allowing the students to refresh their
skills in writing, entering and executing a program.
The second page for this day reviews the use of the
color codes and how to enter them in a program. The
students are given a new color code sheet which
contains all the colors available on the Commodore
Computer.

Day three follows the pattern set on day two in
that a quiz is given to review the material covered on
the previous day. This is followed by a two page
worksheet. The first page has the student being guided
by the teacher and by the information given on the
worksheet to write a more complex program with some new
reserved words. The program is eight lines in length.
The second page has a similar program, sixteen lines in
length, but the worksheet provides no lines of
programming to assist the students. By following the
five steps outlined on the worksheet, the program is
written using the skills learned on the first page,
although different phrases are needed. This worksheet
serves as a good preparation for the writing of the
final graphics program that the students will be
starting in two days.

The quiz for day four is the same quiz used on day
three. This is done as the material covered on day
three is very similar to that covered on day two. It
also allows the students who had difficulty with the
quiz the day before to regain some ground since each
quiz is reviewed immediately after being given. The
worksheet for day four is divided into two pages. The
first page is designed to be done as homework and
returned at the next class meeting. The second page
has three programs which cover the use of the "for-next" command.

In order for the teacher to know whether students are grasping the material, a more challenging quiz is given on day five. This is intended to help identify problems, the material which students are not grasping. After the quiz the handouts needed to write their graphics programs are given with all the instructions as to when the assignment will be checked and when it will finally be due. After the assignment is reviewed, the students complete the two-page worksheet for day five which has four definitions on which the students have to fill in the blanks with the terms being defined. There are four separate programs for the students to work on in pairs taking turns entering statements into the computer. The teacher checks their progress after each program, while also checking for the completion of the final graphics program text screen assigned on day one.

The quiz for day six is a repeat of the previous day's to reemphasize the importance of the students' being able to write a program from scratch or from memory. To allow for more class time to work on the graphics programs, the seventh day's quiz is given in a
take-home format. The handouts for day six include a listing of the proper color codes for the "poke" command and a guide on how to use the disk drive. The worksheet for day six is a graphics program that prints the word "HI" which is the same graphics program used in the new curriculum for Fourth Grade but, in Fifth Grade the students must enter the program using only the graphics. The theory in reusing the same graphics from the Fourth Grade curriculum is that the program will be familiar to them and it will challenge them. The program looks difficult, but on close examination and by taking advantage of copying lines of programming, eleven lines of programming are all that are needed to do this program which consists of twenty lines.

Days seven through nine are spent working on the graphics programs used in the Fourth Grade Curriculum. The graphics program for day seven is the clown without a face. The students enter the program provided and then edit the program to add the face to the clown. This program gives the students the experience of having to edit a program. Throughout the days that the students work on graphics programs, it is always stressed to enter one line of programming at a time and
then to execute each line to make sure the line of
programming creates the correct addition to the
picture. For the school year 1987-1988, because this
class had not gone through the new curriculum for
Fourth Grade, the Fifth Graders were given the program
to enter into the computer, but in future years it is
intended that the students be given the text screen
only, having to enter the program using the knowledge
and skills they have been learning during the course.
One alternative to having some students frustrated,
would be to have the program available but to give only
half of the points to those using the program that
could be earned by those creating the program from the
text screen.

The dog is the graphics program for day eight, and
the name of the school the students attend is the final
graphics program done as classwork. Each day, from day
six through day nine, the teacher should be checking
the progress of each student on his/her final graphics
program to make sure each is completing the assignment
following the correct technique, and when students have
all their current day's classwork done they may be
offered time to begin entering this program into the
computer.
The test on the final day of the course is the last chance for the students to demonstrate that the curriculum is working correctly and to earn some points to improve their grades.

In summarizing, for both the Fourth and Fifth Grades, improvements in these new curricula come from the consistency in the use of the defined terms and from the explanations of concepts using the same words in the worksheets, handouts, quizzes and tests given to the students. The repetition, although it creates a certain amount of redundancy, allows the students to succeed and achieve the goals of the curricula. By sharing the work of entering programming statements between two students at each computer, the class time is used more effectively allowing the students more time to enter more examples. The development of a grading system encourages the students to take a position of responsibility relative to the determination of their grades. Finally, all of the elements are supported by the teacher's lesson plans which provide a unified and efficient vehicle for the accomplishment of both the students' and teacher's objectives.
EVALUATION BASED ON STUDENTS’ SCORES

The old curriculum for Fourth Grade did not contain sufficient material to objectively evaluate the students’ abilities or achievements. The prior teacher had used a subjective grading process in evaluating the handouts, and no written or verbal recommendation was given with the curriculum. With no guidelines given with the old curriculum, in order to evaluate the students’ progress a point value had to be assigned to the work and test given. The handouts for days one through three were given a point value of three each while day four was given four points; relative values were based on the number of programs. The majority of the students did well at following the instructions given by the teacher, reading the handouts along with the teacher and entering the proper information into the computer, but the comprehension of the material was not adequately evaluated.

The assigned scores reflected that the students had no difficulty the first two days but the third and fourth days had a few students receiving lower scores because of not completing the handouts and not entering all the assigned programs into the computer. The main
reason this occurred was due to the slow process of having each student enter every program. With two students at each computer and a total of nine programs that each student had to enter in the last two class periods, completing the handouts was a difficult task to accomplish.

The final evaluation of the old curriculum for Fourth Grade was in the results of the test the students took on the fifth day. The test was assigned a point value of twenty-five. Most the students did well in the matching columns section but did not do well in the sections requiring the students either to write the output of a program given the program and a program given the output, or to write a program from scratch. The students may have been introduced to computer programming and to entering programs for four days, but mastering of the skills related to writing a program from scratch were not emphasized enough.

Looking at the assigned scores, 42% of the students received scores of less than seventeen points (or 68%) which was the number of points the students would have earned if they had correctly answered all but the writing of a program from scratch. With only 33% of the students able to scoring twenty (or 80%)
more points, this clearly indicated the need to revise the curriculum to improve the material related to learning the skills of programming, to test at a more appropriate level of mastery and to include more methods of evaluating the students' daily achievements.

The new curriculum for Fourth Grade adds the materials necessary to evaluate the students subjectively. This is done with the addition of four quizzes and an additional test. The new curriculum is expanded from five days to ten days to give the Fourth Grade students an opportunity to spend more time with the computers and to develop increased computer literacy.

Each of the worksheets is worth five points in the new curriculum for Fourth Grade, but these points can be considered more subjectively than objectively earned because of the clearly defined evaluation section in the lesson plan. Most of the students did quite well in completing the required worksheets.

All the quizzes showed scores averaging above 50% correct. The first quiz had 58% of the students getting perfect scores. The scores were lower for the second and third quizzes; this would indicate the need to make sure that the material is being covered and
emphasized clearly.

The fifth day has a test for the students. The test scores are much better when compared to the test scores of the test of the old curriculum. The test is worth thirty points. The first half is made up of twelve definitions that the students have to match with the correct terms or reserved words, followed by six true or false statements. This portion of the test is worth eighteen points. This time only 12% of the students had scores of less than seventeen points (or 57%) and 60% of the student were able to score twenty-four (or 80%) or more points. The new curriculum for Fourth Grade is able to accomplish this by having consistency between the test and material covered and better use of time spent with activities in handouts that gives the students material more appropriate for the students' level.

The old curriculum for Fifth Grade started with a pre-test covering the material taught in the old curriculum for Fourth Grade. The pre-test was worth twenty points and found many students not remembering the material from the year before. The last time the students had worked with the material being tested would have been three or more months earlier which
explains the low scores. The highest score was seventeen, the lowest was two, and 56% of the students received a score of less than eleven points (or 55%). It might improve interest and motivation to give the pre-test on the second day after spending the first day reviewing the material from the Fourth Grade curriculum.

The handouts for day two through day eight were assigned point values ranging from one to four; relative values were based on the number of programs. Most of the students had great difficulty completing the daily assignments. Only one student was able to get perfect scores on all eight daily handouts. Again, just as in the old curriculum for Fourth Grade, the old curriculum for Fifth Grade required too much time having both students enter the same program in order to receive credit for the work.

The major assignment in the old curriculum for Fifth Grade was a graphics program that would create a picture drawn by the students on a graphics text screen. The students received this assignment on day eight which did not give the students sufficient time to accomplish the assignment. Only 7% of the students were able to complete the assignment properly. Another
33% were able to partially complete the assignment. The negative side shows 60% of the student not turning in the assignment.

The final score for this curriculum was the final test. The test was worth twenty-five points. Only one student received a score above twenty (or 80%). 42% of the students scored between ten and sixteen points (or 40 to 64%). Some 58% of the students scored less than ten points (or 40%).

The new Fifth Grade curriculum starts with a review day of the new curriculum for Fourth Grade, instead of a pre-test. This review worksheet was worth twenty points. The results of spending the time reviewing proved to be worthwhile. The quiz at the beginning of day two had 77% of the students earning ten or more points out of twenty points. This might seem a little on the low side but may be explained by the fact that these students had the old curriculum for Fourth Grade so much of this material was new to them.

The remaining daily worksheets for day two through day five are each worth ten points. The students do quite well achieving an average mean of 9.52 points per worksheet. The quiz given at the beginning of day three resulted in somewhat low scores, with most of the
students earning less than five points out of ten. However, when the same quiz reappears as the quiz at the beginning of day four the students' scores improve with most of the students earning ten points out of ten. Similar results occur for the quiz given on the fifth and sixth days. Out of a possible ten points, the students had a mean of 5.6 increase to 7.0, respectively,. The scores for the quiz on day seven dropped a little. This quiz was only given once and it was handed to the students on day six as a take-home quiz. Many of the students failed to remember to complete the quiz and therefore only received points for the completed portion.

The worksheets on days six, seven, eight and nine were the four sample graphics programs. For these four days the students had an average mean of 9.00 points.

The scores for the picture and the program relate to the assignment given to the students on the first day. The students received full credit if the picture was completed properly by the fifth class period, otherwise they were given partial credit for the portion of the work that was correct. By the last day of the class the students could either turn in a written copy of their program with the picture or, if
time were available, enter and execute the written version of their program into the computer to properly create their picture. This is a great improvement over the results in the old curriculum. Over 50% of the students turned in the program. Two students even did an additional picture and program which earned them extra credit.

The last score of the new Fifth Grade curriculum was the test given on day ten. The test was worth thirty points. This time over 42% of the students scored more than twenty-four points (or 80%), 49% of the students scored between twelve and twenty-three points (or 40 to 77%) and only 9% of the students scored less than twelve points (or 40%).

The new Fourth and Fifth Grade curricula have greatly improved by supplying the teacher with detailed lesson plans, teacher's version of the student's worksheet, quizzes that give an objective based value to the grading, and the tests to evaluate the total effectiveness of the curricula in teaching the knowledge and skills to the students. Equally important is that these curricula have presented the material to the students in worksheets, activities ad methods that motivate, expand their knowledge and
skills, and challenge their creativity, and afford an opportunity to exercise responsibility and to succeed.
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STUDENT 124 20 13 10 8 10 4 10 10 9 10 10 10 3 10 10 10 48 52 25
STUDENT 125 20 15 10 3 10 6 7 10 0 10 9 10 10 10 10 10 0 0 16
STUDENT 126 20 4 10 1 10 1 0 10 1 10 2 10 3 10 10 10 0 0 8
STUDENT 127 15 14 10 3 10 4 7 10 0 10 5 10 3 10 10 10 0 0 22
STUDENT 128 20 11 10 0 10 2 0 0 0 10 0 10 3 10 10 10 0 0 9
STUDENT 129 20 3 10 1 10 0 10 10 4 10 3 10 3 10 10 10 0 0 13
STUDENT 130 20 11 10 2 10 3 10 10 0 10 3 10 3 10 10 10 0 0 17
STUDENT 131 20 4 10 3 10 1 7 10 6 10 6 10 5 10 10 10 48 52 19
STUDENT 132 15 9 10 6 10 5 7 10 7 10 7 10 3 10 10 10 24 24 25
STUDENT 133 19 9 10 3 10 3 7 10 5 10 4 10 3 10 10 10 24 20 11
STUDENT 134 19 13 10 2 10 10 10 10 9 10 7 10 3 10 10 10 0 0 16
STUDENT 135 20 15 10 1 10 10 10 10 10 10 8 10 5 10 10 10 24 23 23
STUDENT 136 19 11 10 5 10 9 10 10 10 10 10 10 3 10 10 10 24 24 24
STUDENT 137 20 16 10 3 10 10 10 10 9 10 8 10 5 10 10 10 0 0 12
STUDENT 138 20 17 10 6 10 0 10 10 0 0 4 0 3 10 10 10 24 26 29
STUDENT 139 20 11 10 0 10 10 0 0 10 10 10 10 7 10 10 10 24 26 26
STUDENT 140 20 10 10 2 10 10 10 10 7 10 10 10 3 10 10 10 0 0 19
STUDENT 141 20 13 10 4 10 10 10 10 8 10 10 10 3 10 10 10 24 26 25
STUDENT 142 17 13 10 2 10 10 10 10 4 10 10 10 3 10 10 10 0 0 14
STUDENT 143 20 13 10 5 10 10 10 10 8 10 10 10 10 10 10 10 24 26 26

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ASSIGNNENT DI RD1
POINTS
20 20
DAILY NEAN 19,4 12,2
DAILY RANSE 8 17
DAILY MODE 20 13

D2 RD2 DJ
10 10 10
9,8 4,4 9,8
5 10 10
10 3 10

RD3 D4 D4A RD4 D5 RDS D6
10 10 10 10 10 10 10
6,1 8.5 9,5 5.6 9,5 7.0 9.5
10 10 10 10 10 10 10
10 10 10 10 10 10 10

RD6 D7
10 10
4,7 8.6
10 10
3 10

DB
10
9,1
10
10

D9 PIC PROG TEST
10 24 26 30
8,8 14,0 15,2 20,9
10 24 26 30
10 24 26 25


The thesis submitted by Charles S. Saunders has been read and approved by the following committee:

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

4/18/89
Date

Jack A. Kavanagh
Director's Signature