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ABSTRACT

Grade Level Evaluation (GLE) is a computerized criterion-based reference examination designed for elementary schools and secondary schools. The advanced software program is coupled with an in-depth curriculum covering basic computational and critical thinking skills for each grade. This packet introduces the software and its use. GLE is a mastery-outcome examination that provides an accurate measurement of skills that a student has or has not mastered at an optimal level rather than at the minimum level. The GLE examinations analyze a student's performance in terms of skill comprehension and relative speed in completing each skill. Through the GLE's software technology, feedback is immediate via computers in the schools. GLE will align directly with a school district's curriculum and can be a quality control tool for the individual school. In addition, GLE can inform parents of their child's masteries and deficiencies, as well as provide an outline of how parents can be involved in their children's schooling. The parent report includes a tutorial that parents can use with their children. GLE includes several types of reports, with summary assessment and full text assessment reports, a grouping of students by skills not mastered, an effective skill mastery report, an actual mastery report, and a report that allows test administrators to review incorrect answers by each student. Sample reports are provided for each of these categories for Level 4 mathematics. Eight figures and two tables illustrate the discussion. (SLD)

GLE

Grade Level Evaluation

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Grade Level Evaluation

Ensuring Academic Success

Tudor Publishing Company

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Foreword

Dear Educator:

Technology continues to enhance our educational system. Now, through the technology of Grade Level Evaluation, educators can utilize their investment in computers for student assessment.

Grade Level Evaluation (GLE) is a computer adaptive assessment program that couples advanced technology with an extensive data bank to provide a customized assessment that aligns directly with your school's curriculum. No more teaching to the test, just an accurate assessment of your curriculum.

The computers in your schools allow the students to quickly take the appropriate assessment and receive immediate feedback. No more long waits for test results. GLE provides extensive parent, teacher, and administrative reporting as soon as the student completes the assessment.

Grade Level Evaluation, through it proprietary Curriculum Alignment Guide, allows each school district to set its own outcome goals, measure the results, and track progress. We hope that Grade Level Evaluation will enhance your educational efforts.

Sincerely,

William P. Tudor
President

Introduction

Grade Level Evaluation (GLE) is a computerized criterion-based reference exam designed for elementary and secondary schools. The advanced software program is coupled with an in-depth curriculum covering basic computational and critical thinking skills for each grade. GLE runs on standard personal computers that are generally available in school settings.

GLE is a "mastery-outcome" exam, as opposed to a "normed-reference" exam. Mastery outcome exams identify the specific skills a student has or has not mastered. The commonly used normed reference tests often fail to identify a student's specific deficiencies, but instead compare the scores of a group of students.

GLE provides accurate measurement of all skills at an optimum level rather than at the minimum level. GLE differs from many standardized tests in that it measures both basic computational skills and critical-thinking skills. The GLE exams will analyze the student's performance in terms of skill comprehension and relative speed in completing each skill. GLE provides for immediate feedback without having to wait several weeks for results from the standardized "paper" tests. Through the use of our proprietary C.A.P.E. software technology, previous barriers in testing have been overcome.

GLE will directly align with a school district's curriculum. It is well known that curricula vary from school to school. GLE allows a school, district, or state to design the GLE exams to measure the exact skills contained in their curriculum.

GLE acts as a "quality control" tool for the individual school. Schools need an internal measuring device that will assess all of the skills necessary for academic success. GLE provides detailed reports that will verify that all skills contained within a curriculum are being taught and mastered.

GLE will inform parents of their child's masteries and deficiencies, as well as provide an outline of how they, as parents, can become involved. The in-depth parent report not only highlights the student's deficiencies, but prepares a complete tutorial. This tutorial is non-intimidating to the parent. Furthermore, the tutorial utilizes special personalization techniques that hold the parent's interest. This report is the medium to create a new partnership between parents and their schools.

The Need for Mastery Outcome

According to the Constitution of the United States, education is the concern of the states. Many states delegate the power to individual school districts. The result has been variations in curricula across the board. Schools within the same city are found to teach many basic skills at different grade levels. Considering that the average American family changes residence every three years, how do the children cope with the "not always evident" gaps in their education? Children often become adept at hiding the flaws in their learning. Many even continue to earn high grades. Unfortunately, the harsh reality may not become apparent for many years or when, in spite of good grades, college entrance exams receive low scores.

Normed reference tests interpret a student's test performance as it relates to that of other students. For example, John scored better than 80 percent of his classmates in whole numbers. This score does not mean that John scored an 80 percent on the whole numbers unit. The fact is that John may not have mastered several of the skills within the unit, such as multiplication of whole numbers. Normed reference tests do not provide specific information on which skills a student has and has not mastered.

Grade Level Evaluation provides educators (administrators, teachers, and parents) with an accurate assessment of skill masteries and deficiencies for each student. With GLE, students are no longer "grouped" into percentile ranks, as they were with normed reference tests. Through GLE, specific skill deficiencies can be quickly identified and changed into masteries. Students are measured on their individual learning progress.

Assessment Features

Optimum curriculum includes basic computational and critical thinking skills. The curriculum designed by GLE is at the highest academic level in the country. The basic computational and critical thinking skills included in the GLE exams are found in major textbooks and standardized tests currently being implemented throughout the country. GLE agrees with the America 2000 program in that all schools should aim high and not settle for average achievement.

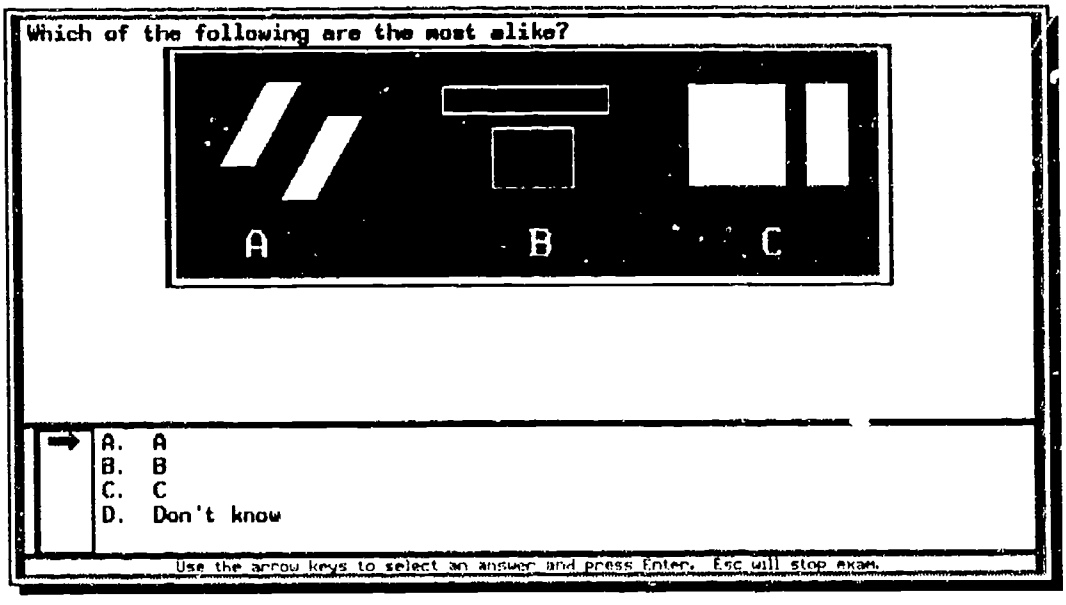
School districts can customize an assessment program to accurately match their curriculum guidelines. Normed "paper" tests typically use a pre-set curriculum that does not fit any one school district's guidelines. GLE allows a school district to adjust the exams to precisely fit their curriculum at each grade level. This ensures accurate measurement throughout the individual classes, schools, and districts.

Timing feature provides a secondary evaluation of a student's understanding. Students are given as much time as necessary to complete a skill. The student's answers are timed in seconds and measured against a pre-set standard designed to yield additional information to the teacher. The teacher will be able to identify deficiencies in material versus deficiencies in speed. Since most tests are "timed," such as college entrance exams, students need to develop accurate yet rapid skills. The timing feature will also identify if an answer was most likely a guess.

Computer-adaptive test adjusts skill levels for each student. Tudor Publishing Company has developed a proprietary C.A.P.E. technology. The computer software is aware of the answers being chosen during the test and, therefore, can alter test items intelligently to improve efficiency. For example, if the student is doing very well, very quickly, the number of questions in that skill is reduced. Likewise, if the student is not familiar with the material, questions are omitted to alleviate student frustration.

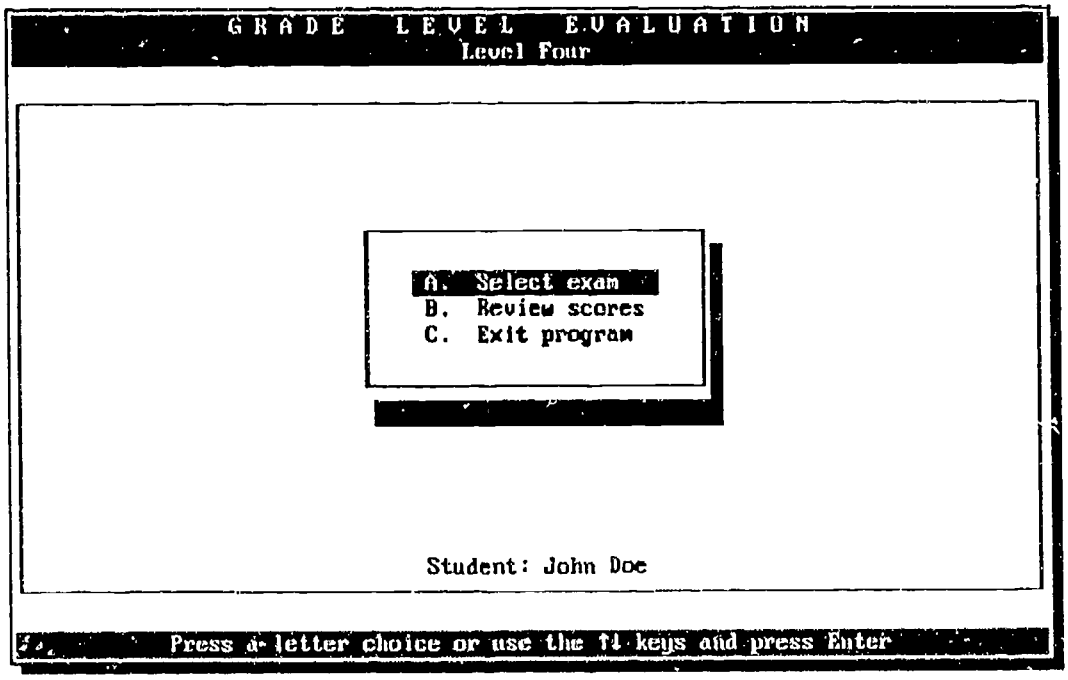
Tests can be retaken by the same student multiple times without question duplication. The program stores a "question bank" containing thousands of questions and answers. The program intelligently selects questions based on student response.

Questions are presented in a clear, non-distracting format. Students can select answers by either typing the letter of the answer or pressing the arrow keys to move the arrow marker to the answer. The following is a screen example of a GLE Mathematical question:



The answer selection includes a "Don't Know" answer. Students that select the "Don't Know" answer twice within a skill are automatically moved to the next skill. This prevents frustration with unknown material, as well as avoids guessing to allow for a more accurate evaluation.

GLE options are easily accessible through this "menu-driven" program. With GLE, it is not necessary to memorize tedious commands for administering exams and reviewing scores. GLE offers simple menus for test administrators to select with the arrow keys. The following is a screen example of a GLE menu:



GLE provides in-depth reporting features for all educators: administrators, teachers, and parents. The following are examples of the various reports.

Summary Assessment Report. This report provides a graph of the student's score for each skill. The student's time, as compared to a mastery time, is also included for each skill. The program also produces a detailed analysis that combines the score, time, and Don't Know information.

GRADE LEVEL EXAMINATION
Summary Report

GLE Area: Math Skills
GLE Level: Level Six
Date Taken: Wednesday February 19, 1992
Status: Completed

Student: John Doe
Grade: 6
Age: 12

Units/Skills	0 50 100	Score	Time	Codes
Whole Numbers				
Add 3+ numbers with 3+ digits	.....|..X	100%	-6	C
Addition Story Problems	.....|..X	100%	-14	A
Subtraction Story Problems	.....|..X	100%	+2	C
Multiply 3+ digits by 2 digits	.....|..X	100%	-29	A
Multiplication Story Problems	.....|..X	100%	-1	C
Divide 3 digits by 2 digits	.....|X..	75%	+26	D1
Division Story Problems	.....|..X	100%	-36	A
Number Sentence				
Missing Elements	.....|..X	100%	-11	A
Order of Operations	.....|..X	100%	-12	A
Ratios and Proportions	X.....|...	0%	+19	E2
Divisibility/Multiples/Factors	.....X.|...	50%	+6	C
Add/Subtract Decimals				
Add 3 numbers with 3+ decimals	.....|..X	100%	-2	C
Addition Story Problems	.....|X..	75%	-14	A
Subtract 2 numbers with 3+ decim	.....|..X	100%	-13	A
Subtraction Story Problems	.....|..X	100%	-13	A
Multiply/Divide Decimals				
Multiply 2 decimal numbers	.....|..X	100%	-27	A
Multiplication Story Problems	.....|..X	100%	-25	A

Full Text Assessment Report. This detailed assessment report describes each skill to the parent, along with the student's score in non-technical terms, the student's relative speed, and whether this is a basic or advanced skill. If the student did not master the skill, the report suggests tutoring under the direction of the child's teacher. Each report is personalized with the student's name and gender. Teachers have found this report to be very helpful with involving parents in the education of their children.

- Personalized introduction to Grade Level Evaluation

Grade Level Evaluation
Level Four
September 14, 1992
John Doe
Math Skills

This report is for the Math Skills exam taken on Saturday August 15, 1992 by John Doe. He has completed or is currently in the fourth grade and is 10 years old. This exam was designed to test students who have completed the third grade.

Grade Level Evaluation is a series of comprehensive exams that test a child's understanding of major math and reading skills necessary for success at each grade level. This assessment report is provided to give the parent and teacher a teamwork approach to helping each student. This Grade Level Evaluation "Detailed Assessment Report" reveals the skills your child has and has not mastered. If the student has mastered a skill, it means that the student has shown clear evidence that he comprehends that specific math or reading skill. For those skills not mastered, Grade Level Evaluation offers detailed explanations and solutions.

Curriculums vary from state to state, district to district, and school to school. The content of the Grade Level Evaluation exams is based on the major curriculums used in classrooms throughout the country. Specific curriculum skills are taught at different grade levels, depending on the school and the district.

The Grade Level Evaluation curriculum is structured around three levels. The first level is the area of study, such as Language Arts. Within each area of study there are 7 or 8 units, for example vocabulary. Within each unit, there may be several specific skills, such as antonyms. Any single unit can be retaken after the student has completed that area of study.

The Grade Level Evaluation exams are uniquely different from many of the national tests used by schools. Grade Level Evaluation assesses the student's understanding of basic educational skills and reports on the specific skills not mastered. Many of the national tests used by schools are "normed reference tests." Normed reference tests provide information on groups of students, schools, and districts. Although these exams offer percentile scores for the individual student, they do not report on the specific skills mastered or not mastered by the student. Grade Level Evaluation clearly identifies the child's understanding of each skill.

A unique advantage of this computer-based exam is the ability to individually time each skill. The Grade Level Evaluation program measures the time John spent answering questions within a specific skill. Although this time factor does not affect his score, it does provide for a more expanded understanding of his abilities. For example, a child may comprehend a skill, but require a significant amount of testing time to answer questions related to a particular skill. Since most tests are "timed," such as college entrance exams, children need to develop accurate yet rapid test taking skills.

Please review this report in detail. Explanations, examples, and possible tutoring techniques are included for each skill when appropriate.

- Skill description and student performance.

Dividing a three or more digit whole number by a one digit whole number usually requires using long division. Remainders occur when numbers cannot be divided evenly. For example, 11 divided
by 2 is equal to 5 with 1 left over (remainder). John was not able to correctly answer the questions dealing with dividing three or more digits by one digit. He clearly has not mastered this material. John's score was negatively affected because he indicated that at least one of the problems was unknown to him.
It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

- Step-by-step tutorial.

It may be helpful to verify that John understands the process of long division. Also, confirm that John comprehends remainders. The following is an example of a division problem that involves long division and a remainder.

Solve: 569 divided by 4.

```
      (1)            (2)            (3)            (4)

                   __1____        __14__         __142_
  4 ) 569        4 ) 569        4 ) 569        4 ) 569
                     4              4              4
                     ----           ----           ----
                     16             16             16
                                    16             16
                                    ----           ----
                                     09              9
                                                     8
                                                   ----
                                                     1
```

step 1: Write the problem in long division format.

Step 2: Find the quotient of the hundreds (5) divided by the divisor (4). For this problem, the quotient is 1. Multiply the quotient with the divisor. This gives a product of 4. Subtract the 4 from the 5 (1). Bring the tens (6) down.

Step 3: Find the quotient of the tens (16) divided by the divisor (4). For this problem, the quotient is 4. Multiply the quotient with the divisor. This gives a product of 16. Subtract 16 from 16 (0) and bring the ones (9) down.

Step 4: Find the quotient of the ones (9) divided by the divisor (4). For this problem, the quotient is . Multiply the quotient with the divisor. This gives a product of 8. Subtract 8 from 9 (1).

The correct answer is 142 with a remainder of 1.

Grouping of Students by Skills Not Mastered. This report provides the educator with the names of students that did not mastered a specific skill. Educators can then group these students for re-teaching purposes.

Grade Level Evaluation
Skills Not Mastered Report

Class Teacher Shirly Watson — Printed March 5, 1993
Room 213
Curriculum ** Pinnacle Curriculum **

Level 4 - Mathematics

Add/Subtract Whole Numbers

Subtract 2 numbers with 2-3 digits

Boyd, Kendra	0%	
Whitenack, Brendan	0%	

Subtract 2 numbers with 4+ digits

Boyd, Kendra	0%	
Chen, Colleen	50%	
Son, Shane	33%	2

Multiply/Divide Whole

Divide 1-2 digits by 1 digit

Boyd, Kendra	0%	2
Jurik, Katherine	0%	2
Law, Caroline	50%	

Divide 3+ digits by 1 digit

Adams, Brooke	33%	2
Boyd, Kendra	0%	2
Jurik, Katherine	0%	2
Son, Shane	33%	2

Division Story Problems

Adams, Brooke	50%	2
Boyd, Kendra	0%	2
Jurik, Katherine	0%	2
Son, Shane	50%	2

Add/Subtract Decimals

Add 2 numbers with 1-2 decimals

Boyd, Kendra	33%	2
Jurik, Katherine	0%	2
Law, Caroline	50%	

Add 2 numbers with 3 decimals

Boyd, Kendra	0%	2
Bramwell, Kyle	50%	
Jurik, Katherine	0%	2
Law, Caroline	50%	

Subtract 2 numbers with 1-2 decimals

Adams, Brooke	0%	2
Boyd, Kendra	0%	1
Jurik, Katherine	0%	2

Subtract 2 numbers with 3+ decimals

Adams, Brooke	25%	2
Boyd, Kendra	0%	2
Bramwell, Kyle	0%	2
Jurik, Katherine	0%	2
Law, Caroline	50%	
Son, Shane	0%	2

Story Problems

Add/Subtract Decimals

Boyd, Kendra	0%	2
Jurik, Katherine	0%	2

Compare Decimals

Adams, Brooke	50%	1
Bramwell, Kyle	33%	2
Jurik, Katherine	33%	2

Add/Subtract Fractions

Add fractions; same denominator

Adams, Brooke	50%	1
Boyd, Kendra	0%	1
Bramwell, Kyle	0%	2
Jurik, Katherine	0%	2
Law, Caroline	25%	

Subtract fractions; same denominator

Adams, Brooke	0%	
Boyd, Kendra	50%	1
Bramwell, Kyle	0%	2
Jurik, Katherine	0%	2
Pathurana, Nancy	0%	
Whitenack, Brendan	0%	

Compare Fractions

Bramwell, Kyle	50%	1
Jurik, Katherine	0%	2
Law, Caroline	25%	

Fractions for Part of a Set

Bramwell, Kyle	25%	
Jurik, Katherine	50%	

Measurement

Money

Boyd, Kendra	50%	1
Jurik, Katherine	25%	2

Area of Rectangle

Adams, Brooke	50%	
Boyd, Kendra	25%	
Bramwell, Kyle	50%	
Chen, Colleen	25%	
Jurik, Katherine	25%	
Law, Caroline	50%	1

Volume

Adams, Brooke	0%	2
Boyd, Kendra	25%	
Bramwell, Kyle	0%	2
Jurik, Katherine	0%	2
Law, Caroline	25%	
Pathurana, Nancy	0%	1

Temperature

Adams, Brooke	0%	1
Chen, Colleen	50%	
Jurik, Katherine	25%	1

Time

Adams, Brooke	50%	1
Bramwell, Kyle	50%	

Perimeter

Jurik, Katherine	50%	1

Converting

Adams, Brooke	33%	2
Boyd, Kendra	0%	2
Bramwell, Kyle	33%	2
Jurik, Katherine	0%	2
Law, Caroline	50%	
Pathurana, Nancy	50%	

Numeration

Word Names: Decimals

Adams, Brooke	0%	1
Boyd, Kendra	33%	2
Bramwell, Kyle	25%	
Chen, Colleen	25%	
Pathurana, Nancy	50%	
Son, Shane	50%	1

Read Numerals

Jurik, Katherine	50%	
Whitenack, Brendan	50%	

Ordinality

Adams, Brooke	0%	2
Boyd, Kendra	33%	2
Jurik, Katherine	0%	2

Place Value

Jurik, Katherine	50%	2

Expanded Notation

Boyd, Kendra	50%	
Jurik, Katherine	50%	2

Rounding and Estimation

Boyd, Kendra	50%	
Jurik, Katherine	50%	2

Roman Numerals

Adams, Brooke	25%	1
Bramwell, Kyle	0%	2

Terms

Boyd, Kendra	0%	2
Jurik, Katherine	0%	2
Law, Caroline	50%	

Number Lines

Effective Skill Mastery (ESM). ESM is the measurement of student skills mastered. The ESM factor can be measured for each class, grade, school, or district. The ESM can even be fine tuned to the subject and unit level. This ability gives the school administrator the ability to measure the effectiveness of each teacher by subject and unit of subject.

Grade Level Evaluation
Effective Skills Mastery Report

Class Teacher Shirly Watson — Printed March 5, 1993
Room 213
Curriculum ** Pinnacle Curiculum **

Level 4

Mathematics	
Add/Subtract Whole Numbers	92
Multiply/Divide Whole Numbers	79
Add/Subtract Decimals	61
Add/Subtract Fractions	55
Data Interpretation	100
Measurement	58
Numeration	75
Number Sentences	74
Number Theory	86
Problem Solving	88
Geometry	55
ESM rating for Mathematics	**74**

Language Arts	
Vocabulary	77
Spelling	88
Language Mechanics	96
Study Skills	80
Language Expressions	81
Reading	66
ESM rating for Language Arts	**81**

ESM rating for Level 4	77

Shirly Watson - Page 1

Actual Skill Master (ASM). ASM is the percentage of skills a student masters for a given grade level and subject. The student's actual score is not used to compute ASM, only whether the skill was mastered or not.

Grade Level Evaluation
Actual Skills Mastery Report

Class Teacher Shirly Watson — Printed March 5, 199?

Room 213

Curriculum ** Pinnacle Curriculum **

Level 4 - Mathematics

Add/Subtract Whole Numbers

Adams, Brooke	100
Boyd, Kendra	71
Bramwell, Kyle	100
Chen, Colleen	86
Jurik, Katherine	100
Law, Caroline	100
Pathurana, Nancy	100
Son, Shane	86
Whitenack, Brendan	86

Multiply/Divide Whole Numbers

Adams, Brooke	67
Boyd, Kendra	50
Bramwell, Kyle	100
Chen, Colleen	100
Jurik, Katherine	50
Law, Caroline	83
Pathurana, Nancy	100
Son, Shane	67
Whitenack, Brendan	100

Add/Subtract Decimals

Adams, Brooke	50
Boyd, Kendra	17
Bramwell, Kyle	50
Chen, Colleen	100
Jurik, Katherine	0
Law, Caroline	50
Pathurana, Nancy	100
Son, Shane	83
Whitenack, Brendan	100

Add/Subtract Fractions

Adams, Brooke	50
Boyd, Kendra	50
Bramwell, Kyle	0
Chen, Colleen	100
Jurik, Katherine	0
Law, Caroline	50
Pathurana, Nancy	75
Son, Shane	100
Whitenack, Brendan	75

Data Interpretation

Adams, Brooke	100
Boyd, Kendra	100
Bramwell, Kyle	100
Chen, Colleen	100
Jurik, Katherine	100
Law, Caroline	100
Pathurana, Nancy	100
Son, Shane	100
Whitenack, Brendan	100

Measurement

Adams, Brooke	29
Boyd, Kendra	43
Bramwell, Kyle	43
Chen, Colleen	71
Jurik, Katherine	14
Law, Caroline	57
Pathurana, Nancy	71
Son, Shane	100
Whitenack, Brendan	100

Numeration

Adams, Brooke	70
Boyd, Kendra	50
Bramwell, Kyle	90
Chen, Colleen	90
Jurik, Katherine	30
Law, Caroline	90
Pathurana, Nancy	90
Son, Shane	90
Whitenack, Brendan	90

Number Sentences

Adams, Brooke	100
Boyd, Kendra	33
Bramwell, Kyle	67
Chen, Colleen	100
Jurik, Katherine	0
Law, Caroline	67
Pathurana, Nancy	100
Son, Shane	100
Whitenack, Brendan	100

Number Theory

Adams, Brooke	100
Boyd, Kendra	80
Bramwell, Kyle	80
Chen, Colleen	100
Jurik, Katherine	60
Law, Caroline	80
Pathurana, Nancy	100
Son, Shane	80
Whitenack, Brendan	100

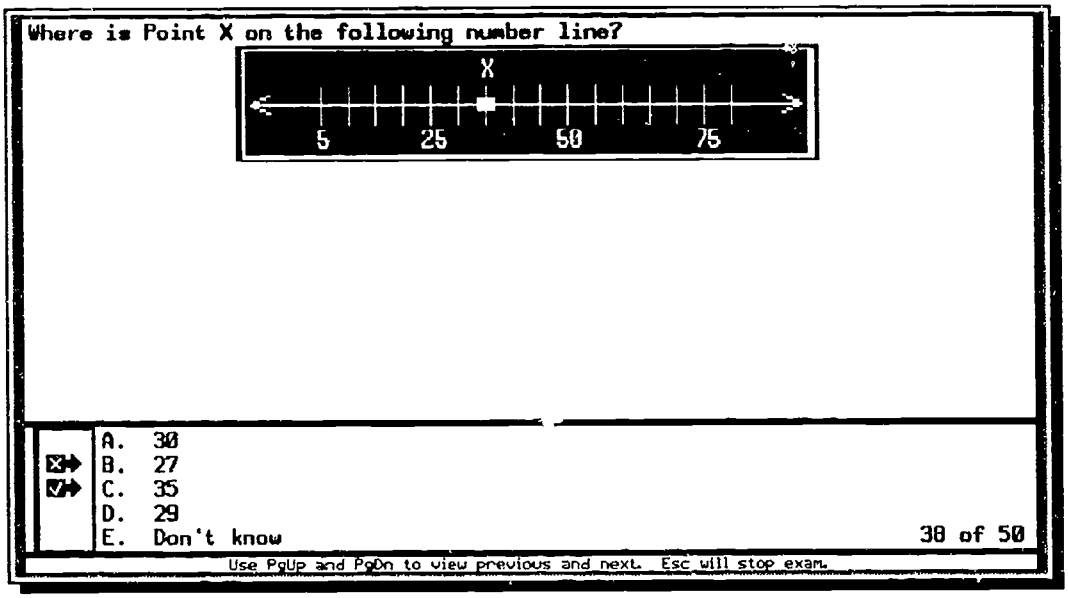
Problem Solving

Adams, Brooke	100
Boyd, Kendra	100
Bramwell, Kyle	100
Chen, Colleen	100
Jurik, Katherine	0
Law, Caroline	100
Pathurana, Nancy	100
Son, Shane	100
Whitenack, Brendan	100

Geometry

Adams, Brooke	50
Boyd, Kendra	25
Bramwell, Kyle	25
Chen, Colleen	75
Jurik, Katherine	50
Law, Caroline	25
Pathurana, Nancy	75
Son, Shane	100
Whitenack, Brendan	75

Review Incorrect Answers. Grade Level Evaluation allows the test administrator to review all questions answered incorrectly by the student during the GLE exams. This allows the test administrator to pinpoint questions of difficulty. This feature may offer possible explanations as to why a student incorrectly answered a question, such as the student was unfamiliar with a vocabulary word. In the following example the student selected Answer B and the correct answer is Answer C:



Assessing the Individual Student

Studies report that test phobia is a major reason for poor grades. The anxiety of knowing a test must be completed within a certain amount of time is enough to seriously hamper the student's performance. Teachers need to know whether a student is deficient in a skill or is simply lacking test-taking skills. By timing a student's individual speed, without time restrictions, the teacher is able to separate material knowledge from anxiety. Test-taking skills can then be taught as necessary to increase a student's success rate.

Once GLE has assessed all students within a class, educators can make necessary adjustments to class structure. Students may be organized into logical groups to provide constant learning challenges. Students with similar skill deficiencies may be taught as one group. In addition, students may participate in "peer tutoring," to help each other master the necessary skills. The teacher will then improve overall learning by effectively challenging all students. This efficient reallocation of students, resources, and curriculums will improve learning among all students.

The most important objective of these organizational strategies is to assure that all of the students understand all of the skills. Each student in America must be empowered with knowledge and a complete understanding of a pyramid of skills. By reorganizing classrooms, efficiently assimilating new students, and supporting advanced teaching techniques, GLE will provide an important foundation for advanced learning and measuring.

Proper Placement of Transfer Students

New students arrive at various times throughout the school year and are placed, often without efficient assessment, in a grade and class. School transcript and a verbal interview are many times the only determining factors for admission. In order to begin classes as soon as possible, the admissions process needs to be time productive. Most standardized "paper" tests require several weeks for scoring and assessment. GLE, on the other hand, provides immediate results.

Furthermore, GLE assesses more skills than most "paper" tests. The thoroughness of the GLE exams allows for a more accurate evaluation of a student's academic level. Administrators use a transfer student's scores to

determine proper placement in a grade level. Teachers can then use the student's results for class organization. Parents can use the GLE Full Text Report to help, if necessary, their child get "up to speed." Transfer students that are placed in the proper academic standing will have an easier transition to the new school environment.

Transition from Elementary to Secondary School

Students are able to take their GLE scores from elementary to secondary school. The GLE reporting format is the same for both elementary and secondary schools. Students that do not have the GLE exams in their student file will be tested upon entering secondary school. GLE exam results will be used for class placement and scheduling.

Involving the Parent

Parents and teachers need to establish an effective means of communication. Parents often don't understand the significance of the normed test results, which rank their child according to a national percentile. Parents want to know about the academic progress of their individual child. Parents need to be told specifically what their child knows and doesn't know, and how to help.

Parents are often reluctant to help a child academically out of a fear of ignorance. Students reach a certain level in education, where most adults either don't remember or have never learned the material the school is teaching. Rather than embarrass themselves, the parents ignore the problem entirely. The average and below average students tend to "fall through the cracks" at this point. Children often hide academic failures to avoid being placed in a remedial class or being retained in the current grade.

GLE offers a Full Text Assessment Report that is designed for the teacher to share with the parent. The report includes full explanations of each skill, the child's score and time for that skill, and a brief tutorial on how the parent can help the child improve on deficient skills. Parents have reported that the Full Text Assessment Report is remarkably helpful, easy to understand, and non-intimidating. Many parents are becoming directly involved in their child's education for the first time.

Grade Level Evaluation versus "Paper" Exams

Paper Tests	GLE
"Normed" tests do not supply information on the individual student.	"Criterion-based" exams report on the specific skills a student has and has not mastered.
Arbitrarily timed. Same time schedule for all students.	Students test at their own pace and are electronically timed.
Most skills are assessed by only one question.	Skills are assessed by multiple questions. Number of questions per skill varies based on artificial intelligence.
Curriculum covers several grades.	Curriculum is specific to each grade level.
Results may take up to 12 weeks to receive.	Results are immediately available.
Curriculum is based on the publisher's textbook curriculum.	Curriculum is derived from an assortment of tests and textbooks currently being used throughout the country. Curriculums can also be customized to meet specific school, district, or state requirements.
Tests cannot be retaken.	Tests can be retaken multiple times without repetition.
Tests questions are used at multiple grade levels. Example: "Question A" appears on third, fourth, and fifth grade tests.	New questions are presented for each grade level.
Incorrect answers are not available for review.	All incorrect answers are displayed with the question for increased analysis.

Development and Validation

Dr. James R. Doyle of Plymouth, Michigan was commissioned to use his company, Doyle & Associates, to design the pinnacle curriculum in Language Arts and Mathematics. Dr. Doyle and his associates performed a review of all the major textbooks and standardized tests in use by the different school districts. Consultation with several "teachers juries" provided additional insight to the many skills currently being taught throughout the country. From these resources, an optimum curriculum was designed.

The staff of Tudor Publishing Company, under the direction of Dr. Doyle, developed an enormous bank of questions, answers, and foils for the exam. The exams were validated by Dr. Doyle and his staff along with a teachers jury, computerized analysis of different readability indexes, and beta-testing of hundreds of students and parents. The computer programs utilize all the questions in the bank and randomly select the proper questions based on artificial intelligence routines. The programs use a hierarchal approach to determine the number of questions to ask, the time it takes a student to correctly answer a question, whether the "Don't Know" answer was selected, and complexity of the question. This allows a student to re-take an exam with different questions appearing each time.

The following is a list of the major standardized tests researched by Doyle and his associates:

- The California Achievement Tests® (CAT), published by McGraw-Hill;
- The Comprehensive Test of Basic Skills® (CTBS), published by MacMillan/McGraw-Hill Company;
- The Stanford Achievement Test® (SAT), published by Harcourt Brace Jovanovich; and
- The Iowa Basic Skills Test® (IBST), published by Riverside Publishing Company.

The following table notes the correlation between testing levels for GLE and the major standardized tests:

GLE LEVEL	CAT GRADE (1991)	CTBS GRADE (Fourth Edition)	SAT GRADE (Eighth Edition)	IBST GRADE (Series 9-5)
4	Level 14 3.6-5.2	Level 14 3.6-5.2	Primary 3	Level 9
5	Level 15 4.6-6.2	Level 15 4.6-6.2	Intermediate 1	Level 10
6	Level 16 5.6-7.2	Level 16 5.6-7.2	Intermediate 2	Level 11
7	Level 17 6.6-8.2	Level 17/18 6.6-9.2	Intermediate 3	Level 12
8	Level 18 7.6-9.2	Level 17/18 6.6-9.2	Advanced 1	Level 13
9	Level 19 8.6-11.2	Level 19/20 8.6-11.2	Advanced 2	Level 14

Program Structure

Grade Level Evaluation, a computer-administered evaluation tool, vastly simplifies the assessment process for both the educator and the student. In fact, the program is so simple that most students can take the GLE exam from beginning to end without teacher involvement.

Students test at individual computers, either at different times or together in a lab setting. Each GLE exam includes a complete set of instructions and practice questions. All students are given the same instructions and practice questions. Actual testing questions, however, are pulled from a large question bank and given in random order, which reduces the possibility of cheating.

The program is designed to continually save information while the test is being taken. This prevents students from erasing, deleting, or changing test information. The program is also designed to prevent unauthorized access to testing scores. In other words, students do not, unless instructed by the educator, have access to their scores.

GLE results are immediately available to the educator, unlike the standardized "paper" tests. In addition, students can retake the exam multiple times without repeating questions. This allows teachers and parents to tutor a student on deficient skills and retest to ensure that the skills have been mastered. Students do not need to retake the entire exam, only the units that contained deficient skills.

Conclusion

Educators agree that an assessment tool should:

- provide the student, parents, and educators with information on the student's academic progress;
- improve classroom organization and student learning outcomes;
- measure the effectiveness of curriculums;
- assist in the evaluation of educational programs, teachers, and administrators; and
- provide students, parents, and educators with the levels of achievement necessary for academic success.

GLE clearly exceeds those requirement. GLE provides educators with multiple reports that involve the parent, evaluate teachers and educational programs, identify deficient areas, as well as assess a student's academic progress. In addition, GLE exams can be customized to meet the specific requirements of a state, district, or school.

Computer-adaptive testing provides faster, more accurate results than "paper" tests. Furthermore, teachers report that students tend to have a higher concentration level on computer-administered tests. Academic assessment tests should identify the masteries and deficiencies in a student's learning, not the length of his or her attention span. The focus of Grade Level Evaluation is to clearly identify the academic growth of each student.

Common Questions

How long does it take to complete the GLE?

Because of the secondary time evaluation, the time will vary with each student. The range is from one to three hours per test. GLE's ability to be customized to meet specific curriculum requirements may effect testing time. The computer will tell the student if a break is required.

How do students respond to GLE?

Students have found the GLE instructions to be easy to understand. Most children are comfortable working on a computer. In fact, the majority of students prefer testing on a computer rather than "bubbling in" answers with paper and pencil. Students also tend to have a higher concentration level on the computerized GLE exam than on the tedious "paper" tests.

Do teachers prefer GLE over normed reference tests?

Teachers report that they prefer the GLE assessment to the "ranking of students" by normed exams. GLE is a tool that they can use to organize students and restructure lesson plans. Teachers agree that transfer students will greatly benefit from GLE's quick and accurate assessment.

Will the parents be able to understand the reports?

The detailed assessment reports are written in plain English, without academic jargon. Parents have found the reports helpful, easy to understand, and non-intimidating. The use of their child's name and gender makes the reports interesting and personalized. The tutorial gives the parents an opportunity to become involved with their children's education.

Does GLE work as a new student placement test?

Yes. Several schools have found that new students can be placed in the appropriate class quickly because of the immediate results. GLE exams reduce the need to rely on previous school records and uncertain grading methods.

Why is a "mastery outcome" test important to my school?

Our tests tell specifically which skills have been mastered and which are deficient. "Normed" tests give a national percentile, not indicating if the skill has actually been mastered.

Will the GLE work for a school without any computers?

No. However, schools can rent computers during the testing periods.

Who designed the GLE curriculum?

Tudor Publishing Company under the guidance of James R. Doyle, Ed.D. Dr. Doyle is an educational consultant with an extensive background in curriculum, testing, and elementary education for the State of Michigan.

Have the GLE tests been validated?

Yes. A doctoral validation has been performed, a face validation, a teachers jury validation, readability indexes, behavioral studies, and actual student validations. Hundreds of educators, parents, and students participated in this project.

Can the curriculum be modified to fit my district's curriculum?

Yes. The skills or objectives can be specifically matched to a district's working curriculum.

Our schools use the Whole Language approach to Language Arts. Will GLE evaluate this type of program?

Yes. GLE measures critical thinking skills as well as essential basic skills.

Will the parents read the reports and tutorials?

Yes. Contrary to popular belief, the parents will read and evaluate the reports. The reports are personalized with their children's name and gender and are written in plain English.

Is GLE a benefit to school administrators and superintendents?

School administrators and district superintendents use GLE results to verify that all skills contained on the curriculum are being taught and mastered. Districts can realign curriculums based on student scores. Administrators find the Effective Skill Master (ESM) report extremely helpful in confirming teacher effectiveness.

Glossary

Actual Skill Master (ASM)
ASM is the percentage of skills a student masters for a given grade level and area of study.

Area of Study
A general topic of study. (Example: Language Arts or Mathematics)

C.A.P.E.
Tudor Publishing Company's proprietary Computer Adaptive Performance Evaluations technology.

Computational Skills
The ability of a student to take learned concepts and apply them to life and problem solving situations.

Computer-Adaptive Test
The computer program modifies the test based on individual student response.

Criterion Reference-Based Exam
Tests the students understanding of pre-established material. Scores directly reflect the progress of the individual student.

Critical Thinking Skills
Problems require the student to apply basic skills to more complex situations.

Curriculum
The course of study in an educational environment. The Grade Level Evaluation curriculum was gathered from educational material taught in various areas of the country.

Don't Know Answers
Answer provided by Grade Level Evaluation for students that are unfamiliar with a question.

DOS
Disk Operating System is a software needed to run most software on a computer. For Grade Level Evaluation, you will need DOS version 2.1 or greater.

Effective Skill Mastery (ESM)
ESM is the measurement of student skills mastered.

Floppy Diskette
A diskette (either 5 1/4" or 3 1/2") that is inserted into the computer diskette drive to store and retrieve data.

Grade Level Evaluation
A series of educational programs that assess the educational progress of students.

IBM Compatible Computer
A computer that is capable of running software that is designed for the IBM personal computer standard.

Mastery Outcome Exam
Tests a student's understanding of material. Exam results directly reflect those skills that the student has and has not mastered.

Menu

A list of program options or features. Menu items can be selected by moving the highlight bar.

Multiple Choice Questions

A question with a limited list of possible answers for a student to select from.

Normed Reference Exam

An exam that interprets a student's results based on the achievement of other students.

Option

An item that can be selected from a menu.

Practice Exam

Allows the student to become familiar with the Grade Level Evaluation exam format and style.

Random Questions

To allow for multiple use of the Grade Level Evaluation program, Grade Level Evaluation questions are asked from a large pool of questions in no particular order. Therefore, new questions are likely to appear each time the exam is taken.

Review Incorrect Answers

A Grade Level Evaluation option that allows the test administrator to review all questions that the student answered incorrectly.

Review Scores

A Grade Level Evaluation main menu option that allows the user to select various methods for reviewing exam results.

Skill

A specific field of study under a unit. (Example: adding mixed fractions is a skill under the fractions unit)

Standardized Test

Tests that are administered and scored under circumstances that are analogous to all students.

Testing Session

The period of time a student spends on a Grade Level Evaluation, including set-up time and testing time.

Tutorials

The GLE Full Text Assessment Report provides sample tutorials of all skills a student did not master.

Unit

A specific topic under a general area of study. (Example: fractions is a unit under mathematics)

Unfinished Exam

Any Grade Level Evaluation exam that has not been completed will be listed on the menu as incomplete. Unfinished exams must be completed before the exam is retaken.

Whole Language

Whole language is a philosophy about education, teachers, and language. In theory, language should be taught on a "whole" and basic skills should follow.

Index

Notes

Grade Level Evaluation
Tudor Publishing Company
6540 Lusk Boulevard, Suite 210
San Diego, California 92121-2768
(619) 552-2244

Grade Level Evaluation
Assessment Management System

Grade Level Evaluation's **Assessment Management System** (AMS) provides educators with complete and concise reporting:

* **Effective Skills Mastery Report** is the measurement of student skills mastered by class, grade, or school. This is an excellent management tool to quickly measure the effectiveness of educational programs;

* **Actual Skills Mastery Report** provides an additional level of detail, showing the students and their percentage of skills mastered by each instructional unit. This report pinpoints the students that are having difficulty;

* **Skills Not Mastered Report** groups students by instructional unit and skill. Since this report only shows the students not mastering specific skills, it becomes an excellent working document for the teacher;

* **Student Summary Report** is a concise one page student report showing each skill mastery level by instructional unit. This report also indicates how fast or slow a student took at each skill level, an additional level of evaluation. Teachers find this report an accurate method of evaluating each individual student; and

* **Parent's Detailed Report** identifies each skill in easy to understand sentences and is personalized with the student's name throughout the report. For each skill not mastered, a parent orientated tutorial is printed. This has proven to positively involve the parents in their child's education. Principals have reported what a positive influence this report has made on the parent/teacher relations in their schools.

Grade Level Evaluation
Effective Skills Mastery Report

Class Teacher: Frank Jones
Room: 234
Curriculum:

Printed: February 2, 1993

Level 4

Mathematics

Add/Subtract Whole Numbers	92
Multiply/Divide Whole Numbers	79
Add/Subtract Decimals	61
Add/Subtract Fractions	55
Data Interpretation	100
Measurement	58
Numeration	75
Number Sentences	74
Number Theory	86
Problem Solving	88
Geometry	55
ESM rating for Mathematics	**74**

Language Arts

Vocabulary	76
Spelling	90
Language Mechanics	95
Study Skills	78
Language Expressions	80
Reading	66
ESM rating for Language Arts	**80**

ESM rating for Level 4	**77**

Grade Level Evaluation
Actual Skills Mastery Report

Class Teacher: Frank Jones
Room: 234
Curriculum:

Printed: February 2, 1993

Level 4 - Mathematics

Add/Subtract Whole Numbers

Adams, Beth	100
Boyd, Kim	71
Bramwell, Ken	100
Chen, Kim	86
Jirik, Susane	100
Lang, Connie	100
Pathirana, Diane	100
Son, Shane	86
Whitenack, Noah	86

Multiply/Divide Whole Numbers

Adams, Beth	67
Boyd, Kim	50
Bramwell, Ken	100
Chen, Kim	100
Jirik, Susane	50
Lang, Connie	83
Pathirana, Diane	100
Son, Shane	67
Whitenack, Noah	100

Add/Subtract Decimals

Adams, Beth	50
Boyd, Kim	17
Bramwell, Ken	50
Chen, Kim	100
Jirik, Susane	0
Lang, Connie	50
Pathirana, Diane	100
Son, Shane	83
Whitenack, Noah	100

Add/Subtract Fractions

Adams, Beth	50
Boyd, Kim	50
Bramwell, Ken	0
Chen, Kim	100
Jirik, Susane	0
Lang, Connie	50
Pathirana, Diane	75
Son, Shane	100
Whitenack, Noah	75

Data Interpretation

Adams, Beth	100
Boyd, Kim	100
Bramwell, Ken	100
Chen, Kim	100
Jirik, Susane	100
Lang, Connie	100
Pathirana, Diane	100
Son, Shane	100
Whitenack, Noah	100

Measurement

Adams, Beth	29
Boyd, Kim	43
Bramwell, Ken	43
Chen, Kim	71
Jirik, Susane	14
Lang, Connie	57
Pathirana, Diane	71
Son, Shane	100
Whitenack, Noah	100

Numeration

Adams, Beth	70
Boyd, Kim	50
Bramwell, Ken	80
Chen, Kim	90
Jirik, Susane	30
Lang, Connie	90
Pathirana, Diane	90
Son, Shane	90
Whitenack, Noah	90

Number Sentences

Adams, Beth	100
Boyd, Kim	33
Bramwell, Ken	67
Chen, Kim	100
Jirik, Susane	0
Lang, Connie	67
Pathirana, Diane	100
Son, Shane	100
Whitenack, Noah	100

Number Theory

Adams, Beth	100
Boyd, Kim	80
Bramwell, Ken	80
Chen, Kim	100
Jirik, Susane	60
Lang, Connie	80
Pathirana, Diane	100
Son, Shane	80
Whitenack, Noah	100

Problem Solving

Adams, Beth	100
Boyd, Kim	100
Bramwell, Ken	100
Chen, Kim	100
Jirik, Susane	0
Lang, Connie	100
Pathirana, Diane	100
Son, Shane	100
Whitenack, Noah	100

Geometry

Adams, Beth	50
Boyd, Kim	25
Bramwell, Ken	25
Chen, Kim	75
Jirik, Susane	50
Lang, Connie	25
Pathirana, Diane	75
Son, Shane	100
Whitenack, Noah	75

Grade Level Evaluation
Actual Skills Mastery Report

Class Teacher: Frank Jones

Printed: February 2, 1993

Room: 234

Curriculum:

Level 4 - Language Arts

Vocabulary

Brennan, Chris	75
Celikel, Tim	75
Gerwien, Bev	75
Gray, Kelly	63
Lane, John	88
Manzano, Meredith	100
Schultz, Bob	38
Ting, Bill	88
Tremblay, Lori	63
Van Dam, Rebbeca	100

Spelling

Brennan, Chris	50
Celikel, Tim	100
Gerwien, Bev	50
Gray, Kelly	100
Lane, John	100
Manzano, Meredith	100
Schultz, Bob	100
Ting, Bill	100
Tremblay, Lori	100
Van Dam, Rebbeca	100

Language Mechanics

Brennan, Chris	83
Celikel, Tim	100
Gerwien, Bev	100
Gray, Kelly	83
Lane, John	100
Manzano, Meredith	100
Schultz, Bob	83
Ting, Bill	100
Tremblay, Lori	100
Van Dam, Rebbeca	100

Study Skills

Brennan, Chris	67
Celikel, Tim	89
Gerwien, Bev	89
Gray, Kelly	67
Lane, John	78
Manzano, Meredith	89
Schultz, Bob	78
Ting, Bill	89
Tremblay, Lori	56
Van Dam, Rebbeca	89

Language Expressions

Brennan, Chris	80
Celikel, Tim	93
Gerwien, Bev	80
Gray, Kelly	67
Lane, John	93
Manzano, Meredith	80
Schultz, Bob	73
Ting, Bill	87
Tremblay, Lori	60
Van Dam, Rebbeca	87

Reading

Brennan, Chris	20
Celikel, Tim	80
Gerwien, Bev	80
Gray, Kelly	60
Lane, John	40
Manzano, Meredith	80
Schultz, Bob	80
Ting, Bill	80
Tremblay, Lori	40
Van Dam, Rebbeca	100

Grade Level Evaluation
Skills Not Mastered Report

Class Teacher: Frank Jones
Room: 234
Curriculum:

Printed: February 2, 1993

Level 4 - Mathematics

Add/Subtract Whole Numbers

Subtract 2 numbers with 2-3 digits

Boyd, Kim	0%	
Whitenack, Noah	0%	

Subtract 2 numbers with 4+ digits

Boyd, Kim	0%	
Chen, Kim	50%	
Son, Shane	33%	2

Multiply/Divide Whole

Divide 1-2 digits by 1 digit

Boyd, Kim	0%	2
Jirik, Susane	0%	2
Lang, Connie	50%	

Divide 3+ digits by 1 digit

Adams, Beth	33%	2
Boyd, Kim	0%	2
Jirik, Susane	0%	2
Son, Shane	33%	2

Division Story Problems

Adams, Beth	50%	2
Boyd, Kim	0%	2
Jirik, Susane	0%	2
Son, Shane	50%	2

Add/Subtract Decimals

Add 2 numbers with 1-2 decimals

Boyd, Kim	33%	2
Jirik, Susane	0%	2
Lang, Connie	50%	

Add 2 numbers with 3 decimals

Boyd, Kim	0%	2
Bramwell, Ken	50%	
Jirik, Susane	0%	2
Lang, Connie	50%	

Subtract 2 numbers with 1-2 decimals

Adams, Beth	0%	2
Boyd, Kim	0%	1
Jirik, Susane	0%	2

Subtract 2 numbers with 3+ decimals

Adams, Beth	25%	2
Boyd, Kim	0%	2
Bramwell, Ken	0%	2
Jirik, Susane	0%	2
Lang, Connie	50%	
Son, Shane	0%	2

Story Problems

Boyd, Kim	0%	2
Jirik, Susane	0%	2

Compare Decimals

Adams, Beth	50%	1
Bramwell, Ken	33%	2
Jirik, Susane	33%	2

Add/Subtract Fractions

Add fractions; same denominator

Adams, Beth	50%	1
Boyd, Kim	0%	1
Bramwell, Ken	0%	2
Jirik, Susane	0%	2
Lang, Connie	25%	

Subtract fractions; same denominator

Adams, Beth	0%	
Boyd, Kim	50%	1
Bramwell, Ken	0%	2
Jirik, Susane	0%	2
Pathirana, Diane	0%	
Whitenack, Noah	0%	

Compare Fractions

Bramwell, Ken	50%	1
Jirik, Susane	0%	2
Lang, Connie	25%	

Fractions for Part of a Set

Bramwell, Ken	25%	
Jirik, Susane	50%	

Measurement

Money

Boyd, Kim	50%	1
Jirik, Susane	25%	2

Area of Rectangle

Adams, Beth	50%	
Boyd, Kim	25%	
Bramwell, Ken	50%	
Chen, Kim	25%	
Jirik, Susane	25%	
Lang, Connie	50%	1

Volume

Adams, Beth	0%	2
Boyd, Kim	25%	
Bramwell, Ken	0%	2
Jirik, Susane	0%	2
Lang, Connie	25%	
Pathirana, Diane	0%	1

Temperature

Adams, Beth	0%	1
Chen, Kim	50%	
Jirik, Susane	25%	1

Time

Adams, Beth	50%	1
Bramwell, Ken	50%	

Perimeter

Jirik, Susane	50%	1

Converting

Adams, Beth	33%	2
Boyd, Kim	0%	2
Bramwell, Ken	33%	2
Jirik, Susane	0%	2
Lang, Connie	50%	
Pathirana, Diane	50%	

Numeration

Word Names: Decimals

Adams, Beth	0%	1
Boyd, Kim	33%	2
Bramwell, Ken	25%	
Chen, Kim	25%	
Pathirana, Diane	50%	
Son, Shane	50%	1

Read Numerals

Jirik, Susane	50%	
Whitenack, Noah	50%	

Ordinality

Adams, Beth	0%	2
Boyd, Kim	33%	2
Jirik, Susane	0%	2

Place Value

Jirik, Susane	50%	2

Expanded Notation

Boyd, Kim	50%	
Jirik, Susane	50%	2

Grade Level Evaluation
Skills Not Mastered Report

Class Teacher: Frank Jones

Printed: February 2, 1993

Room: 234

Curriculum:

Level 4 - Mathematics

Rounding and Estimation

Boyd, Kim	50%	
Jirik, Susane	50%	2

Roman Numerals

Adams, Beth	25%	1
Bramwell, Ken	0%	2

Terms

Boyd, Kim	0%	2
Jirik, Susane	0%	2
Lang, Connie	50%	

Number Lines

Jirik, Susane	0%	

Number Sentences

Identify Sentence

Jirik, Susane	50%	1

Missing Elements

Boyd, Kim	50%	2
Jirik, Susane	50%	1

Function/ Pattern

Boyd, Kim	50%	
Bramwell, Ken	0%	2
Jirik, Susane	0%	2
Lang, Connie	0%	1

Number Theory

Properties

Jirik, Susane	50%	1

Equivalent Forms

Boyd, Kim	25%	1
Bramwell, Ken	0%	
Jirik, Susane	0%	2
Lang, Connie	0%	
Son, Shane	33%	2

Problem Solving

Multiple-step Story Problems

Jirik, Susane	25%	2

Irrelevant Information

Jirik, Susane	0%	2

Geometry

Symmetry/ Congruency

Bramwell, Ken	33%	2

Lines

Boyd, Kim	0%	2
Bramwell, Ken	50%	2
Jirik, Susane	50%	1
Lang, Connie	25%	
Pathirana, Diane	33%	2

Figures

Adams, Beth	50%	
Boyd, Kim	50%	
Bramwell, Ken	50%	
Jirik, Susane	50%	
Lang, Connie	50%	

Coordinate Geometry

Adams, Beth	50%	1
Boyd, Kim	50%	
Chen, Kim	25%	
Lang, Connie	0%	1
Whitenack, Noah	50%	

Grade Level Evaluation
Skills Not Mastered Report

Class Teacher: Frank Jones
Room: 234
Curriculum:

Printed: February 2, 1993

Level 4 - Language Arts

Vocabulary

Prefixes

Gray, Kelly	50%	1

Antonyms

Brennan, Chris	0%	
Celikel, Tim	25%	
Gerwien, Bev	50%	
Gray, Kelly	0%	
Lane, John	0%	
Schultz, Bob	50%	
Tremblay, Lori	0%	

Suffixes

Celikel, Tim	0%	
Schultz, Bob	0%	2
Ting, Bill	50%	

Homonyms

Brennan, Chris	50%	
Gray, Kelly	50%	1
Schultz, Bob	50%	1
Tremblay, Lori	25%	1

Syllabication

Schultz, Bob	50%	

Base Words

Gerwien, Bev	50%	
Schultz, Bob	50%	
Tremblay, Lori	50%	1

Spelling

Spelling

Brennan, Chris	50%	
Gerwien, Bev	50%	

Language Mechanics

Capitalization

Brennan, Chris	50%	1
Schultz, Bob	0%	

Abbreviations

Gray, Kelly	50%	1

Study Skills

Glossary

Gerwien, Bev	25%	
Lane, John	50%	
Tremblay, Lori	0%	2

Index

Brennan, Chris	0%	1
Tremblay, Lori	50%	

Dictionary - Guide Words

Brennan, Chris	0%	1
Celikel, Tim	0%	2
Gray, Kelly	0%	2
Lane, John	25%	
Manzano, Meredith	0%	1
Schultz, Bob	0%	1
Ting, Bill	0%	
Tremblay, Lori	0%	2

Library Skills

Gray, Kelly	25%	
Van Dam, Rebbeca	25%	1

Graphic Information - Diagrams

Brennan, Chris	50%	
Gray, Kelly	50%	
Schultz, Bob	50%	
Tremblay, Lori	25%	

Language Expressions

Possessive Nouns

Van Dam, Rebbeca	25%	

Past Participles

Gray, Kelly	50%	

Subject of Sentence

Gerwien, Bev	0%	
Schultz, Bob	25%	
Tremblay, Lori	25%	

Fragment/ Run-on sentences

Gray, Kelly	0%	
Schultz, Bob	0%	2

Predicate of Sentence

Brennan, Chris	0%	
Celikel, Tim	50%	
Gerwien, Bev	25%	
Gray, Kelly	25%	
Lane, John	50%	
Manzano, Meredith	50%	1
Schultz, Bob	50%	
Ting, Bill	25%	1
Tremblay, Lori	0%	1

Sentence Combining

Brennan, Chris	25%	
Gray, Kelly	50%	
Tremblay, Lori	50%	

Topic Sentence

Brennan, Chris	50%	
Manzano, Meredith	50%	

Paragraph Coherence

Tremblay, Lori	0%	2

Sentence Sequence

Tremblay, Lori	25%	1

Idioms

Gerwien, Bev	25%	
Gray, Kelly	50%	1
Manzano, Meredith	50%	
Schultz, Bob	50%	
Ting, Bill	50%	
Tremblay, Lori	50%	
Van Dam, Rebbeca	25%	2

Reading

Cause and effect

Brennan, Chris	50%	1
Gerwien, Bev	25%	
Gray, Kelly	50%	1
Lane, John	50%	
Schultz, Bob	50%	1

Following directions

Brennan, Chris	50%	
Lane, John	25%	
Tremblay, Lori	25%	

Reading Comprehension

Gray, Kelly	50%	
Manzano, Meredith	50%	1
Tremblay, Lori	25%	1

Reading Comprehension

Brennan, Chris	33%	
Lane, John	67%	

Reading Comprehension

Brennan, Chris	33%	
Celikel, Tim	67%	
Ting, Bill	67%	
Tremblay, Lori	33%	

Grade Level Evaluation
Student Summary Report

Student: Lang, Connie
Age: 9
Grade: 4

Class: Frank Jones
Room: 234
Date Taken: / /

Level 4 - Mathematics

Units/Skills	Score	Time	Codes
Add/Subtract Whole Numbers			
Add 2 numbers with 1-3 digits	100%	+14	L
Add 2 numbers with 3+ digits	100%	+2	K
Addition Story Problems	100%	-9	I
Subtract 2 numbers with 2-3 digits	100%	-4	K
Subtract 2 numbers with 4+ digits	100%	+3	K
Subtraction Story Problems	100%	+16	L
Compare Numbers	100%	+4	K
Multiply/Divide Whole Numbers			
Multiply 1-digit by 1-digit	100%	+22	L
Multiply 2+ digits by 1-digit	100%	+9	L
Multiplication Story Problems	100%	+80	L
Divide 1-2 digits by 1 digit	50%	+9	M
Divide 3+ digits by 1 digit	100%	+43	L
Division Story Problems	100%	+18	L
Add/Subtract Decimals			
Add 2 numbers with 1-2 decimals	50%	+4	K
Add 2 numbers with 3 decimals	50%	-1	K
Subtract 2 numbers with 1-2 decimals	75%	-9	I
Subtract 2 numbers with 3+ decimals	50%	+18	M
Story Problems	100%	-17	I
Compare Decimals	75%	-19	I
Add/Subtract Fractions			
Add fractions; same denominator	25%	-1	K
Subtract fractions; same denominator	75%	-26	I
Compare Fractions	25%	-16	J
Fractions for Part of a Set	100%	-13	I
Data Interpretation			
Graphs - Line/ Bar	100%	-34	I
Tables	100%	-42	I
Measurement			
Money	75%	+98	L
Area of Rectangle	50%	-9	JI
Volume	25%	-30	J
Temperature	75%	-1	K
Time	75%	-1	K
Perimeter	100%	-12	I
Converting	50%	-12	J
Numeration			
Word Names: Whole Numbers	100%	-7	I
Word Names: Decimals	75%	-18	I
Read Numerals	100%	-7	I

Units/Skills	Score	Time	Codes
Ordinality	75%	-18	I
Place Value	100%	-19	I
Expanded Notation	100%	+1	K
Rounding and Estimation	75%	-1	K
Roman Numerals	75%	-15	I
Terms	50%	-11	J
Number Lines	75%	-14	I
Number Sentences			
Identify Sentence	100%	-5	K
Missing Elements	75%	-10	I
Function/ Pattern	0%	-20	JI
Number Theory			
Odd/ Even	75%	-15	I
Properties	100%	-13	I
Operational Symbols	100%	-15	I
Equivalent Forms	0%	-24	J
Sequence	100%	-15	I
Problem Solving			
Multiple-step Story Problems	75%	-21	I
Irrelevant Information	100%	-25	I
Geometry			
Symmetry/ Congruency	100%	-22	I
Lines	25%	-19	J
Figures	50%	-19	J
Coordinate Geometry	0%	-24	JI

Codes:

I - The student was also able to quickly complete these questions.
J - The student rushed through the problems, possibly guessing at the answers
K - The student spent an average amount of time doing these problems.
L - The student spent a significant amount of time on each problem. This may indicate that they understand the skill but, are unable to complete it in a reasonable amount of time.
M - The student also took a lengthy amount of time to respond to the questions in this skill.
1 - One 'Don't know' answer was marked.
2 - Two or more 'Don't know' answers were marked.
Time: Positive times indicate slower than average, negative time are faster than average.

Grade Level Evaluation

Level Four
February 1, 1993
Connie Lang
Math Skills

This report is for the **Math Skills** exam taken on Monday December 9, 1992 by Connie Lang. She has completed or is currently in the fourth grade and is 10 years old. This exam was designed to test students who have completed the third grade.

Grade Level Evaluation is a series of comprehensive exams that test a child's understanding of major math and reading skills necessary for success at each grade level. This assessment report is provided to give the parent and teacher a teamwork approach to helping each student. This Grade Level Evaluation "Detailed Assessment Report" reveals the skills your child has and has not mastered. If the student has mastered a skill, it means that the student has shown clear evidence that she comprehends that specific math or reading skill. For those skills not mastered, Grade Level Evaluation offers detailed explanations and solutions.

Curriculums vary from state to state, district to district, and school to school. The content of the Grade Level Evaluation exams is based on the major curriculums used in classrooms throughout the country. Specific curriculum skills are taught at different grade levels, depending on the school and the district.

The Grade Level Evaluation curriculum is structured around three levels. The first level is the area of study, such as Language Arts. Within each area of study there are 7 or 8 units, for example vocabulary. Within each unit, there may be several specific skills, such as antonyms. Any single unit can be retaken after the student has completed that area of study.

The Grade Level Evaluation exams are uniquely different from many of the national tests used by schools. Grade Level Evaluation assesses the student's understanding of basic educational skills and reports on the specific skills not mastered. Many of the national tests used by schools are "normed reference tests." Normed reference tests provide information on groups of students, schools, and districts. Although these exams offer percentile scores for the individual student, they do not report on the specific skills mastered or not mastered by the student. Grade Level Evaluation clearly identifies the child's understanding of each skill.

A unique advantage of this computer-based exam is the ability to individually time each skill. The Grade Level Evaluation program measures the time Connie spent answering questions within a specific skill. Although this time factor does not affect her score, it does provide for a more expanded understanding of her abilities. For example, a child may comprehend a skill, but require a significant amount of testing time to answer questions related to a particular skill. Since most tests are "timed," such as college entrance exams, children need to develop accurate yet rapid test taking skills.

Please review this report in detail. Explanations, examples, and possible tutoring techniques are included for each skill when appropriate.

The Mathematics exam involves assessing Connie's comprehension of whole numbers, decimals, and fractions. Elementary math calculations include addition, subtraction, multiplication, and division. A sound understanding of these calculations is required for future mathematical and scientific courses, such as algebra and chemistry. The Mathematics exam also includes units dealing with measurement, geometry, and graphical data.

Adding and subtracting whole numbers is the basic foundation for mathematics. Children must master the basics of whole numbers before other mathematical theories, such as multiplication, are introduced.

Adding two numbers with more than one digit (columns of numbers) often requires regrouping (carrying, trading, renaming). Regrouping occurs when the total of the numbers in a column (i.e., ones position) is equal to or greater than ten. Problems are presented in both vertical and horizontal formats. Connie demonstrated an excellent understanding of adding two numbers with one to three digits. The skill was completed with no errors. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Adding two numbers with more than one digit (columns of numbers) often requires regrouping (carrying, trading, or renaming). Regrouping occurs when the total of the numbers in a column (i.e., ones position) is equal to or greater than ten. Problems are presented in both vertical and horizontal formats. Connie showed excellent proficiency in adding two numbers with three or more digits. She completed the skill with no errors. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Story problems, also called word problems, relate addition of whole numbers to actual situations. Operational symbols, such as a plus (+) symbol, are replaced with text. For example, if Jill had 2 apples and Jack gave her 2 more apples, how many apples does Jill have now? The student must determine that addition is required to perform this problem. **Connie mastered addition story problems dealing with whole numbers with no errors.** Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Subtracting two numbers with more than one digit (columns of numbers) often requires trading (borrowing or regrouping). Trading occurs when the number being subtracted is greater than the other number. For example, trading is required when 167 is subtracted from 523. Problems are presented in both vertical and horizontal formats. Connie has clearly mastered the material dealing with subtracting two whole numbers with two or three digits.

Subtracting two numbers with more than one digit (columns of numbers) often requires trading (borrowing or regrouping). Trading occurs when the number being subtracted is greater than the other number. For example, trading is required when 167 is subtracted from 523. Problems are presented in both vertical and horizontal formats. Connie was able to correctly answer all of the questions dealing with subtracting two numbers with four or more digits. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Story problems, also called word problems, relate subtraction of whole numbers to actual situations. Operational symbols, such as a minus (-) symbol, are replaced with text. For example, if Oliver had 5 pens and Tracy took 3, how many pens does Oliver have left? The student must determine that subtraction is required to perform this problem. The answer is Oliver has 2 pens left. Connie established that she has mastered subtraction story problems dealing with whole numbers by achieving a perfect score. **However, Connie spent a significant amount of time on each problem in the skill.** This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Comparing numbers involves the ordering of numbers by using ordering symbols, such as <, >, =. For example, 10 < 20. Connie demonstrated an excellent understanding of comparing whole numbers. The skill was completed with no errors. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Multiplication and division is an important step in calculating whole numbers. Addition and subtraction skills are utilized in multiplication and division. Students should be comfortable with the addition and subtraction of whole numbers before proceeding with multiplication and division.

Multiplying a one digit number by a one digit number, such as 8 X 4, requires a strong understanding of the multiplication table. Connie showed excellent proficiency in multiplying one digit by one digit. She completed the skill with no errors. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Multiplying a multiple digit number by a one digit number (579 X 4) is the first step in advanced multiplication. Multiplication of multiple digit numbers often requires regrouping (carrying, trading, renaming). Regrouping occurs when the product of the numbers in the ones position is equal to or greater than ten. The ones are then "regrouped" into tens. The same rule applies for hundreds, thousands, etc. Connie mastered multiplying two or more digits by one digit with no errors. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Story problems, also called word problems, relate multiplication of whole numbers to actual situations. Operational symbols, such as a multiplication (X) symbol, are replaced with text. For example, if there are 10 students and each student receives 3 books, how many books are needed. The student must determine that multiplication is required to perform the problem. The answer is 30 books are needed. Connie has clearly mastered the material dealing with multiplication story problems dealing with whole numbers. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Dividing a one or two digit whole number by a one digit whole number usually relies on a strong understanding of the multiplication table. For example, 18 divided by 9 is 2. A student that has mastered multiplication will most likely recognize that 9 multiplied by 2 is 18. **Connie incorrectly answered many of the questions** and therefore did not master dividing one or two digits by one digit. It also took Connie a lengthy amount of time to respond to these questions. This is often an indicator that although significant effort was made, the student does not have the skills necessary to answer the questions. It should be noted that this skill is usually taught and mastered in the third grade.

It may be helpful to verify that Connie has mastered the multiplication table. A creative technique for improving both multiplication and division skills is with flash cards. On one side of the flash card write the equation, such as 32 divided by 4. Write the answer, 8, on the other side of the card.

Dividing a three or more digit whole number by a one digit whole number usually requires using long division. Remainders occur when numbers cannot be divided evenly. For example, 11 divided by 2 is equal to 5 with 1 left over (remainder). Connie was able to correctly answer all of the questions dealing with dividing three or more digits by one digit. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Story problems, also called word problems, relate division of whole numbers to actual situations. Operational symbols, such as a division symbol, are replaced with text. For example, if there are 18 pencils and 9 pencil boxes, how many pencils are in each box? The student must determine that division is required to perform this problem. The answer is 2 pencils in each pencil box. Connie established that she has mastered division story problems dealing with whole numbers by achieving a perfect score. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

This unit includes the measurement of shapes, such as perimeter and area. Also included in this unit is the measurement of temperature, time, and money.

Problems include making change, adding coins, etc. Connie demonstrated a complete understanding of money. She solved the questions with little difficulty. However, Connie spent a substantial amount of time answering the questions in this skill. This could be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Area is the measurement of a region. Area measurements are in square units. **Connie had difficulty answering questions dealing with area measurement. She did not master this skill.** Connie's score was negatively affected because she indicated that at least one of the problems was unknown to her. It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

The formula for calculating area is width multiplied with height. For example, a figure has a width of 7 inches and a height of 3 inches. The area is 7 X 3 = 21 square inches. It may be useful

to use graph paper to develop figures. Help Connie determine the area of various figures drawn on the graph paper.

Volume is the measurement of a figure's space. Volume is measured in cubic units. There is clear indication that Connie has little or no understanding of volume measurement. Furthermore, Connie completed the skill at a very fast pace. This may be an indication that Connie did not know the material at all and/or hurried through the exam. It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

The formula for calculating volume is length multiplied by width multiplied by height. For example, a figure with length = 2 inches, width = 4 inches, height = 6 inches. The volume is 2 X 4 X 6 = 48 cubic inches. It may be helpful to develop a series of problem and help Connie determine the correct volume measurement.

In these problems, temperature is measured by thermometers. Connie mastered temperature measurement with minimal errors.

These problems include telling time, adding hours and minutes, and word problems. For example, what time is it two hours after midnight? The answer is 2:00 am. Connie mastered telling time with minimal difficulty.

Perimeter is the measurement around a figure. Connie demonstrated an excellent understanding of perimeter measurement. The skill was completed with no errors. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Students must convert various forms of measurement, including U.S. standard and metric. Connie incorrectly answered many of the questions dealing with converting forms of measurement. She did not master this skill. Furthermore, Connie completed the skill at a very fast pace. This may be an indication that Connie did not know the material at all and/or hurried through the exam. It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

It may be helpful to use actual objects to improve Connie's converting skills. For example, a table is 36 inches tall. There are 12 inches in 1 foot. Divide 36 by 12, the result is 3. The table is 3 feet tall. Continue with other object and also the metric system.

A decimal number is a number that uses place value and a decimal point to show tenths, hundredths, etc. For example, the number 3.75 is read three and seventy-five hundredths. Decimals are introduced through adding, subtracting, and ordering. Addition

and subtraction verify that the student understands the concept of the calculation, as well as the place value. Ordering decimals confirm that the student understands place value.

Adding two decimal numbers with more than one digit (columns of numbers) is very similar to adding whole numbers. Like whole numbers, addition of decimals often requires regrouping (carrying, trading, renaming). Regrouping occurs when the total of the numbers in a column (i.e., ones position) is equal to or greater than ten. Problems are presented in both vertical and horizontal formats. **Connie did not master adding two numbers with one or two decimal positions.** She incorrectly answered many of the questions. It also took Connie a lengthy amount of time to respond to these questions. This is often an indicator that although significant effort was made, the student does not have the skills necessary to answer the questions. It should be noted that this skill is usually taught and mastered in the third grade.

It may be beneficial to verify that Connie understands regrouping of decimals. The following is a step-by-step example of a problem that requires regrouping.

Solve: 8.97 + 5.36 = ?

(1)	(2)	(3)	(4)
	1	1 1	1 1
8.97	8.97	8.97	8.97
+ 5.36	+ 5.36	+ 5.36	+ 5.36
------	------	------	------
	3	.33	14.33

Step 1: Rewrite the problem vertically. Always line up the decimal points.

Step 2: Add the numbers in the hundredths position (7 + 6 = 13). Write the 3 in the hundredths position below the line. Carry the 1 to the next column (tenths).

Step 3: Add the numbers in the tenths column including the number carried over from the previous column (9 + 3 + 1 = 13). Write the 3 in the tenths position (below the line). Carry the 1 to the next column (ones). Bring the decimal point down.

Step 4: Add the numbers in the ones position including the number carried over from the previous column (8 + 5 + 1 = 14). Write the 14 to the left of the decimal point (below the line).

The correct answer is 8.97 + 5.36 = 14.33

Adding two decimal numbers with more than one digit (columns of numbers) is very similar to adding whole numbers. Like whole numbers, addition of decimals often requires regrouping (carrying, trading, renaming). Regrouping occurs when the total of the numbers in a column (i.e., ones position) is equal to or greater than ten. Problems are presented in both vertical and horizontal formats. Connie's exam results indicate that she has not completely mastered adding two numbers with three decimal positions. It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

It may be beneficial to verify that Connie understands regrouping of decimals. The following is a step-by-step example of a problem that requires regrouping.

Solve: 8.97 + 5.36 = ?

(1)	(2)	(3)	(4)
	1	1 1	1 1
8.97	8.97	8.97	8.97
+ 5.36	+ 5.36	+ 5.36	+ 5.36
------	------	------	------
	3	.33	14.33

Step 1: Rewrite the problem vertically. Always line up the decimal points.

Step 2: Add the numbers in the hundredths position (7 + 6 = 13). Write the 3 in the hundredths position below the line. Carry the 1 to the next column (tenths).

Step 3: Add the numbers in the tenths column including the number carried over from the previous column (9 + 3 + 1 = 13). Write the 3 in the tenths position (below the line). Carry the 1 to the next column (ones). Bring the decimal point down.

Step 4: Add the numbers in the ones position including the number carried over from the previous column (8 + 5 + 1 = 14). Write the 14 to the left of the decimal point (below the line).

The correct answer is 8.97 + 5.36 = 14.33

Subtracting decimal numbers requires a strong understanding of the subtraction process, specifically trading (borrowing). Connie has a complete understanding of subtracting two numbers with one or two decimal positions, missing very few of the questions. Connie was also able to answer the questions very quickly.

Subtracting decimal numbers requires a strong understanding of the subtraction process, specifically trading (borrowing). The exam results indicate that Connie has not completely mastered subtracting two numbers with three or more decimal positions. It also took Connie a lengthy amount of time to respond to these questions. This is often an indicator that although significant effort was made, the student does not have the skills necessary to answer the questions. It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

The following is a step-by-step example of subtracting two decimal numbers.

Solve:5.3 - 2.9 = ?

(1)	(2)	(3)	(4)
	4 13	4 13	4 13
5.3	/./	/./	/./
- 2.9	- 2.9	- 2.9	- 2.9
-----	-----	-----	-----
	4	.4	2.4

Step 1: Rewrite the problem vertically. Always line up the decimal points.

Step 2: Begin by subtracting the tenths (right side of the decimal point). Subtraction follows the same format as with whole numbers. Please refer to subtracting whole numbers for more information.

Step 3: Bring the decimal point straight down and place below the line.

Step 4: Complete the subtraction of the ones.

The correct answer is 5.3 - 2.9 = 2.4.

Story problems, also called word problems, relate subtraction of decimal numbers to actual situations. Operational symbols, such as a minus (-) symbol, are replaced with text. Problems dealing with money are also included in this skill. Connie showed excellent proficiency in subtraction story problems dealing with decimals. She completed the skill with no errors. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Comparing decimal numbers involves the ordering of numbers by using ordering symbols, such as <, >, =. For example, .09 < .10. Connie clearly understands comparing decimal numbers. She

mastered the problems with few errors. Connie was alsc able to answer the questions very quickly.

A fraction is a number that names part of a whole or group. For example, 3/5 is a fraction. The top part of the fraction (3) is called the numerator. The bottom number (5) is called the denominator. Fractions are first introduced through adding and subtracting with like denominators. Also, figures are used to help illustrate the use of fractions.

Adding two fractions with the same denominator is the first step in working with fractions. Connie was not able to correctly answer the questions dealing with adding two fractions with the same denominator. She clearly has not mastered this material. It should be noted that this skill is usually taught and mastered in the third grade.

The following is a step-by-step example of adding two fractions with the same denominator.

Solve: $3/8 + 4/8 = ?$

(1)	(2)
$\frac{3}{8}$	$\frac{3}{8}$
$+\ \frac{4}{8}$	$+\ \frac{4}{8}$
----	----
	$\frac{7}{8}$

Step 1: Rewrite the problem vertically.

Step 2: Add the numerators (the number above the line). The denominator (the number below the line) remains the same.

The correct answer is $3/8 + 4/8 = 7/8$.

Subtracting two fractions with the same denominator is the first step in subtracting fractions. Connie's exam results indicate that she is able to perform subtracting two fractions with the same denominator with very few errors. Connie was also able to answer the questions very quickly.

Comparing fraction numbers involves the ordering of numbers by using ordering symbols, such as <, >, =. For example, $1/4 < 1/2$. Connie has shown clear evidence that she has not mastered

comparing fraction numbers. Furthermore, Connie completed the skill at a very fast pace. This may be an indication that Connie did not know the material at all and/or hurried through the exam. It should be noted that this skill is usually taught and mastered in the third grade.

It may be helpful to use review the ordering symbols.

SYMBOL	DEFINITION	EXAMPLE
<	less than	1/4 < 1/2
>	greater than	3/5 > 1/5
=	equal to	2/4 = 1/2

Use diagrams, such as pie graphs, to help Connie understand fraction amounts. Develop a series of fractions and help Connie insert the appropriate ordering symbols.

Fractions are often used to explain data presented in a diagram. For example, the amount of a diagram that is shaded can be expressed by a fraction. Connie mastered developing fraction number for a given diagram with no errors. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Numeration tests a students understanding of numbers commonly used in the third grade. Students must identify word names, digit meaning, mathematical terms, and Roman Numerals. Students are also presented with questions dealing with number lines, expanded notation, and rounding and estimation.Whole numbers are presented in numerical and word format. Connie has clearly mastered the material dealing with written numbers. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Decimal numbers are presented in numerical and word format. Connie demonstrated a complete understanding of written numbers. She solved the questions with little difficulty. Connie was also able to answer the questions very quickly.

Students must read and write numerals. Connie was able to correctly answer all of the questions dealing with reading numerals. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Ordinality is the ordering of numbers, specifically whole and decimal numbers. Connie mastered ordering whole and decimal numbers with minimal errors. Connie was also able to answer the questions very quickly.

Students must determine what a digit in a given number represents. For example, the number 3 in 534 represents 30 or 3 tens. Connie established that she has mastered determining the meaning of digits by achieving a perfect score. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Expanded notation is a format for writing numbers so that each digit shows a place value. For example, 753 = 700 + 50 + 3. Connie demonstrated an excellent understanding of expanded notation. The skill was completed with no errors. However, Connie spent a significant amount of time on each problem in the skill. This may be an indication that although Connie understands the skill, she was not able to complete it in a reasonable amount of time.

Rounding and estimation is used to express a number to the nearest ten, hundred, thousand, and so forth. Connie mastered rounding and estimating numbers with minimal difficulty.

Roman Numerals are symbols used by the Romans to name whole numbers. For example, the Roman Numeral for 10 is X. Connie has a complete understanding of Roman Numerals, missing very few of the questions. Connie was also able to answer the questions very quickly.

Students must identify and define mathematical terms, such as sum. Connie incorrectly answered many of the questions and therefore did not master terms and their definition. Furthermore, Connie completed the skill at a very fast pace. This may be an indication that Connie did not know the material at all and/or hurried through the exam. It should be noted that this skill is usually taught and mastered in the third grade.

An interesting method for improving Connie's understanding of mathematical terms is to develop a series of flash cards. Write the term on one side of the card, such as "sum." On the other side of the card write, "The answer to an addition problem."

A number line is a line with equally spaced points named by numbers. Problems include calculating the sum and difference of points, as well as determining the value of a specific point. Connie clearly understands number lines and their usage. She mastered the problems with few errors. Connie was also able to answer the questions very quickly.

Data interpretation involves the use of diagrams, such as graphs and charts. Students must identify the data represented in these diagrams. Data interpretation is important in other areas of study, such as science.

A graph is a drawing used to show and compare information. Students are presented with various graph forms, such as bar, pie

and line. Connie showed excellent proficiency in interpreting data from graphs. She completed the skill with no errors. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

A table is a drawing used to information. Connie mastered interpreting data from tables with no errors. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Number sentences are also called mathematical equations. Students must identify the correct equation in word problems and patterns. Also, students must determine the missing data of a given equation.

Students must determine what a given story problem is asking and then develop a formula for calculating how to solve the problem. Connie has clearly mastered the material dealing with identifying mathematical sentences from story problems. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Equations are presented with either a number or operational symbol omitted. Connie's exam results indicate that she is able to perform missing elements of an equation with very few errors. Connie was also able to answer the questions very quickly.

Students must identify the equation that creates a specific pattern or function. Connie's exam results reveal a lack of understanding for identifying functions and patterns. Connie's score was negatively affected because she indicated that at least one of the problems was unknown to her. It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

It may be helpful to develop a series of patterns and help Connie determine the correct equation. For example, 5, 7, 9, 11 follow a pattern of the number 2 added to an odd number.

Number theory involves the understanding of odd/even numbers, properties, and operational symbols. These theories will be utilized throughout Connie's mathematical courses.

An odd number is a whole number that is not a multiple of two, such as 3. An even number is a whole number that is a multiple of two, such as 4. Connie demonstrated a complete understanding of determining odd and even numbers. She solved the questions with little difficulty. Connie was also able to answer the questions very quickly.

Student's must complete equations with missing numbers and symbols. For example, 8 ? 2 = 6. This missing symbol is the minus (-) symbol. Connie was able to correctly answer all of the

questions dealing with properties. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Operational symbols are the symbols used to indicate the type of equation. For example, plus (+) and minus (-) symbols are operational symbols. Connie established that she has mastered operational symbols by achieving a perfect score. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Fractions can be written in decimal number format, and vice versa. For example, 1/4 = .25. Connie had extreme difficulty in correctly answering the questions dealing with determining equivalent fractions and decimals. She did not master the skill. Furthermore, Connie completed the skill at a very fast pace. This may be an indication that Connie did not know the material at all and/or hurried through the exam. It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

It may be advantageous to begin with a concentration on either fractions or decimals. Do not introduce a new area until one has been completely mastered. Once Connie has mastered either fractions or decimals, begin to interject its equivalent form. Develop a series of fractions and decimals and help Connie find the equivalent forms.

A sequence is a set of numbers that are listed in a certain order or pattern. Connie demonstrated an excellent understanding of number sequence. The skill was completed with no errors. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Word problems, also called story problems, are often a very challenging area for students. Mathematical problems are presented in text format. Student must determine what calculations need to be performed.

These problems test a student's ability to interpret data from a written word problem. Answers are found by solving two or more operations. Connie mastered multiple step story problems with minimal errors. Connie was also able to answer the questions very quickly.

These problems test a student's ability to read a word problem and use only the information pertinent to the question asked. Connie showed excellent proficiency in determining irrelevant information in story problems. She completed the skill with no errors. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

Geometry, at this level, involves shapes and figures. Students must identify geometric shapes, lines, and coordinates.

A symmetric figure is one that can be folded in half so that the two halves are equal. Congruent figures have the same shape and size. Connie mastered symmetry and congruency with no errors. Not only did Connie have a thorough understanding of this skill, but she was able to complete it in a very short amount of time.

A line is a straight path extending in both directions with no endpoints. Students must identify sets of lines, such as parallel lines. Connie has not mastered lines. Furthermore, Connie completed the skill at a very fast pace. This may be an indication that Connie did not know the material at all and/or hurried through the exam. It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

It may be beneficial to help Connie draw and label various sets of lines.

Students must identify various geometric figures, such as a sphere. Connie had difficulty answering questions dealing with geometric figures. She did not master this skill. Furthermore, Connie completed the skill at a very fast pace. This may be an indication that Connie did not know the material at all and/or hurried through the exam. It should be noted that this skill is usually taught and mastered in the third grade.

A creative method for improving this skill is to develop a series of flash cards. One side of the card contains a picture of the figure, while the other side has the written name.

A coordinate graph is used to name position points. Horizontal lines are listed first in coordinate pairs. For example, the coordinate pair (3, 2) is at the horizontal position 3 and the vertical position 2. There is clear indication that Connie has little or no understanding of coordinate geometry. Connie's score was negatively affected because she indicated that at least one of the problems was unknown to her. It should be noted that some schools throughout the country teach this skill at the third grade level. Other schools, however, do not include this skill in their curriculum until later grades.

It may be helpful to purchase graph paper to develop a coordinate graph. Help Connie plot points on the graph and determine the coordinate pair.

This concludes Grade Level Evaluation's review of Connie's Mathematics exam.

All reading and mathematics skills are important building blocks in your child's education. The Grade Level Evaluation assessment report includes detailed examples and solutions for all skills that Connie did not master. It is important that you, as a parent, become directly involved in Connie's education. Tutoring your child in those skills that she finds difficult will improve her academic learning, as well as your own personal relationship with your child.

Once tutoring has been completed, and Connie feels comfortable with the material, she can retake a specific Language Arts or Mathematics unit. This will verify her understanding of the unit and skill. Grade Level Evaluation questions are asked in random order, and new questions are likely to appear each time the exam is taken.

We encourage you to meet with Connie's teacher and discuss the exam results if necessary. The teacher should be able to answer any curriculum questions or concerns.

We sincerely hope that Grade Level Evaluation has made a positive contribution to Connie's education.

Grade Level Evaluation
Custom Curriculum Report

** Sample School Curriculum **

Printed: April 22, 1993

Mathematics

Level 4

Data Interpretation
- Graphs (Line/ Bar) - L4

Geometry
- Congruency/ Symmetry - L4
- Coordinate Geometry - L4
- Figures - L4
- Lines - L4
- Lines/ Segments/ Circles

Measurement
- Area of Rectangle - L4
- Calendar
- Money
- Perimeter - L4
- Temperature - L4
- Time - L4
- Units of Measurement - L4
- Volume - L4

Number Sentences
- Function/ Pattern - L4

Number Theory
- Odd/ Even - L4
- Sequence

Numeration
- Roman Numerals - L4

Whole Numbers
- Add 2 numbers with 1-3 digits
- Addition Story Problems - L4

Whole Numbers
- Divide 1-2 digits by 1 digit
- Multiply 1-digit by 1-digit
- Multiply 2+ digits by 1-digit

Whole Numbers
- Subtract 2 numbers with 2-3 digits
- Subtraction Story Problems - L4

Level 5

Data Interpretation
- Graphs (Bar) - L5
- Graphs (Line) - L5

Decimals
- Add 2 numbers with 3 decimals
- Subtract 2 numbers with 3+ decimals

Fractions
- Add fractions; same denominator

Fractions
- Compare Fractions - L5

Fractions
- Subtract fractions; same denominator

Geometry
- Angles/ Triangles - L5
- Congruency/ Symmetry - L5
- Coordinate Geometry - L5
- Figures - L4
- Lines/ Segments/ Circles

Measurement
- Area of Rectangle - L5
- Perimeter - L5
- Temperature - L5
- Units of Measurement - L5
- Volume - L5

Number Sentences
- Function/ Pattern - L4

Number Theory
- Equivalent Forms - L4

Problem Solving
- Multiple-step Story Problems - L5

Whole Numbers
- Add 2 numbers with 5+ digits

Whole Numbers
- Divide 1-2 digits by 1 digit
- Divide 3+ digits by 1 digit
- Multiply 2 2-digit numbers
- Multiply 2+ digits by 1-digit

Whole Numbers
- Subtract 2 numbers with 4+ digits

Level 6

Data Interpretation
- Diagrams
- Graphs (Line/ Circle) - L6
- Tables - L6

Decimals
- Add 3 numbers with 3+ decimals

Decimals
- Multiply 2 decimal numbers

Fractions
- Add fractions; different denominators
- Add mixed fractions

Fractions
- Multiply mixed fractions

Fractions
- Subtract fractions; different denoms.
- Subtract mixed fractions

Geometry
- Congruency/ Symmetry - L5
- Coordinate Geometry - L6
- Figures - L5

Measurement
- Area of Rectangle - L6
- Instruments
- Perimeter - L6
- Temperature - L5
- Units of Measurement - L5
- Volume - L6

Number Sentences
- Function/ Pattern - L4

Number Theory
- Divisibility/ Multiples/ Factors - L6
- Equivalent Forms - L5

Numeration
- Place Value - L4
- Rounding and Estimation - L6

Whole Numbers
- Add 3 numbers with 5+ digits

Whole Numbers
- Divide 3-digits by 2-digits
- Multiply 3+ digits by 2 digits

Grade Level Evaluation
Detailed Curriculum Guide
** Sample School Curriculum **

Printed: April 22, 1993

Level 4 Mathematics

Data Interpretation

☐ **Graphs (Line/ Bar) - L4**	At this level, students must identify and compare points on line and bar graphs. Problems require addition and subtraction skills. Graphs are numbered with whole numbers.

Geometry

☐ **Congruency/ Symmetry - L4**	Problems assess a student's ability to define the geometrical terms "congruent" and "symmetrical." Students must also identify congruent and symmetrical figures.
☐ **Coordinate Geometry - L4**	At this level, coordinate geometry is in whole numbers. Students must identify the numbered pairs on a coordinate graph.
☐ **Figures - L4**	Problems assess a student's ability to identify various geometrical figures, such as a cylinder, sphere, or cone.
☐ **Lines - L4**	Problems assess a student's ability to identify various geometrical lines, such as diagonal, perpendicular, or parallel.
☐ **Lines/ Segments/ Circles**	Problems assess a student's ability to identify various geometrical lines, such as perpendicular or parallel. Other problems assess the ability to identify parts of a circle, such as the diameter or radius. Students must also identify and compare various segments of a circle.

Measurement

☐ **Area of Rectangle - L4**	This skill asks two types of questions. The first type of question displays a figure consisting of several square units. Students must count the number of units to determine the area of the figure. The second type of question displays a figure that requires the formula "Area = Length X Width."
☐ **Calendar**	Students must answer questions dealing with the standard twelve month calendar. Several questions display a sample calendar month and the student must interpret days, dates, and events.
☐ **Money**	Problems assess a student's ability to add and subtract currency. Several problems require converting cents to dollars.
☐ **Perimeter - L4**	Students must find the perimeter of a given figure. Each side of the figure is less than 100.
☐ **Temperature - L4**	These problems assess a student's ability to read a thermometer. Students must also calculate changes in temperature through addition and subtraction.
☐ **Time - L4**	These problems assess a student's ability to read a clock. Problems also include calculating lengths of time through addition and subtraction.
☐ **Units of Measurement - L4**	Students must convert units of measurement, such as inches to feet and centimeters to meters.

Grade Level Evaluation
Detailed Curriculum Guide

** Sample School Curriculum **

Printed: April 22, 1993

Level 4 Mathematics

Measurement

☐ **Volume - L4**	Students are presented with a figure consisting of square units. Students can add the number of units to determine the volume. Formulas are not required.

Number Sentences

☐ **Function/ Pattern - L4**	Problems include identifying the equation needed to solve a given pattern and computing the next number in a given pattern.

Number Theory

☐ **Odd/ Even - L4**	Students must determine if a whole number is odd or even. Numbers can be up to nine digits.
☐ **Sequence**	Students must find the missing number in a sequence of whole numbers. For example: 1, 3, 9, 27, <81>, 243.

Numeration

☐ **Roman Numerals - L4**	At this level, problems assess a student's ability to define Roman Numerals up to the number 20.

Whole Numbers

☐ **Add 2 numbers with 1-3 digits**	Problems are presented in horizontal and vertical formats. Regrouping is required.
☐ **Addition Story Problems - L4**	These problems involve addition of whole numbers with up to three digits. Regrouping is required.

Whole Numbers

☐ **Divide 1-2 digits by 1 digit**	Problems are presented in long division format. Several problems involve a remainder.
☐ **Multiply 1-digit by 1-digit**	These problems assess a student's understanding of the multiplication table. Problems are presented in horizontal format. Problems include multiplication of zero and one.
☐ **Multiply 2+ digits by 1-digit**	Problems are presented in horizontal and vertical formats. Regrouping is required.

Whole Numbers

☐ **Subtract 2 numbers with 2-3 digits**	Problems are presented in vertical and horizontal formats. Regrouping is required.
☐ **Subtraction Story Problems - L4**	Problems involve subtracting whole numbers less than 9999. Regrouping is required.

Grade Level Evaluation
Skills Exclusion Report
** Sample School Curriculum **

Printed: April 22, 1993

Mathematics

Level 4

Data Interpretation
Tables - L4
Tables - L4

Decimals
Add 2 numbers with 1-2 decimals
Add/Subt Story Problems - L4
Add/Subt Story Problems - L4
Compare Decimals - L4
Subtract 2 numbers with 1-2 decimals

Fractions
Compare Fractions - L4
Fractions for Part of a Set - L4

Number Sentences
Identify Sentence
Identify Sentence
Missing Elements - L4
Missing Elements - L4

Number Theory
Operational Symbols
Properties - L4
Properties - L4

Numeration
Expanded Notation - L4
Expanded Notation - L4
Number Lines - L4
Number Lines - L4
Ordinality
Read Numerals - L4
Rounding and Estimation - L4
Rounding and Estimation - L4
Terms
Terms
Word Names: Decimals
Word Names: Whole Numbers

Problem Solving
Irrelevant Information - L4
Irrelevant Information - L4
Multiple-step Story Problems - L4
Multiple-step Story Problems - L4

Whole Numbers
Add 2 numbers with 3+ digits
Compare Numbers

Whole Numbers
Division Story Problems - L4
Division Story Problems - L4
Multiplication Story Problems - L4
Multiplication Story Problems - L4

Level 5

Data Interpretation
Tables - L5
Tables - L5

Decimals
Add 2 numbers with 3+ decimals
Addition Story Problems - L5
Addition Story Problems - L5
Compare Decimals - L5

Decimals
Multiplication Story Problems - L5
Multiplication Story Problems - L5
Multiply 2 numbers with 2 decimals
Multiply 2 numbers with 3+ decimals
Multiply decimal and whole numbers

Decimals
Subtraction Story Problems - L5
Subtraction Story Problems - L5

Fractions
Addition Story Problems - L5
Addition Story Problems - L5

Fractions
Common Denominators for 2 Fractions
Fractions for Part of a Set - L5
Lowest Terms - L5

Fractions
Multiply 1 whole number and 1 fraction
Multiply 2 fractions - L5

Fractions
Subtraction Story Problems - L5
Subtraction Story Problems - L5

Measurement
Mass/ Capacity - L5
Mass/ Capacity - L5

Number Theory
Odd/ Even - L5
Properties - L5
Properties - L5

Numeration
Expanded Notation - L5
Expanded Notation - L5
Number Lines - L5
Number Lines - L5
Read Numerals - L5
Roman Numerals - L5
Rounding and Estimation - L5
Rounding and Estimation - L5

Problem Solving
Irrelevant Information - L5
Irrelevant Information - L5

Whole Numbers
Add 3 numbers with 1-4 digits
Add 4 numbers with 1-4 digits
Add 4 numbers with 5+ digits
Addition Story Problems - L5
Addition Story Problems - L5

Whole Numbers
Division Story Problems - L5
Division Story Problems - L5
Multiplication Story Problems - L5
Multiplication Story Problems - L5
Multiply 2 3-digit numbers
Multiply 3 1-digit numbers
Multiply 3+ digits by 1-digit

Whole Numbers
Subtraction Story Problems - L5
Subtraction Story Problems - L5

Probability/Statistics
Averaging numbers
Averaging numbers

Grade Level Evaluation
Detailed Skill Exclusion Guide

** Sample School Curriculum **

Printed: April 22, 1993

Level 4 Mathematics

Data Interpretation

☐ **Tables - L4**	Tables are presented with whole numbers and decimals (money). Students must identify items listed on the table, as well as compare the numerical value of the various items.
☐ **Tables - L4**	Tables are presented with whole numbers and decimals (money). Students must identify items listed on the table, as well as compare the numerical value of the various items.

Decimals

☐ **Add 2 numbers with 1-2 decimals**	Problems are presented in both horizontal and vertical formats. Regrouping is required. Several problems represent money ($).
☐ **Add/Subt Story Problems - L4**	Story problems at this level involve adding and subtracting decimals up to the thousandth's position. Several problems deal with money ($).
☐ **Add/Subt Story Problems - L4**	Story problems at this level involve adding and subtracting decimals up to the thousandth's position. Several problems deal with money ($).
☐ **Compare Decimals - L4**	Problems involve comparing decimal numbers up to the thousandth's positions. Knowledge of the order symbols (<, >, =) is required.
☐ **Subtract 2 numbers with 1-2 decimals**	Problems are presented in vertical format. Regrouping is required.

Fractions

☐ **Compare Fractions - L4**	Problems involve comparing fractions with different denominators and compare a fraction with its lowest term. Knowledge of the order symbols (<, >, =) is required.
☐ **Fractions for Part of a Set - L4**	Students are presented with a partially shaded diagram. Students must determine the fraction of the diagram that is shaded.

Number Sentences

☐ **Identify Sentence**	Students must develop an equation for a given story problem. Problems include w..ole numbers, decimals, and fractions.
☐ **Identify Sentence**	Students must develop an equation for a given story problem. Problems include whole numbers, decimals, and fractions.
☐ **Missing Elements - L4**	Students must solve for the missing element in a given equation. For example: 50 X ? = 100.
☐ **Missing Elements - L4**	Students must solve for the missing element in a given equation. For example: 50 X ? = 100.

Grade Level Evaluation
Detailed Skill Exclusion Guide

** Sample School Curriculum **

Printed: April 22, 1993

Level 4 Mathematics

Number Theory

☐ **Operational Symbols**	Students must solve for missing operational symbols (+, -, /, X). For example: 2 ? 3 = 6. All equations are presented with whole numbers.
☐ **Properties - L4**	Problems assess a student's ability to compare two different equations. Students must solve for missing elements in the two equations. Equations are presented with whole numbers.
☐ **Properties - L4**	Problems assess a student's ability to compare two different equations. Students must solve for missing elements in the two equations. Equations are presented with whole numbers.

Numeration

☐ **Expanded Notation - L4**	Students must identify the expanded form for whole numbers up to 9999. For example: 876 = 800 + 70 + 6.
☐ **Expanded Notation - L4**	Students must identify the expanded form for whole numbers up to 9999. For example: 876 = 800 + 70 + 6.
☐ **Number Lines - L4**	At this level, number lines contain whole numbers. Problems include identifying points on the number line, solving for the difference between two points, and moving up/down the number line.
☐ **Number Lines - L4**	At this level, number lines contain whole numbers. Problems include identifying points on the number line, solving for the difference between two points, and moving up/down the number line.
☐ **Ordinality**	These problems involve ordering whole numbers and decimals.
☐ **Read Numerals - L4**	These problems assess a student's ability to read whole numbers up to 9999.
☐ **Rounding and Estimation - L4**	Problems include rounding whole numbers up to 9999. Students must also estimate the outcome of a given equation. For example: Estimate 345 X 206 to the nearest hundred.
☐ **Rounding and Estimation - L4**	Problems include rounding whole numbers up to 9999. Students must also estimate the outcome of a given equation. For example: Estimate 345 X 206 to the nearest hundred.
☐ **Terms**	Students must be able to define mathematical terms, such as sum, quotient, and product.
☐ **Terms**	Students must be able to define mathematical terms, such as sum, quotient, and product.
☐ **Word Names: Decimals**	Students must be able to identify the word name of a decimal number. Decimal numbers do not exceed the hundredth's position.
☐ **Word Names: Whole Numbers**	Students must identify the word name of a whole number. Whole numbers are less than one billion.

Grade Level Evaluation
Detailed Skill Exclusion Guide

** Sample School Curriculum **

Printed: April 22, 1993

Level 4 Mathematics

Problem Solving

☐ **Irrelevant Information - L4**	These story problems include information irrelevant to solving the problem. Students must use only the information pertinent to the question asked. Problems involve addition and subtraction of whole numbers.
☐ **Irrelevant Information - L4**	These story problems include information irrelevant to solving the problem. Students must use only the information pertinent to the question asked. Problems involve addition and subtraction of whole numbers.
☐ **Multiple-step Story Problems - L4**	These problems involve whole numbers, decimals, and currency. Equations require addition, subtraction and multiplication.
☐ **Multiple-step Story Problems - L4**	These problems involve whole numbers, decimals, and currency. Equations require addition, subtraction and multiplication.

Whole Numbers

☐ **Add 2 numbers with 3+ digits**	Problems are presented in horizontal and vertical formats. Regrouping is required.
☐ **Compare Numbers**	Students must compare whole numbers with up to seven digits. Students must be familiar with the order symbols (<, >, =).

Whole Numbers

☐ **Division Story Problems - L4**	These story problems involve a whole number, up to three digits in length, divided by a single digit whole number.
☐ **Division Story Problems - L4**	These story problems involve a whole number, up to three digits in length, divided by a single digit whole number.
☐ **Multiplication Story Problems - L4**	These story problems involve a whole number (less than 100) multiplied by a single digit whole number. Problems require regrouping. Several problems replace numerical digits (2) with word names (two).
☐ **Multiplication Story Problems - L4**	These story problems involve a whole number (less than 100) multiplied by a single digit whole number. Problems require regrouping. Several problems replace numerical digits (2) with word names (two).

Language Expressions

☐ **Adjectives/ Adverbs - L4**	Students must complete a sentence with the correct adjective or adverb. For example, "Yesterday was the <coldest> day in history."
☐ **Context - L4**	Students are presented with a list of four sentences. Three of the sentences contain errors. Students must identify the one correct sentence. Errors include double negatives, plural forms, and redundancies.

Tudor Publishing Company

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Plymouth-Canton Community Schools
454 S HARVEY STREET
PLYMOUTH MICHIGAN 48170

October 6, 1992

Mr. Bill Tudor
Tudor Marketing Corporation
6540 Lusk Boulevard
San Diego, CA 92121

Dear Bill:

The Plymouth-Canton Community School District has been reviewing the Grade Level Evaluation program for the past several months. The conceptual basis of this instructional tool for teachers is a most timely concept to address educational needs.

As current and former national president of the Network for Outcome-Based Schools, we believe that children need to be taught, tested, retaught and retested until mastery occurs. The GLE program does this by granting teachers an opportunity to test a child, reteach and retest using items from your huge bank of questions.

Most important is that the results can be turned around and back to the teachers immediately. The concept of grouping students by skills not mastered is on the cutting edge of all competency testing going on in the country.

It is my understanding that our school district will be allowed to select specific questions from a huge bank of questions so as to be able to align the GLE with our own curriculum. This is a plus! We believe in the Whole Language approach but only when children are being monitored in regard to their mastery of basic and essential skills.

All too often standardized tests are given, the results returned months later, and still do not pin-point a child's specific weaknesses unless a comprehensive item analysis is performed. The GLE does the item analysis for us, making this test a sound, practical instructional tool for teachers.

We are also pleased with the parent report which is very indepth, a much clearer picture for parents than isolated test results that report results in stanines, percentiles or grade equivalents.

Having been in education for over 40 years and as president of the Network for Outcome-Based Schools, I feel comfortable sharing your concept with my superintendent colleagues on a national level. The Plymouth-Canton Community School District (the 9th largest school district in the State of Michigan) is pleased to have the opportunity to work with Tudor Marketing.

Sincerely,

John M. Hoben

John M. Hoben, Ed.D.
Superintendent of Schools

JMH:je

THE CITY TREE

elementary and preschool education

School Phone 232-3794

FIRST PRESBYTERIAN CHURCH · 320 DATE ST. · SAN DIEGO, CA 92101

April 20, 1992

Bill Tudor
6540 Lusk Boulevard, Suite 210
San Diego, CA 92121-2766

Dear Bill,

The Grade Level Examinations have been an asset to me as an elementary school director in evaluating the strengths and weaknesses in our curriculum for students who have been at City Tree School since preschool as well as for students who have transferred to our school within the past three years.

The GLE has clearly identified the student's understanding of specific skills which our society expects them to learn. Test information helps the teacher plan for the individualized needs of students rather than continue to have them practice material they already know. The teacher then has more time to help students focus on problem-solving strategies that will assist their students to reach future goals.

As a school leader, my vision is to develop a sense of community within our school. Teachers and parents need to work together collaboratively as partners in their child's education. The GLE student test report provides an excellent tool to facilitate this process. The report with the skill examples is written so parents can readily understand the areas where the child needs help. This report can also be taken by the child if they transfer to another school.

In addition, the individual student test disks allows the teacher to enter into the world of the student as they are taking the test. I found this especially useful in evaluating the thinking process of our gifted students who made extensive mistakes in a specific skill area. They were using problem-solving strategies but lacked the tools to get the right answers. With GLE information teachers and parents together can have additional time to guide students to apply what they learn into meaningful products that can be shared inside and outside the school setting.

My desire would be to see the GLE testing process begin at Level Two so educators could individualize learning earlier in order to facilitate the student's learning as they climb the ladder of educational success.

Sincerely Yours,

Ruth P. Ely

Ruth P. Ely
Co-Director/Elementary Coordinator

St. James ACADEMY 623 South Nardo Avenue, Solana Beach, California 92075 (619) 755-1777

April 15, 1992

TO WHOM IT MAY CONCERN:

A month ago, I was introduced to the Grade Level Examination Program from the Tudor Publishing Company. I was immediately impressed with the entire program.

It answered our need in identifying weaknesses in specific skills in math and language arts of some our students. The beauty of this program is it's ability to pinpoint areas of strengths and deficiencies within a limited amount of time. We are using the GLE to support our Learning Center Program.

Another advantage to the GLE is the reporting it makes available to the teacher and parent. A summary score report, time analysis, graphical summary report and one with samples of remediation, much like an individual education plan, are all immediately at the fingertips of the faculty. Besides being of great advantage to the teacher, we hope to use them to involve the parent in the education of their child.

The staff of the Tudor Publishing Company has been very available for on sight faculty inservice and support. This has made our transition into the GLE extremely smooth.

Please feel free to contact me for any other information.

Sincerely,

Sr Karen Ann Dey, CSJ

Sr. Karen Dey, C.S.J.
Principal

Tudor Publishing Company

TUDOR PUBLISHING COMPANY
CORPORATE PROFILE

For years, Bill Tudor experienced frustration over the quality of education his children were receiving. While they had attended public, private, and parochial schools in Michigan, South Carolina, North Carolina, and California, he realized there had been no national guidelines for the curriculums they had been taught. He discovered skills were taught at different grades in many schools throughout the country, and that some schools failed to teach many required skills at all. After further investigation, Tudor learned even schools within the same school district might be teaching skills at different grade levels.

In 1990, Tudor and John O'Hair founded Tudor Publishing Company. Their software product, Grade Level Evaluation (GLE), was originally developed to sell to parents with computers to ensure that their children were mastering each skill at the appropriate grade level. Hundreds of children were tested, and an in-depth report for parents with tutorials proved an overwhelming success.

Since these reports clearly indicated their children's masteries and deficiencies, parents understandably questioned why certain skills weren't being taught at a specific grade level. Tudor soon realized the best way to present educators (administrators, teachers and parents) with an accurate assessment of skill masteries and deficiencies for each student was to provide a version of the product that could be used in schools and school districts.

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To develop this new "school" version of GLE, an optimum curriculum in language arts and mathematics was designed. A review of all the major textbooks and standardized tests in use by different schools and school districts nationwide was performed. Several juries of teachers also were consulted to gain valuable insight into the many skills currently being taught throughout the country.

Next, the company designed the skill assessments and developed the enormous bank of questions, answers and foils for the product. These were validated by Dr. James R. Doyle and his staff along with a jury of teachers, a computerized analysis of different readability indexes, and the beta testing of hundreds of students and parents.

The resulting "school" version of GLE is a software program that provides an in-depth curriculum covering basic computational and critical thinking skills. GLE is directly aligned with a school district's curriculum and identifies specific skills a student has or has not mastered in language arts and mathematics.

When a school district customizes their GLE program, they are sent a Custom Curriculum Report, a Detailed Curriculum Guide, a Skills Exclusion Report, and a Detailed Skills Exclusion Guide that outline those skills contained in their curriculum for each grade level and those skills that are not. From these reports, teachers, principals and superintendents can verify that all the skills they want mastered at each grade level are included in GLE.

GLE's Assessment Management System (AMS) provides educators and parents with complete and concise reporting by including an Effective Skills Mastery Report, an Actual Skills Mastery Report, a Skills Not Mastered Report, and a Student Summary Report. Also, a Parent's Detailed Report highlights the student's deficiencies, and prepares a complete tutorial outlining how parents can become involved in their child's improvement.

The average elementary school teacher must teach in excess of 300 skills to more than 30 students each semester. This equates to approximately 10,000 skills that must be managed. GLE's Management Assessment System

is the ideal tool for the teacher and the administrator to stay on top of this process.

Now in use in grades 3 through 9 in over 50 school districts nationwide, GLE has proven to be an excellent resource for placement of new students as well as those in special education. Most schools using GLE are finding less than 60% skill mastery in the areas of language arts and mathematics.

GLE's unique curriculum alignment procedures and comprehensive reporting, however, are helping these schools show significant gains in effective learning. School districts are no longer "teaching to the test." Instead, they are getting an accurate assessment of what is supposed to be taught. Also, by utilizing the PCs in the schools to operate GLE, investment is minimal and teachers and students enjoy immediate feedback. As a result, several states and school districts are considering replacing standardized tests with the comprehensive GLE.

GLE is currently available in Language Arts and Mathematics for Levels 3 through 9 for both the PC and the Macintosh. Science is slated for completion in fall 1993.

Although more subjects are planned for the future, the goal of GLE will remain simple and constant: to make sure every student is taught, and is able to master, all the skills necessary to ensure a successful completion of his or her education.

5/93

Tudor Publishing Company

TUDOR PUBLISHING COMPANY
KEY PERSONNEL

BILL TUDOR, president and chairman.
As president and chairman of Tudor Publishing Company, Bill Tudor oversees the day-to-day operations. Previously employed by Eagle Software Systems Inc. as chairman and chief executive officer, Tudor brings to the company over 20 years experience in general management, software design, programming, and marketing. He was also founder and president of Tudor Systems Inc., a turnkey supplier of computers and software to beverage distributors nationwide.

Tudor holds a bachelor's degree in business administration with majors in accounting and marketing from the University of Detroit.

JOHN O'HAIR, vice president and chief technical officer.
John O'Hair is an established software developer with over 16 years experience in the personal computer market. As vice president and chief technical officer, he is responsible for ensuring that all products for Tudor Publishing Company are on the leading edge of technology. O'Hair was previously employed by Barrister Information Systems, Eagle Software Systems Inc. and Inotech Corporation where he was responsible for software development.

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JAMES R. DOYLE, Ed. D, curriculum director.

Dr. James R. Doyle brings to the company over 36 years of experience as a teacher, counselor, high school administrator, and Assistant Superintendent for Curriculum and Instruction. As curriculum director, he is responsible for the validation and reliability of all the tests for GLE. Doyle is certified in Washington, D.C. as an educational program auditor and by the U.S. Office of Education to validate educational and staff development programs.

Doyle holds a bachelor's degree in science from Central Michigan University and a master's degree and a doctorate in education from Wayne State University.

MEREDITH MANNING, director of operations.

As director of operations, Meredith Manning oversees the link between the curriculum development and the technical development. Under the direction of Dr. Doyle, Manning was responsible for designing the skill assessments and developing the questions, answers and foils for GLE. She has also served as installation and training coordinator for Tudor Publishing Company.

Manning holds a bachelor's degree in English from the University of San Diego.

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