

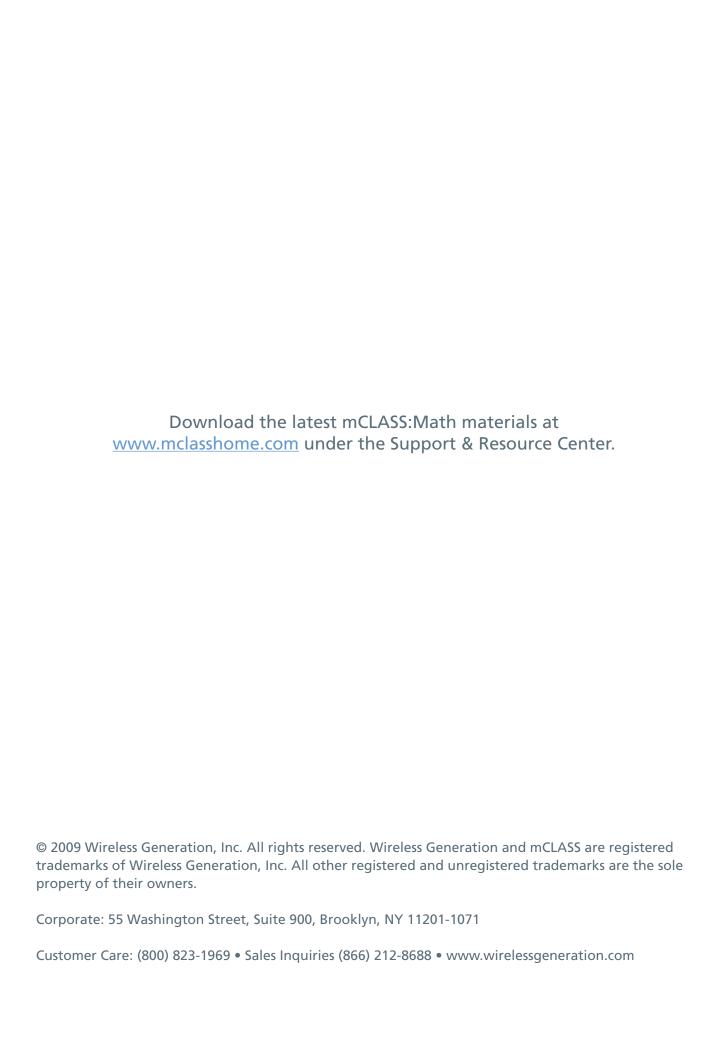






©CLASS® Math

Screening and Progress Monitoring Guide Grade 3



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Introduction

Wireless Generation and research partners at Teachers College of Columbia University, developers of the mCLASS®:Math assessment, are building on a commitment to create educational products that not only assess mathematical abilities but also provide a basis for differentiated instruction. This update to mCLASS:Math for second and third grade introduces such indicators as Overall Status and Risk Levels, which are based on rigorous research and analysis.

Research Background and Findings

The mCLASS:Math research team and teachers have been administering the assessment's grade-appropriate measures to thousands of second and third graders. Overall recommendations were established by examining benchmark classifications in relation to the criterion variable, which was each student's proficiency level on a state standardized achievement test and/or performance distributions from the national sample. The team found strong correlations between the mCLASS:Math measures and these established criterion variables, indicating that the measures are valid indicators of early mathematics performance.

By comparing standardized assessments and scores to national mCLASS:Math data collected in the fall, spring, and summer of the 2007-2008 school year or performance distributions across these same three points in time, the researchers were able to determine benchmarks for the measures. In each of the measures, students are considered at risk for difficulty achieving a goal at specified points in the academic year if they perform in the lowest 25th percentile of sample norms. Students who perform above the 75th percentile using sample norms are considered to be at low risk.

Risk Levels and Benchmark Goals

As an index of performance on an individual measure, Risk Levels of Deficit, Emerging, or Established are assigned relative to that measure's goal, the student's grade, and the time of year. On both the handheld and the Web, each Risk Level is represented by a colored box.

Each assessment period has its own Benchmark Goal, which is the fluency score required to be Established at that time of year. As an example, during the middle of the year, students who are identifying missing numbers in the range of 4–7 during the two-minute measure are not hitting the Benchmark Goal and are considered Emerging. Students who score 3 or less are considered Deficit. Those who score 8 or more meet the Benchmark Goal and are considered Established.

Keep in mind, Benchmark Goals are minimums. Ultimately, all students should be Established by or during the End-of-Year assessment period; this is called the End-of-Year Goal. For instance, every second grader should be able to solve all 24 computation problems before the year's end.

With more research, goals may continue to be refined.

Computation

Computation evaluates a student's ability to solve complex written calculation problems. To be successful on these types of problems, students must identify the operation, determine whether regrouping is necessary, and execute the algorithm appropriate for the operation correctly. To accomplish this goal, students rely on their understanding of the place-value structure of the base-ten number system and numerical patterns. Adding (or deducting) the carried/borrowed number(s) in the correct place value position is imperative for success.

The End-of-Year Goal for Computation is 24 or more for Grade 3.

Computation Risk Levels by Assessment Period				
Assessment Period Deficit (Red) Emerging (Yellow)		Established (Green)		
Beginning	2 or less	3-11	12 or more Benchmark Goal	
Middle	7 or less	8-18	19 or more Benchmark Goal	
End	11 or less	12-23	24 or more End-of-Year Goal	

Concepts

Concepts directly assesses student's knowledge of place value concepts, notational understanding, fractions, and fundamental properties of operations and concepts to solve problems. Successful execution of algorithms requires an understanding of place value concepts. The ability to identify the place value of a number is essential for regrouping. Students must also learn to recognize, represent, and generate equivalent forms of commonly used fractions. These skills are essential for successful math achievement in the upper grades.

The End-of-Year Goal for Concepts is 14 or more for Grade 3.

Concepts Risk Levels by Assessment Period			
Assessment Period	Established (Green)		
Beginning	3 or less	4-7	8 or more Benchmark Goal
Middle	5 or less	6-10	11 or more Benchmark Goal
End	8 or less	9-13	14 or more End-of-Year Goal

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Missing Number

Missing Number evaluates a student's recognition of basic and complex number patterns and familiarity with printed numbers as part of the ongoing development of number sense. Students who can quickly and accurately identify which number is missing recognize and make use of a fundamental pattern within the number sequence.

The End-of-Year Goal for Missing Number is 12 or more for Grade 3.

Missing Number Risk Levels by Assessment Period				
Assessment Period Deficit (Red) Emerging (Yellow)		Established (Green)		
Beginning	3 or less	4-7	8 or more Benchmark Goal	
Middle	3 or less	4-7	8 or more Benchmark Goal	
End	6 or less	7-11	12 or more End-of-Year Goal	

Number Facts

Number Facts is a measure that evaluates a child's knowledge of basic arithmetic. Quickly retrieving basic number facts, or combinations, means the student does not expend much mental energy on calculation.

The End-of-Year Goal for Number Facts is 29 or more for Grade 3.

Number Facts Risk Levels by Assessment Period				
Assessment Period	Established (Green)			
Beginning	7 or less	8-15	16 or more Benchmark Goal	
Middle	11 or less	12-21	22 or more Benchmark Goal	
End	16 or less	17-28	29 or more End-of-Year Goal	

Quantity Discrimination

Quantity Discrimination is a measure that determines a student's ability to comprehend the quantitative value of a number. The student identifies the number or operation in the pair with the highest value.

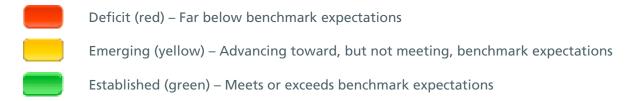
The End-of-Year Goal for Quantity Discrimination is 25 or more for Grade 3.

Quantity Discrimination Risk Levels by Assessment Period				
Assessment Period	Established (Green)			
Beginning	7 or less	8-17	18 or more Benchmark Goal	
Middle	14 or less	15-23	24 or more Benchmark Goal	
End	15 or less	16-24	25 or more End-of-Year Goal	

Overall Status

After the student has completed all of the applicable measures for an assessment period, an Overall Status is designated, signifying the amount of instructional support that may be necessary for a student to continue on a path toward success in mathematics.

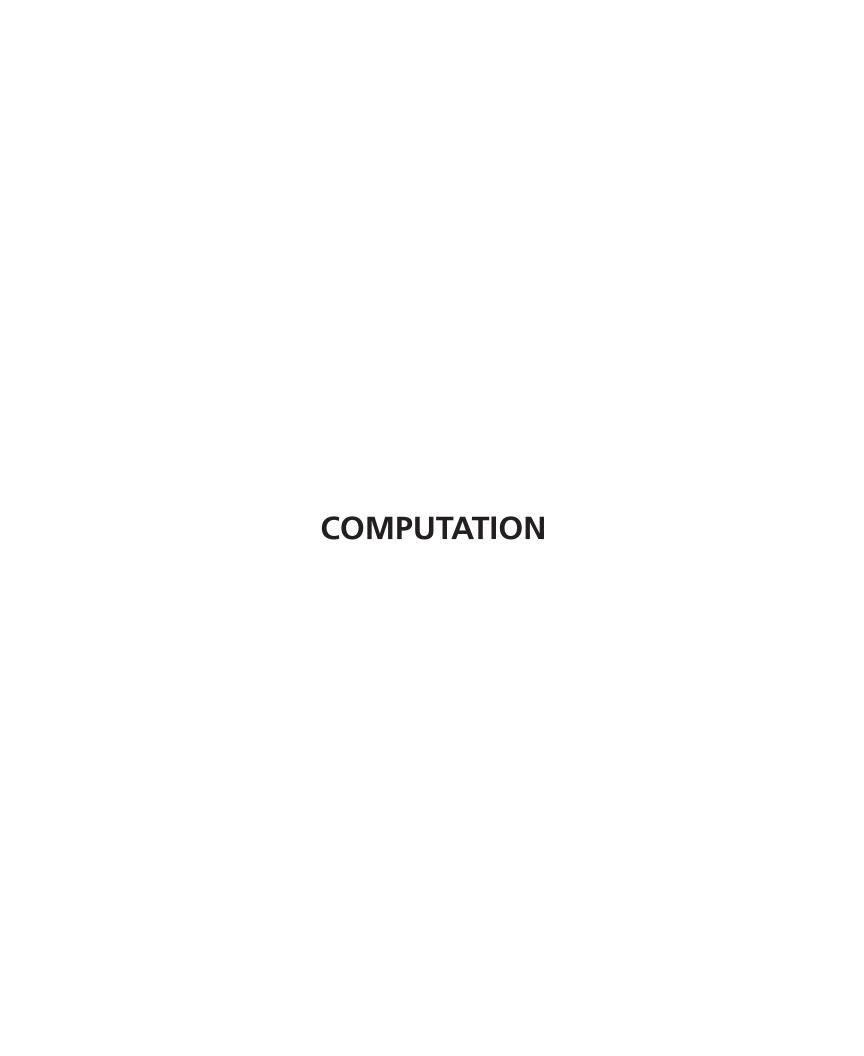
Rectangular icons represent the student's Risk Level on an individual measure.



The circular Overall Status icon represents the general instructional support recommended for a young student to become a well-developed, mature student of mathematics. Grade 3 Overall Status recommendations are determined based on the Risk Levels from the Number Facts, Quantity Discrimination, Computation, Concepts, and Missing Number measures.

Assessment Results and Overall Status Levels			
Overall Status Level Assessment Results and Risk Levels			
Benchmark	Established on at least two measures and Emerging on at least two measures		
Strategic	Any combination of Risk Levels not meeting the criteria for Intensive or Benchmark		
Intensive	Deficit on three or more measures		

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Computation

Computation is a two-minute measure used to evaluate a student's ability to solve complex written calculation problems. The assessment can be administered to individual students or a group of students at one time. The teacher presents each student with Computation worksheets containing 24 problems. The teacher times the students during the assessment and scores the items later. Performance is based on the total number of correct digits in each problem.

Purpose

Students need to know how to solve complex operational problems. To answer these items successfully, students must identify the operation, determine whether regrouping is necessary, and execute the algorithm appropriate for the operation correctly. To accomplish this goal, students rely on their understanding of the place-value structure of the base-ten number system and numerical patterns. Adding (or deducting) the carried/borrowed number(s) in the correct place value position is imperative for success. Similarly, retrieval of simple number facts frees students to focus on the more complex procedural and conceptual aspects of the problem. Some students may quickly and easily retrieve number facts, identify numerical patterns, and have a good grasp of the base-ten system, but experience difficulty reconciling this knowledge with place value concepts.

Materials

Computation worksheets

Administration of Computation is as follows:

After distributing the Computation worksheets to the students, say the following:

"Please write your name and date at the top of the worksheet, put your pencil down, and turn the worksheet over" (wait until each student has completed this task). Next say, "On the other side of the sheet are some math problems. I want you to write the answers to as many math problems as you can. When I say BEGIN write your answers to the FIRST problem and work ACROSS the page. Then go to the next row. Some of the problems will be easy while others will be hard. Solve as many problems as you can. You may not know how to solve all the problems. If you come to one that is hard or you do not know how to do, skip it and come back to it later. You earn points for getting part of the problem right, so try the harder problems after you've finished all of the easy ones. Please show all of your work on the worksheet. When I say 'BEGIN' turn your sheet over and start working. Be sure to write your answers neatly and within each box. Continue working until I tell you to stop. Are there any questions?" Answer all questions before beginning the assessment. Next say, "BEGIN." At the end of the two minutes, say "STOP. Put your pencils down." Collect the Computation worksheets.

Scoring Rules

Scoring: The student receives a score of one point for each correct digit in the answer. The number of correct digits for each answer within the two-minute time frame is the student's score and a more sensitive measure of student change. Score problems in the direction in which they are typically calculated. Specifically, score addition, subtraction, and multiplication problems from right to left and division problems from left to right. For example, a student would receive a score of one point on the following addition problem:

48

+ 13

51

A score of one point on the following subtraction problem:

646

- 86

450

A score of two points on the following multiplication problem:

42

x 3

125

And a score of one point on the following division problem:

$$96 \div 8 = 22$$

Student Stops: If a students stops working before the end of the two minutes, say "Keep working until I say STOP." This should be an individual prompt given quietly to address a targeted need.

Excessive Skipping: If a student is skipping familiar or easy problems, say "Try each problem before moving onto the next. Do not skip problems you can do." This should be an individual prompt given quietly to address a targeted need.

Self-correction: Score the final answer provided by the student.

Screening: Beginning of Year

Scoring: Students receive 1 point for each correct digit in the answer.

A) 867

B) 698

c) **78**

D) 27

E) 266

F) 2

G) 299

н) 219

1) 28

J) 309

к) 63

Screening: Beginning of Year

Scoring: Students receive 1 point for each correct digit in the answer.

м) 76

N) 26

0) 248

P) 58

q) **236**

R) 18

s) **21**

T) 98

U) 18

v) 139

w) 40

x) 69

End of BOY Form

Screening: Middle of Year

Scoring: Students receive 1 point for each correct digit in the answer.

A) 8

B) 25

c) **63**

D) 229

E) 61

F) 43

G) 493

н) 258

1) 13

J) 36

к) **295**

Screening: Middle of Year

Scoring: Students receive 1 point for each correct digit in the answer.

м) 50

N) 256

0) 8

P) 299

Q) 41

R) 499

s) 19

T) 5

U) **67**

v) **74**

w) 36

x) 57

End of MOY Form

Screening: End of Year

Scoring: Students receive 1 point for each correct digit in the answer.

A) 11

B) **755**

c) **378**

D) 44

E) 63

F) 25

G) 214

н) 4

1) 27

J) 12

к) 44

Screening: End of Year

Scoring: Students receive 1 point for each correct digit in the answer.

м) 9

N) 68

0) 63

P) 28

q) **316**

R) 86

s) 202

T) 48

U) **279**

v) **204**

w) 30

x) 283

End of EOY Form

Scoring: Students receive 1 point for each correct digit in the answer.

A) 66

B) 60

c) **179**

D) 24

E) 29

F) 11

G) 115

н) 8

1) 208

J) 46

к) 148

Scoring: Students receive 1 point for each correct digit in the answer.

м) **51**

N) 856

0) 336

P) 18

q) **26**

R) 43

s) **236**

T) 23

U) 68

v) 666

w) 35

x) 312

End of Form 1

Scoring: Students receive 1 point for each correct digit in the answer.

A) 10

B) 313

c) 79

D) 12

E) 19

F) 45

G) 48

н) 144

1) 3

J) 278

к) **17**

Scoring: Students receive 1 point for each correct digit in the answer.

м) 899

N) 62

0) 144

P) 177

q) **66**

R) **50**

s) **187**

T) 749

U) 246

v) **4**

w) 12

x) 194

End of Form 2

Scoring: Students receive 1 point for each correct digit in the answer.

A) **4**

B) **61**

c) **61**

D) 80

E) 364

F) 489

G) 11

н) 41

1) 156

J) 38

к) **61**

Scoring: Students receive 1 point for each correct digit in the answer.

м) 314

N) 45

0) 88

P) 2

q) **196**

R) 19

s) **39**

T) 292

U) 66

v) **254**

w) 10

x) 47

End of Form 3

Scoring: Students receive 1 point for each correct digit in the answer.

A) 224

B) **4**

c) **63**

D) 8

E) 174

F) 44

G) 278

н) 64

1) 13

J) **65**

к) **221**

Scoring: Students receive 1 point for each correct digit in the answer.

- M) 127
- N) 557
- 0) 229

P) 32

q) **308**

R) 41

s) **52**

T) 60

U) **9**

v) 40

w) 24

x) 299

End of Form 4

Scoring: Students receive 1 point for each correct digit in the answer.

A) 106

B) 18

c) **52**

D) 236

E) 244

F) 5

G) 11

н) 289

1) 5

J) 23

к) **20**

Scoring: Students receive 1 point for each correct digit in the answer.

м) 3

N) 48

0) 715

P) 17

q) **36**

R) 216

s) **147**

T) 479

U) 32

v) 218

w) **44**

x) 66

End of Form 5

Scoring: Students receive 1 point for each correct digit in the answer.

A) 29

B) 20

c) 12

D) 299

E) 63

F) 159

G) **4**

н) 312

1) 28

J) 338

к) 64

Scoring: Students receive 1 point for each correct digit in the answer.

м) 379

N) 23

0) 8

P) **50**

q) **56**

R) **57**

s) **127**

T) 899

U) **47**

v) **279**

w) 88

x) 33

End of Form 6

Scoring: Students receive 1 point for each correct digit in the answer.

A) 21

B) 20

c) **267**

D) **9**

E) 33

F) 14

G) 56

н) 126

1) 43

J) 763

к) 8

Scoring: Students receive 1 point for each correct digit in the answer.

м) 355

N) 13

0) 63

P) **44**

q) **4**

R) 53

s) 190

T) 238

U) 210

v) **44**

w) 24

x) 994

Scoring: Students receive 1 point for each correct digit in the answer.

A) 53

B) 22

c) **386**

D) 69

E) 955

F) **84**

G) 184

н) 73

) **217**

J) **35**

к) **17**

Scoring: Students receive 1 point for each correct digit in the answer.

м) 53

N) 12

0) 7

P) 12

q) **191**

R) 199

s) **36**

T) 276

U) 783

v) **140**

w) 282

x) 2

Scoring: Students receive 1 point for each correct digit in the answer.

A) 20

B) 27

c) **9**

D) 366

E) 282

F) 30

G) 95

н) 206

1) 26

J) 121

к) 926

Scoring: Students receive 1 point for each correct digit in the answer.

M) 17

N) 7

0) 2

P) 88

Q) **886**

R) 2

s) **225**

T) 66

U) 61

v) **51**

w) 34

x) 279

Scoring: Students receive 1 point for each correct digit in the answer.

A) 29

B) 21

c) **26**

D) 41

E) 108

F) **575**

G) 285

н) 8

948

J) 43

к) **294**

Scoring: Students receive 1 point for each correct digit in the answer.

м) 48

N) 49

0) 221

P) 172

q) **185**

R) 316

s) **39**

T) 205

U) **7**

v) 67

w) **84**

x) 63

Scoring: Students receive 1 point for each correct digit in the answer.

A) 71

B) 72

c) **254**

D) 70

E) 111

F) 63

G) 16

н) 27

1) 253

J) 65

к) **21**

Scoring: Students receive 1 point for each correct digit in the answer.

м) 582

N) 16

0) 23

P) **44**

q) **334**

R) 44

s) **306**

T) 19

U) 613

v) **34**

w) 69

x) 176

Scoring: Students receive 1 point for each correct digit in the answer.

A) 105

B) **88**

c) **885**

D) 31

E) 39

F) 224

G) 267

н) 996

1) 66

J) 83

K) 5

Scoring: Students receive 1 point for each correct digit in the answer.

- м) 192
- N) 15

0) 67

P) 28

Q) **20**

R) 4

s) **40**

T) 329

U) 19

v) 61

w) 197

x) 321

Scoring: Students receive 1 point for each correct digit in the answer.

A) 48

B) 30

c) **595**

D) 328

E) 200

F) 8

G) 206

н) 208

1) 40

J) 24

K) 88

Scoring: Students receive 1 point for each correct digit in the answer.

м) 595

N) 31

0) 308

P) 168

964

R) 11

s) **30**

T) 65

U) 24

v) 8

w) **50**

x) 196

Scoring: Students receive 1 point for each correct digit in the answer.

A) 336

B) 28

c) **50**

D) 174

E) 33

F) 51

G) 99

н) 43

153

J) 566

к) 162

Scoring: Students receive 1 point for each correct digit in the answer.

м) 39

N) 58

0) 17

P) **555**

Q) 2

R) 3

s) **6**

T) 48

U) 195

v) 258

w) **892**

x) 23

Scoring: Students receive 1 point for each correct digit in the answer.

A) 30

B) 17

c) 19

D) 662

E) 96

F) **4**

G) 699

н) **271**

1) 16

J) **77**

к) 54

Scoring: Students receive 1 point for each correct digit in the answer.

м) 24

N) 246

0) 289

P) 36

q) **185**

R) 1

s) **7**

T) 88

U) 13

v) **56**

w) 190

x) 79

Scoring: Students receive 1 point for each correct digit in the answer.

A) 31

B) 73

c) 48

D) 66

E) 254

F) 108

G) 77

н) 375

926

J) 858

к) **196**

Scoring: Students receive 1 point for each correct digit in the answer.

м) 91

N) 12

0) 38

P) 14

Q) **34**

R) 21

s) **46**

T) 231

U) 31

v) **259**

w) 61

x) 6

Scoring: Students receive 1 point for each correct digit in the answer.

A) 676

в) 163

c) **84**

D) 14

E) 955

F) **6**

G) 44

н) 155

1) 11

J) 2

к) **128**

Scoring: Students receive 1 point for each correct digit in the answer.

м) 69

N) 91

0) 23

P) 30

Q) **287**

R) 243

s) **143**

T) 46

U) 18

v) **20**

w) 78

x) 230

Scoring: Students receive 1 point for each correct digit in the answer.

A) 23

B) 22

c) **21**

D) 239

E) 88

F) 245

G) 63

н) 277

1) 239

J) 19

к) 16

Scoring: Students receive 1 point for each correct digit in the answer.

M) 177

N) 5

0) 11

P) 42

q) **53**

R) 76

s) **244**

T) 989

U) 32

v) **31**

w) 665

x) 36

Scoring: Students receive 1 point for each correct digit in the answer.

A) 997

B) 26

c) **502**

D) 27

E) 56

F) 8

G) 280

н) 89

1) 253

J) 21

к) **121**

Scoring: Students receive 1 point for each correct digit in the answer.

м) 61

N) 25

0) 2

P) **51**

q) **64**

R) 63

s) 185

T) 41

U) 88

v) 2

w) **304**

x) 808

Scoring: Students receive 1 point for each correct digit in the answer.

A) 428

B) 12

c) **71**

D) 14

E) 22

F) 222

G) 93

н) 269

1) 30

J) 22

K) 5

Scoring: Students receive 1 point for each correct digit in the answer.

м) 18

N) 75

0) 88

P) **443**

q) **63**

R) 42

s) 280

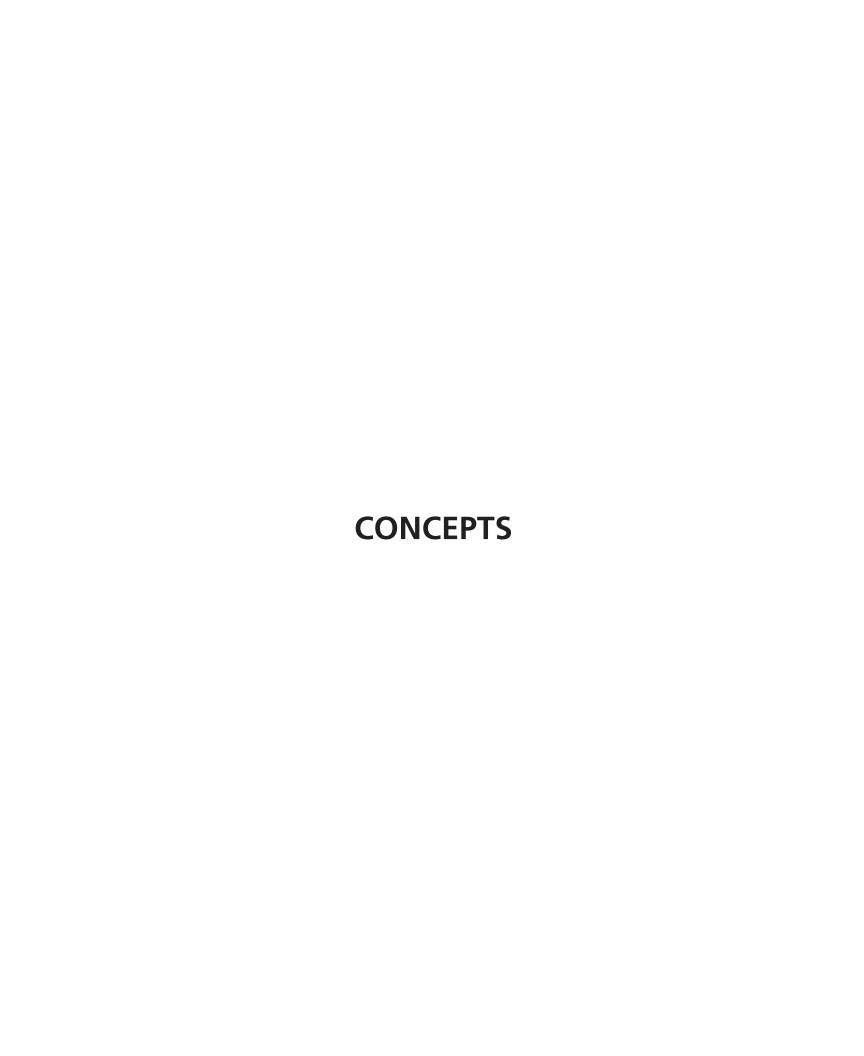
T) 839

U) 131

v) 28

w) 88

x) 69



Concepts

Concepts is a two-minute measure that directly assesses a student's knowledge of place value concepts, notational understanding, fractions, and addition, subtraction, multiplication, and division principles. The teacher presents each student with Concepts worksheets containing 32 problems. The teacher times the students during the assessment and scores the items later. Performance is based on the total number of correct answers.

Purpose

The Concepts measure evaluates students' ability to understand and use fundamental properties of operations and concepts to solve problems. For example, if $58 \times 9 = 522$ the commutative principle can be applied to 9×58 , thereby rendering computations unnecessary. Successful execution of algorithms also requires an understanding of place value concepts. The ability to identify the place value of a number is essential for regrouping. Students must also learn to recognize, represent, and generate equivalent forms of commonly used fractions (e.g., word forms, models, etc.).

Materials

Concepts Worksheets

Administration of Concepts is as follows:

After distributing the Concepts worksheets to the students, say the following:

"Please write your name and date at the top of the worksheet, put your pencil down, and turn the worksheet over" (wait until each student has completed this task). Next say, "On the other side of the sheet are some math problems. I want you to write the answers to as many math problems as you can. When I say BEGIN write your answers to the FIRST problem and work ACROSS the page. Then go to the next row. Some of the problems will be easy while others will be hard. Solve as many problems as you can. You may not know how to solve all the problems. If you come to one that is hard or you do not know how to do, skip it and come back to it later. Solve as many problems as you can. Please show all of your work on the worksheet. When I say 'BEGIN' turn your sheet over and start working. Be sure to write your answers neatly and within each box. Continue working until I tell you to stop. Are there any questions?" Answer all questions before beginning the assessment. Next say, "BEGIN." At the end of the two minutes, say "STOP. Put your pencils down." Collect the Concepts worksheets.

Scoring Rules

Scoring: The student receives a score of one point for each correct answer.

Student Stops: If a students stops working before the end of the two minutes, say "Keep working until I say STOP." This should be an individual prompt given quietly to address a targeted need.

Excessive Skipping: If a student is skipping familiar or easy problems, say "Try each problem before moving onto the next. Do not skip problems you can do." This should be an individual prompt given quietly to address a targeted need.

Self-correction: Score the final answer provided by the student.

Scoring: Student receives 1 point for each correct answer.

A) 13

B) 172

c) **4**

D) tens

E) 110

F) $\frac{1}{7}$

 $\frac{3}{9}$

н) 30

Scoring: Student receives 1 point for each correct answer.

850

J) 12

K)



L)

M) tens

N) =

o) **1,058**

P) hundreds

Scoring: Student receives 1 point for each correct answer.

 $\frac{1}{2}$

R) 42

S) >

T) 38

u) hundreds

v) **216**

w) >

x) 160

Scoring: Student receives 1 point for each correct answer.

Y) **60**

Z) **=**

a) 36

b) 2

c) 1,932

d) thousands

e) **97**

f) 12,672

End of BOY Form

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

A) 6

B) 157

c) **4**

D) hundreds

E) 110

F) $\frac{1}{7}$

 $\frac{4}{8}$

н) 150

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

918

J) 18

K)



L) -

M) thousands

N) =

o) **1,598**

P) thousands

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

Q) 3

R) 41

S) <

T) **37**

U) tens

v) **144**

W) >

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

y) **90**

Z) **=**

a) 10

b) $\frac{4}{5}$

c) 2,028

d) ones

e) 179

f) 101,480

End of MOY Form

Scoring: Student receives 1 point for each correct answer.

A) 9

B) 168

c) **7**

D) hundreds

E) 170

F) $\frac{4}{7}$

 $\frac{1}{9}$

Scoring: Student receives 1 point for each correct answer.

511

J) **45**

K)



L)

m) thousands

N) =

o) **1,728**

P) hundreds

Scoring: Student receives 1 point for each correct answer.

Q) = 3

R) **88**

S) >

T) 41

u) ones

v) **24**

w) <

Scoring: Student receives 1 point for each correct answer.

Y) 80

Z) **=**

a) 28

b) $\frac{3}{4}$

c) 636

d) ones

e) 179

f) 163,020

End of EOY Form

Scoring: Student receives 1 point for each correct answer.

A) 11

B) 125

c) **3**

D) tens

E) 85

F) = 6

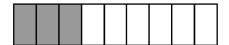
G) 5

Scoring: Student receives 1 point for each correct answer.

856

J) 42

K)



L)

2

M) ones

N)

<

o) **2,100**

P) tens

74

Scoring: Student receives 1 point for each correct answer.

 $\frac{3}{4}$

R) **62**

S) <

T) 24

U) thousands

v) 280

w) =

Scoring: Student receives 1 point for each correct answer.

y) **50**

Z) >

a) 36

b) 3

c) 2,618

d) hundreds

e) 179

f) 18,768

End of Form 1

Scoring: Student receives 1 point for each correct answer.

A) 12

B) 142

c) **12**

D) hundreds

E) 62

F) $\frac{7}{9}$

G) 3

Scoring: Student receives 1 point for each correct answer.

837

J) **6**

K)



L)

m) tens

N)

<

o) **546**

P) hundreds

Scoring: Student receives 1 point for each correct answer.

Q) 5

R) 31

S) **=**

T) **37**

u) hundreds

v) **75**

W)

Scoring: Student receives 1 point for each correct answer.

Y) 100

z) **=**

a) **54**

b) $\frac{1}{2}$

c) **2,346**

d) ones

e) 179

f) 16,740

End of Form 2

Scoring: Student receives 1 point for each correct answer.

A) 13

B) 142

c) **27**

D) tens

E) 160

F) 3

 $\frac{4}{6}$

Scoring: Student receives 1 point for each correct answer.

703

J) 30

K)



L)

M) thousands

N) >

o) **2,790**

P) tens

82

Scoring: Student receives 1 point for each correct answer.

Q) 2

R) 31

S) =

T) 32

u) hundreds

v) **84**

w) <

Scoring: Student receives 1 point for each correct answer.

Y) **70**

Z) >

a) 63

b) $\frac{1}{2}$

c) 6,106

d) hundreds

e) 179

f) 247,008

End of Form 3

Scoring: Student receives 1 point for each correct answer.

A) **10**

B) 160

c) **12**

D) thousands

E) 130

F) 4

 $\frac{4}{6}$

H) 144

Scoring: Student receives 1 point for each correct answer.

805

J) 72

K)



L)

2

<

M) ones

N)

o) **2,494**

P) thousands

Scoring: Student receives 1 point for each correct answer.

Q) 1

R) 33

S) <

T) 19

U) ones

v) **240**

W) >

Scoring: Student receives 1 point for each correct answer.

Y) 80

z) **=**

a) 24

b) $\frac{3}{4}$

c) 2,112

d) tens

e) 179

f) 146,880

End of Form 4

Scoring: Student receives 1 point for each correct answer.

A) **7**

B) 152

c) **42**

D) thousands

E) 97

F) 4

 $\frac{2}{9}$

Scoring: Student receives 1 point for each correct answer.

839

J) 8

K)



L) -

M) hundreds

N) =

o) **2,432**

P) hundreds

Scoring: Student receives 1 point for each correct answer.

Q) 3

R) 42

S) <

T) **34**

U) thousands

v) **448**

w) >

Scoring: Student receives 1 point for each correct answer.

Y) 100

Z) >

a) 10

b) $\frac{1}{2}$

c) 3,190

d) ones

e) 179

f) 98,368

End of Form 5

Scoring: Student receives 1 point for each correct answer.

A) 12

B) 142

c) **42**

D) thousands

E) **86**

F) 6

G) 5

Scoring: Student receives 1 point for each correct answer.

963

J) 10

K)



L)

M) thousands

N) =

o) **3,397**

P) tens

Scoring: Student receives 1 point for each correct answer.

Q) 2

R) **69**

S) <

T) 46

U) tens

v) **245**

w) <

Scoring: Student receives 1 point for each correct answer.

Y) 100

Z) >

a) **42**

b) $\frac{1}{5}$

c) 1,938

d) ones

e) 179

f) 201,134

Scoring: Student receives 1 point for each correct answer.

A) 9

B) 125

c) **42**

D) thousands

E) 123

F) = 6

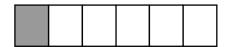
 $\frac{1}{9}$

Scoring: Student receives 1 point for each correct answer.

951

J) 3

K)



L)

m) thousands

N)

<

o) **2,646**

P) ones

Scoring: Student receives 1 point for each correct answer.

Q) 3

R) 32

S) >

T) 41

U) thousands

v) 180

W) <

Scoring: Student receives 1 point for each correct answer.

y) **60**

z) **=**

a) 18

b) $\frac{1}{4}$

c) 800

d) hundreds

e) 179

f) 74,088

End of Form 7

Scoring: Student receives 1 point for each correct answer.

A) 14

B) 157

c) 18

D) hundreds

E) 136

F) 8

 $\frac{3}{8}$

Scoring: Student receives 1 point for each correct answer.

974

J) 32

K)



L)

M) tens

N) >

o) **5,481**

P) thousands

Scoring: Student receives 1 point for each correct answer.

Q) 5

R) 46

S) =

T) 41

u) ones

v) **64**

w) **=**

Scoring: Student receives 1 point for each correct answer.

y) 40

Z) <

a) **15**

b) $\frac{2}{4}$

c) 1,015

d) thousands

e) 179

f) 134,946

End of Form 8

Scoring: Student receives 1 point for each correct answer.

A) 15

B) 165

c) **12**

D) thousands

E) 131

F) 8

G) 5

Scoring: Student receives 1 point for each correct answer.

866

J) **24**

K)



L)

m) tens

N)

<

o) **1,596**

P) tens

Scoring: Student receives 1 point for each correct answer.

Q) 4

R) **45**

S) >

T) 47

u) hundreds

v) **2**

w) =

Scoring: Student receives 1 point for each correct answer.

y) **90**

Z) >

a) **30**

b) $\frac{2}{3}$

c) 2,100

d) hundreds

e) 179

f) 169,128

End of Form 9

Scoring: Student receives 1 point for each correct answer.

A) **9**

B) 125

c) **35**

D) tens

E) 159

F) 3

 $\frac{4}{8}$

Scoring: Student receives 1 point for each correct answer.

581

J) **72**

K)



L)

M) thousands

N) >

o) **4,680**

P) thousands

Scoring: Student receives 1 point for each correct answer.

Q) 3

R) 37

s) **=**

T) **52**

u) hundreds

v) **224**

W) >

Scoring: Student receives 1 point for each correct answer.

y) **50**

Z) >

a) 21

b) $\frac{2}{5}$

c) 1,425

d) hundreds

e) 179

f) 20,501

End of Form 10

Scoring: Student receives 1 point for each correct answer.

A) 11

B) 159

c) 18

D) tens

E) 129

F) $\frac{1}{9}$

 $\frac{6}{8}$

Scoring: Student receives 1 point for each correct answer.

732

J) 24

K)



L)

M) tens

N) =

o) **2,886**

P) hundreds

Scoring: Student receives 1 point for each correct answer.

Q) 1

R) 42

S) >

T) **61**

U) thousands

v) **24**

w) **=**

Scoring: Student receives 1 point for each correct answer.

Y) **50**

Z) >

a) 12

b) $\frac{2}{7}$

c) 1,248

d) tens

e) 179

f) 189,924

Scoring: Student receives 1 point for each correct answer.

A) 8

B) 125

c) **35**

D) tens

E) 159

F) = 3

 $\frac{2}{8}$

Scoring: Student receives 1 point for each correct answer.

581

J) **72**

K)



L)

m) thousands

N)

o) **5,785**

P) thousands

>

Scoring: Student receives 1 point for each correct answer.

Q) 3

R) 37

S) =

T) **52**

u) hundreds

v) **224**

W) :

Scoring: Student receives 1 point for each correct answer.

Y) **50**

Z) >

a) 18

b) $\frac{2}{5}$

c) **1,425**

d) hundreds

e) 179

f) 20,501

End of Form 12

Scoring: Student receives 1 point for each correct answer.

A) **10**

B) 139

c) **12**

D) thousands

E) 85

F) 6

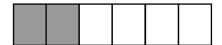
G) 4

Scoring: Student receives 1 point for each correct answer.

¹⁾ 851

J) **54**

K)



L)

M) ones

N) >

o) **3,045**

P) tens

Scoring: Student receives 1 point for each correct answer.

 $\frac{2}{4}$

R) 34

S) <

T) **54**

U) ones

v) **120**

w) **=**

Scoring: Student receives 1 point for each correct answer.

Y) **50**

Z) >

a) 20

b) $\frac{3}{4}$

c) 1,197

d) hundreds

e) 179

f) 33,098

End of Form 13

Scoring: Student receives 1 point for each correct answer.

A) **7**

B) 164

c) **20**

D) thousands

E) 63

F) 4

 $\frac{7}{8}$

Scoring: Student receives 1 point for each correct answer.

932

J) 18

K)



L) -

M) tens

N) >

o) **5,358**

P) hundreds

Scoring: Student receives 1 point for each correct answer.

Q) 5

R) 42

S) <

T) 43

u) hundreds

v) 108

W) >

Scoring: Student receives 1 point for each correct answer.

Y) **70**

z) **=**

a) 28

b) $\frac{1}{5}$

c) 1,204

d) tens

e) 179

f) 33,856

Scoring: Student receives 1 point for each correct answer.

A) 17

B) 181

c) **30**

D) hundreds

E) 87

F) 3

 $\frac{2}{9}$

Scoring: Student receives 1 point for each correct answer.

795

J) **9**

K)



L)

M) hundreds

N) >

0) 1,898

P) thousands

Scoring: Student receives 1 point for each correct answer.

Q) 3

R) 36

S) <

T) 33

U) ones

v) **126**

w) <

Scoring: Student receives 1 point for each correct answer.

Y) 40

z) **=**

a) 42

b) $\frac{1}{5}$

c) **1,519**

d) hundreds

e) 179

f) 208,164

End of Form 15

Scoring: Student receives 1 point for each correct answer.

A) 11

B) 161

c) **54**

D) hundreds

E) **127**

F) = 1

G) 3

Scoring: Student receives 1 point for each correct answer.

928

J) 32

K)



L)

M) thousands

N) =

o) **5,586**

P) hundreds

Scoring: Student receives 1 point for each correct answer.

 $\frac{3}{4}$

R) **69**

S) <

T) **86**

u) hundreds

v) **240**

w) >

Scoring: Student receives 1 point for each correct answer.

Y) 80

z) **=**

a) **72**

b) $\frac{1}{3}$

c) 1,792

d) hundreds

e) 179

f) 363,216

Scoring: Student receives 1 point for each correct answer.

A) 8

B) 149

c) **14**

D) tens

E) 126

F) 5

G) 5

Scoring: Student receives 1 point for each correct answer.

960

J) 30

K)



L)

M) tens

N) <

0) 1,242

P) ones

Scoring: Student receives 1 point for each correct answer.

 $\frac{3}{4}$

R) 42

S) >

T) 32

U) ones

v) **90**

w) >

x) 140

Scoring: Student receives 1 point for each correct answer.

Y) **50**

z) **=**

a) 45

b) $\frac{2}{3}$

c) 6,111

d) hundreds

e) 179

f) 74,958

Scoring: Student receives 1 point for each correct answer.

A) 13

B) 135

c) **35**

D) tens

E) 109

F) 6

G) 3

н) 48

Scoring: Student receives 1 point for each correct answer.

768

J) 72

K)



L)

9

M) ones

N) >

o) **4,968**

P) tens

Scoring: Student receives 1 point for each correct answer.

Q) = 1

R) **62**

S) >

T) **37**

U) thousands

v) **504**

w) **=**

x) 190

Scoring: Student receives 1 point for each correct answer.

Y) 80

Z) <

a) 12

b) $\frac{4}{9}$

c) 5,893

d) ones

e) 179

f) 68,808

Scoring: Student receives 1 point for each correct answer.

A) 6

B) 164

c) **21**

D) hundreds

E) 100

F) 6

 $\frac{4}{5}$

н) 108

Scoring: Student receives 1 point for each correct answer.

956

J) 18

K)



L) -

M) thousands

N) >

o) **3,087**

P) hundreds

Scoring: Student receives 1 point for each correct answer.

Q) 1

R) 31

S) =

T) 48

u) hundreds

v) **270**

w) <

x) 190

Scoring: Student receives 1 point for each correct answer.

Y) 100

Z) >

a) **14**

b) $\frac{1}{4}$

c) **1,349**

d) tens

e) 179

f) 194,532

Scoring: Student receives 1 point for each correct answer.

A) 13

B) 102

c) **45**

D) tens

E) 57

F) 4 8

G) 3

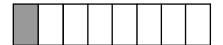
н) 160

Scoring: Student receives 1 point for each correct answer.

l) 887

J) 8

K)



L) -

M) hundreds

N) =

0) 1,363

P) thousands

Scoring: Student receives 1 point for each correct answer.

Q) 1

R) 38

s) **=**

T) 42

U) thousands

v) **144**

w) <

x) 150

Scoring: Student receives 1 point for each correct answer.

y) **60**

Z) >

a) **24**

b) $\frac{1}{4}$

c) 4,636

d) ones

e) 179

f) 139,934



Missing Number

Missing Number is a two-minute measure that evaluates a student's recognition of complex numerical patterns and familiarity with printed numbers. The teacher presents each student with Missing Number worksheets containing 50 problems. The teacher times the students during the assessment and scores the problems later. Performance is based on the total number of correct answers.

Purpose

Students need to recognize complex number patterns and be familiar with printed numbers to continue the ongoing development of number sense. To answer these items successfully, students must recognize the three printed symbols as representations of numbers, identify what fourth number would complete the sequence, and then produce the name for that number. Students who can quickly and accurately identify which number is missing recognize and make use of a fundamental pattern within the number sequence. Students who proceed more slowly may have to go through a manual strategy to fill in the blank, perhaps counting from a known reference up to the numbers in question (e.g., counting from one to answer what is missing in 9, 16, ___, 30). Other students may not yet grasp the inherent relationship between numbers.

Materials

Missing Number worksheets

Administration of Missing Number is as follows:

After distributing the Missing Number worksheets to the students, say the following:

"Please write your name and date at the top of the worksheet, put your pencil down, and turn the worksheet over" (wait until each student has completed this task). Next say, "On the other side of the sheet are some numbers. I want you to write the missing number in the blank. When I say *BEGIN* write your answer to the FIRST problem and work ACROSS the page. Then go to the next row. If you come to one that is hard or you do not know the answer, skip it and come back to it later. Fill in as many missing numbers as you can. Please show all of your work on the worksheet. When I say 'BEGIN' turn your sheet over and start working. Be sure to write your answers neatly and on each blank. Continue working until I tell you to stop. Are there any questions?" Answer all questions before beginning the assessment. Next say, "BEGIN." At the end of the two minutes, say "STOP. Put your pencils down." Collect the Missing Number worksheets.

Scoring Rules

Scoring: The student receives a score of one point for each correct answer.

Student Stops: If a student stops working before the end of the two minutes, say "Keep working until I say STOP." This should be an individual prompt given quietly to address a targeted need.

Excessive Skipping: If a student is skipping familiar or easy problems, say "Try each problem before moving on to the next. Do not skip problems you can do." This should be an individual prompt given quietly to address a targeted need.

Self-correction: Score the final answer provided by the student.

Screening: Beginning of Year

Scoring: Student receives 1 point for each correct answer.

A) 63

в) 37

c) **87**

D) **71**

E) 43

F) 61

G) **92**

н) 74

n **71**

J) 71

к) 54

L) 32

м) 89

N) 62

0) 61

P) 87

q) **50**

R) 95

s) **78**

T) **51**

Screening: Beginning of Year

Scoring: Student receives 1 point for each correct answer.

U) 29

v) **84**

w) **30**

x) **14**

Y) 68

z) **67**

a) **68**

b) 96

c) **86**

d) 66

e) 61

f) 46

g) 40

h) 6

i) 58

j) **17**

k) 35

1) 83

m) 69

n) 72

156

Screening: Beginning of Year

Scoring: Student receives 1 point for each correct answer.

o) 23

p) 56

q) 47

r) **50**

s) 88

t) 11

u) 87

v) 30

w) 39

x) 72

End of BOY Form

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

A) 63

B) **55**

c) **61**

D) **73**

E) 58

F) **64**

G) 92

н) 41

) **54**

J) 67

к) 43

L) 88

м) 37

N) 98

0) 64

P) 62

Q) **81**

R) 68

s) **9**

T) 96

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

U) 48

v) **82**

w) **59**

x) **50**

Y) 42

z) **57**

a) 96

b) 37

c) 83

d) 53

e) **73**

f) 79

g) **36**

h) 60

i) 73

j) **50**

k) 39

71

m) 40

n) **82**

160

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

o) **56**

p) 39

q) 49

r) **69**

s) 47

t) 83

u) **82**

v) 83

w) **24**

x) 10

End of MOY Form

Screening: End of Year

Scoring: Student receives 1 point for each correct answer.

A) 88

B) **65**

c) **9**

D) **24**

E) 61

F) 49

G) 80

н) 31

¹⁾ 77

J) 53

к) 36

L) 71

м) 46

N) 94

0) 71

P) **75**

Q) **87**

R) 37

s) **10**

T) 91

Screening: End of Year

Scoring: Student receives 1 point for each correct answer.

U) **99**

v) **30**

w) 63

x) 58

Y) 49

z) **78**

a) **63**

b) 90

c) **77**

d) 37

e) **87**

f) 91

g) **94**

h) 60

i) **81**

j) **44**

k) **52**

¹⁾ 58

m) 41

n) 62

164

Screening: End of Year

Scoring: Student receives 1 point for each correct answer.

o) **58**

p) **52**

q) **79**

r) **60**

s) 80

t) **84**

u) 30

v) 56

w) 91

x) 45

End of EOY Form

Form 1

81 A)

59 B)

80 C)

53 D)

44 E)

91 F)

48 G)

16 H)

69 I)

64 J)

88 K)

81 L)

51 M)

47 N)

88 O)

70 P)

66 Q)

34 R)

39 S)

96 T)

Form 1

U) 83

v) **61**

w) **57**

x) 87

Y) **72**

z) **44**

a) 13

b) 51

c) 58

d) 66

e) **50**

f) 73

g) **69**

h) 39

i) 33

j) **72**

k) 56

1) 66

m) 78

n) 83

168

Scoring: Student receives 1 point for each correct answer.

o) **31**

p) **65**

q) **24**

r) 83

s) 1

t) 63

u) **0**

v) 63

w) 16

x) 59

Form 2

A) 60

B) **44**

c) **80**

D) 23

E) 49

F) 52

G) **65**

н) 83

¹⁾ 52

J) 43

к) 54

L) 10

M) **74**

N) 78

0) 36

P) 82

q) **21**

R) 67

s) **69**

T) **75**

Form 2

u) **24**

v) **71**

w) 37

x) 95

y) **56**

z) **79**

a) **44**

b) 57

c) **54**

d) **69**

e) **50**

f) 36

g) **62**

h) **85**

i) **54**

j) **67**

k) 93

90

m) 68

n) 70

172

Form 2

o) **20**

p) **72**

q) 33

r) **87**

s) **74**

t) 47

u) 68

v) 33

w) 35

x) 50

Form 3

A) 60

B) 90

c) **42**

D) **87**

E) 80

F) 13

G) **69**

н) 56

1) 44

J) 56

к) 37

L) **44**

м) 37

N) 52

0)

P) 20

q) **63**

R) 17

s) **67**

Form 3

U) 60

v) **74**

w) **77**

x) 3

Y) 88

z) **76**

a) 73

b) 82

c) **74**

d) 96

e) **41**

f) 28

g) **77**

h) **51**

i) **84**

j) 38

k) 53

96

m) 21

n) **76**

Form 3

o) **53**

p) 48

q) **70**

r) **89**

s) **68**

t) 57

u) 16

v) 40

w) **81**

x) 67

Form 4

A) 65

B) 50

c) **21**

D) **78**

E) 87

F) 83

G) **67**

н) 72

75

J) 83

к) 26

L) **49**

м) 56

N) 76

0) 60

P) 48

q) **66**

R) 47

s) **97**

Form 4

U) 10

v) **73**

w) **77**

x) **79**

Y) 20

z) **69**

a) 27

b) 91

c) 49

d) 87

e) 93

f) 78

g) 71

h) 89

i) 38

j) 32

k) 28

1) 63

m) 61

n) **87**

Scoring: Student receives 1 point for each correct answer.

o) **52**

p) 87

q) **50**

r) **70**

s) **74**

t) **88**

u) 6

v) 82

w) **86**

x) 57

Form 5

A) 72

B) 30

c) **92**

D) **54**

E) 81

F) **14**

G) **56**

н) 55

i) **69**

J) 70

к) 93

L) 20

м) 79

N) 77

0) 76

P) 47

Q) **99**

R) 43

s) 48

Form 5

u) **34**

v) **56**

w) 7

x) 71

Y) 83

z) **98**

a) 39

b) 30

c) **72**

d) 80

e) **79**

f) 88

g) **83**

h) 96

i) 24

j) 47

k) 43

93

m) **44**

n) **65**

Scoring: Student receives 1 point for each correct answer.

o) **87**

p) 86

q) **64**

r) **86**

s) 28

t) 25

u) 87

v) 62

w) 58

x) 68

Form 6

A) 67

B) **54**

c) **46**

D) **14**

E) 62

F) 88

G) **79**

н) 54

1) 88

J) 68

K) 10

L) **76**

M) 12

N) 31

0) 50

P) 43

q) **73**

R) 90

s) **53**

Scoring: Student receives 1 point for each correct answer.

U) **53**

v) **77**

w) **75**

x) **85**

Y) 20

z) **70**

a) 28

b) **44**

c) **44**

d) **69**

e) **77**

f) 92

g) **37**

h) 72

i) 36

j) **56**

k) 61

1) 83

m) 82

n) **74**

Scoring: Student receives 1 point for each correct answer.

o) 23

p) 92

q) 93

r) **76**

s) 30

t) 38

u) **79**

v) **55**

w) 88

x) 79

Form 7

A) 46

B) **69**

c) **62**

D) 41

E) 82

F) 78

G) 30

н) 40

¹⁾ 57

J) 10

к) 30

L) **64**

M) 61

N) 26

0) 88

P) 18

q) **50**

R) 33

s) **78**

Form 7

υ) **54**

v) 46

w) **81**

x) **57**

Y) 61

z) **97**

a) **63**

b) **79**

c) **72**

d) **51**

e) 93

f) 50

g) **52**

h) 56

i) 62

j) 68

k) 43

¹⁾ 67

m) 20

n) **84**

Scoring: Student receives 1 point for each correct answer.

o) **41**

p) 80

q) 48

r) 32

s) 79

t) 39

u) 21

v) 78

w) **45**

x) 63

Form 8

58 A)

71 B)

86 C)

53 D)

73 E)

55 F)

56 G)

36 H)

49 I)

63 J)

94 K)

20 L)

12 M)

65 N)

75 O)

64 P)

74 Q)

47 R)

59 S)

Form 8

U) **41**

v) **7**

w) **20**

x) **52**

Y) 58

z) **89**

a) 80

b) 94

c) 48

d) **76**

e) 46

f) 47

g) 13

h) 86

i) 41

j) 28

k) 33

1) 86

m) 97

n) 93

Form 8

o) **53**

p) 71

q) **91**

r) **88**

s) 66

t) 78

u) **54**

v) 17

w) **79**

x) 40

Form 9

A) 43

B) 40

c) **82**

D) 84

E) 58

F) 89

G) 99

н) 68

1) 11

J) 76

K) 72

L) **44**

м) 86

N) 45

0) 69

P) 61

q) **67**

R) **59**

s) **87**

Form 9

U) **74**

v) **47**

w) 26

x) 86

Y) 82

z) **64**

a) 90

b) 57

c) **72**

d) 36

e) 43

f) 59

g) **50**

h) 36

i) **60**

j) **69**

k) 86

1) 89

m) 73

n) **89**

Scoring: Student receives 1 point for each correct answer.

o) 69

p) 82

q) 80

r) 71

s) 29

t) **88**

u) **50**

v) 47

w) 81

x) 58

Scoring: Student receives 1 point for each correct answer.

A) 20

B) **61**

c) **19**

D) **65**

E) 72

F) 83

G) **4**

н) 58

1) 86

J) **52**

к) 94

L) 23

м) 82

N) 30

0) 77

P) **50**

9) 56

R) 61

s) **60**

Scoring: Student receives 1 point for each correct answer.

U) **73**

v) **75**

w) **59**

x) 91

Y) 15

z) **39**

a) 40

b) 16

c) **78**

d) 56

e) 32

f) 88

g) **67**

h) 20

i) 43

j) **84**

k) 87

¹⁾ 26

m) **60**

n) **66**

Scoring: Student receives 1 point for each correct answer.

o) **56**

p) 90

q) **52**

r) **65**

s) **63**

t) 27

u) 46

v) **75**

w) **34**

x) 88

Form 11

A) **74**

B) 29

c) **55**

D) **26**

E) 41

F) 40

G) **84**

н) 64

1) 81

J) 94

к) 27

L) **52**

M) **14**

N) 10

0) 93

P) 33

q) **51**

R) 78

s) **68**

Form 11

U) **77**

v) **59**

w) **71**

x) **27**

Y) 80

z) **79**

a) **67**

b) 20

c) **69**

d) 99

e) **77**

f) 13

g) **92**

h) 30

i) **54**

j) **55**

k) **42**

¹⁾ 59

m) **79**

n) 46

Scoring: Student receives 1 point for each correct answer.

o) **78**

p) 21

q) **77**

r) **69**

s) **74**

t) 56

u) 34

v) **12**

w) 25

x) 32

Form 12

A) 53

B) **82**

c) **70**

D) **68**

E) 19

F) **67**

G) 63

н) 72

i) **69**

J) **60**

к) 65

L) 48

м) 43

N) 88

0) 76

P) 86

q) **36**

R) 66

s) **87**

Form 12

u) **84**

v) **59**

w) **77**

x) **59**

Y) 1

z) **44**

a) 59

b) **69**

c) **56**

d) 37

e) **0**

f) 91

g) **92**

h) 66

i) 77

j) 32

k) 40

8

I)

m) 59

n) **51**

Form 12

o) **79**

p) 80

q) **30**

r) **65**

s) 38

t) 76

u) 3

v) 84

w) 58

x) 67

Form 13

A) 10

B) 83

c) **64**

D) **61**

E) 79

F) 83

G) 86

н) 87

1) 80

J) **75**

K) 72

L) **45**

M) 10

N) **74**

0) 62

P) 76

Q) **24**

R) 21

s) **70**

Form 13

U) **16**

v) **91**

w) **52**

x) 86

Y) **59**

z) **76**

a) 61

b) 90

c) 91

d) **82**

e) 91

f) 38

g) **42**

h) **75**

i) 62

j) 13

k) **74**

1) 43

m) 69

n) **54**

Form 13

o) **70**

p) 47

q) **34**

r) **60**

s) 92

t) 61

u) 31

v) **56**

w) 68

x) 57

Form 14

A) 59

B) 99

c) **94**

D) 83

E) 63

F) 93

G) 70

н) 77

1) 49

J) **79**

к) 89

L) 49

M) 77

N) 42

0) 66

P) 77

Q) **62**

R) 98

s) **88**

Form 14

U) 62

v) **43**

w) **75**

x) 80

Y) 43

z) **70**

a) 40

b) 87

c) **86**

d) 56

e) **77**

f) 56

g) 70

h) 42

i) 51

j) **59**

k) **79**

1) 25

m) 32

n) 48

Scoring: Student receives 1 point for each correct answer.

o) 62

p) 86

q) **60**

r) **70**

s) 42

t) 81

u) 12

v) 49

w) 39

x) 64

Form 15

A) 69

B) 93

c) **16**

D) **30**

E) 48

F) **44**

G) **74**

н) 43

i) 62

J) 71

K) 8

L) **60**

м) 60

N) 28

0) 63

P) 70

Q) **82**

R) 58

s) **69**

Scoring: Student receives 1 point for each correct answer.

U) 88

v) **62**

w) 41

x) 97

Y) 73

z) **68**

a) **59**

b) 87

c) **78**

d) **67**

e) **77**

f) 67

g) **56**

h) 22

i) 49

j) **58**

k) 83

¹⁾ 69

m) 50

n) 26

Form 15

o) **22**

p) 61

q) 80

r) **78**

s) **57**

t) 78

u) **56**

v) 33

w) 66

x) 74

Scoring: Student receives 1 point for each correct answer.

A) **85**

B) 77

c) **62**

D) **78**

E) 84

F) 77

G) **67**

н) 87

72

J) 96

K) **74**

L) 60

M) 71

N) 0

0) 30

P) **50**

q) **72**

R) 49

s) **13**

Form 16

U) 69

v) 48

w) **86**

x) 34

Y) 46

z) **75**

a) 70

b) 16

c) **57**

d) 80

e) **85**

f) 53

g) **58**

h) 58

i) 38

j) **66**

k) 94

1) 24

m) **79**

n) 72

Scoring: Student receives 1 point for each correct answer.

o) **49**

p) 61

q) **52**

r) **44**

s) **50**

t) 32

u) **74**

v) 16

w) 58

x) 61

Form 17

A) 67

B) **67**

c) **81**

D) **70**

E) **74**

F) **64**

G) 78

н) 73

37

J) 49

к) 20

L) 62

M) 68

N) 81

0) 10

P) 84

q) **52**

R) 41

s) **73**

Form 17

U) 76

v) **76**

w) 69

x) 32

Y) 58

z) **11**

a) 79

b) 10

c) **42**

d) 46

e) **52**

f) 67

g) 70

h) **85**

i) **50**

j) 73

k) 53

i) **61**

m) 90

n) 90

Scoring: Student receives 1 point for each correct answer.

o) 86

p) 48

q) **49**

r) **71**

s) 87

t) 43

u) **64**

v) 87

w) 40

x) 97

Form 18

A) **74**

B) 66

c) **74**

D) **68**

E) 69

F) **54**

G) 37

н) 62

) 55

J) **57**

к) 48

L) 32

м) 37

N) 52

0) 86

P) 40

q) **58**

R) **51**

s) **68**

Form 18

U) 43

v) **85**

w) 58

x) 86

Y) 43

z) **61**

a) 78

b) 97

c) 21

d) **59**

e) **72**

f) 0

g) **42**

h) 70

i) 98

j) **90**

k) 71

78

m) 49

n) 40

Form 18

o) **45**

p) 77

q) **59**

r) **69**

s) 90

t) 75

u) **39**

v) 16

w) 53

x) 11

Form 19

A) 33

B) 53

c) **46**

D) **72**

E) **44**

F) 80

G) **76**

н) 33

94

J) **74**

к) 78

L) **64**

м) 86

N) 43

o) **74**

P) 36

q) **57**

R) 31

s) **54**

Form 19

U) **65**

v) **10**

w) **74**

x) 80

Y) 58

z) 48

a) **27**

b) **78**

c) 22

d) 3

e) **63**

f) 68

g) **63**

h) 94

i) **84**

j) **67**

k) 68

¹⁾ 56

m) 52

n) **50**

Form 19

o) 92

p) 61

q) **59**

r) **55**

s) **69**

t) 77

u) 47

v) 60

w) 78

x) 68

Scoring: Student receives 1 point for each correct answer.

A) 60

B) 87

c) **78**

D) **62**

E) 83

F) 82

G) 68

н) 17

i) **69**

J) 58

K) 47

L) **82**

M) 68

N) 70

0) 86

P) **45**

q) **69**

R) 70

s) **84**

Scoring: Student receives 1 point for each correct answer.

U) 93

v) **51**

w) **49**

x) **54**

Y) **45**

z) **82**

a) 90

b) 94

c) **77**

d) **61**

e) **60**

f) **16**

g) **63**

h) 53

i) **54**

j) **79**

k) 12

1) 88

m) 90

n) **66**

Scoring: Student receives 1 point for each correct answer.

o) **43**

p) **64**

q) 33

r) 46

s) **59**

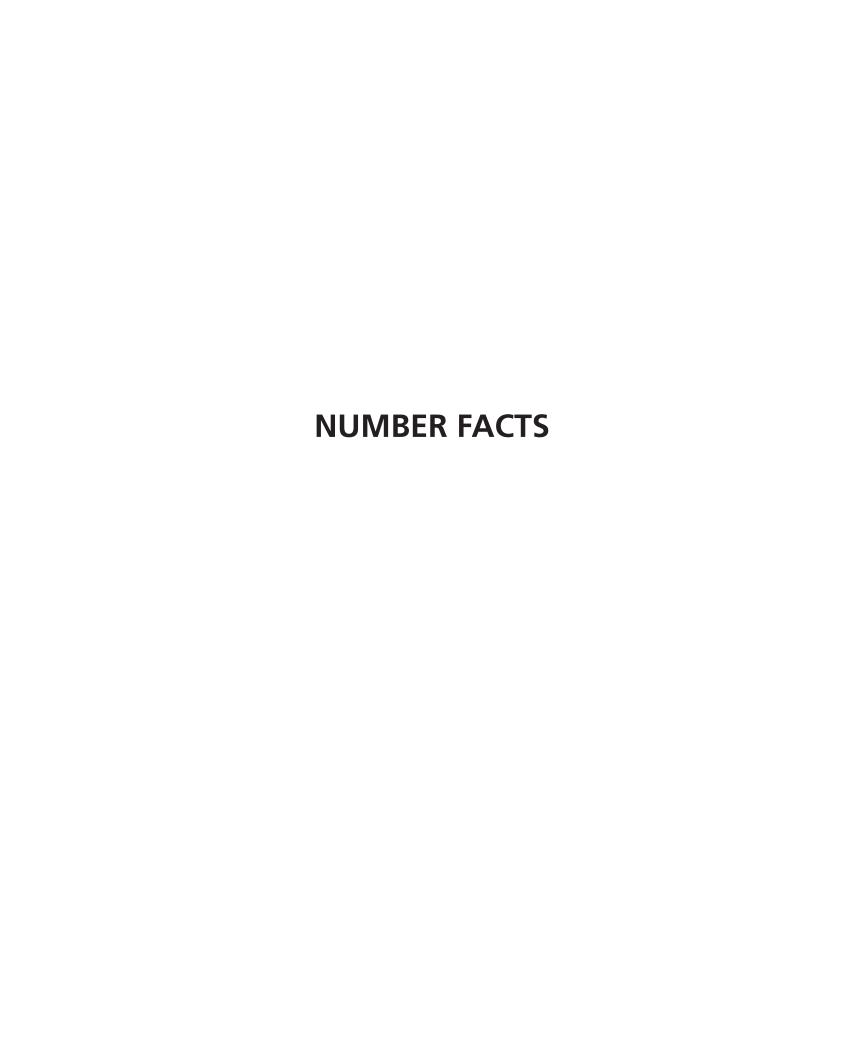
t) 53

u) **79**

v) 61

w) **82**

x) 30



Number Facts

Number Facts is a two-minute measure that evaluates a student's knowledge of basic arithmetic. The teacher presents each student with Number Facts worksheets containing 60 problems. The teacher times the students during the assessment and scores the problems later. Performance is based on the total number of correct digits in each problem.

Purpose

Quick retrieval of the basic number facts, or combinations, is fundamentally important for learning and may predict achievement. From a practical point of view, quick retrieval means that students get the answer quickly and do not have to expend much mental energy on calculation. Quick retrieval may result from rote memory or from fluency with rapid counting.

Materials

Number Facts worksheets

Administration of Number Facts is as follows:

After distributing the Number Facts worksheets to the students, say the following:

"Please write your name and date at the top of the worksheet, put your pencil down, and turn the worksheet over" (wait until each student has completed this task). Next say, "On the other side of the sheet are some math problems. I want you to write the answers to as many math problems as you can. When I say BEGIN write your answers to the FIRST problem and work ACROSS the page. Then go to the next row. Some of the problems will be easy while others will be hard. Solve as many problems as you can. You may not know how to solve all the problems. If you come to one that is hard or you do not know how to do, skip it and come back to it later. Please show all of your work on the worksheet. When I say 'BEGIN' turn your sheet over and start working. Be sure to write your answers neatly and within each box. Continue working until I tell you to stop. Are there any questions?" Answer all questions before beginning the assessment. Next say, "BEGIN." At the end of the two minutes, say "STOP. Put your pencils down." Collect all of the Number Facts worksheets.

Scoring Rules

Scoring: The student receives a score of one point for each correct answer.

Student Stops: If a student stops working before the end of the two minutes, say "Keep working until I say STOP." This should be an individual prompt given quietly to address a targeted need.

Excessive Skipping: If a student is skipping familiar or easy problems, say "Try each problem before moving onto the next. Do not skip problems you can do." This should be an individual prompt given quietly to address a targeted need.

Self-correction: Score the final answer provided by the student.

Screening: Beginning of Year

Scoring: Student receives 1 point for each correct answer.

A) 12

в) 17

c) **16**

D) **5**

E) 8

F) 10

g) 11

н) 49

1) 10

J) 13

K) **4**

L) 16

M) 11

N) 11

0) 72

P) 2

q) **54**

R) **7**

s) **4**

T) 30

U) **27**

v) **81**

w) 8

x) 16

y) 3

z) 18

a) 15

b) 15

c) 15

Screening: Beginning of Year

Scoring: Student receives 1 point for each correct answer.

e) **2**

f) 3

g) 35

h) 10

i) 10

j) 10

k) **4**

1) 63

m) 12

n) **4**

o) 10

p) 36

q) **7**

r) 36

s) **5**

t) 15

u) 7

v) 9

w) 8

x) 9

y) **81**

z) 40

AA) **8**

вв) 7

cc) **7**

DD) 16

EE) 56

FF) **6**

GG) 10

нн) 5

End of BOY Form

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

A) 14

B) 30

c) **56**

D) **5**

E) 7

F) 13

G) 2

н) 35

1) 13

J) 8

K) 6

L) 6

м) 24

N) 63

0) 11

P) 11

q) **15**

R) 13

s) 12

T) 5

U) **21**

v) 3

w) 36

x) 48

Y) 10

z) 12

a) 32

b) **4**

c) **7**

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

e) 40

f) **1**

g) 11

h) 8

i) 16

j) 12

k) 28

1) 36

m) 9

n) 10

0) 15

p) 30

q) 64

r) **8**

s) 27

t) 5

u) 9

v) 24

w) 2

x) 7

y) **5**

z) 16

AA) **54**

BB) 10

cc) **4**

DD) **4**

EE) 13

FF) 10

GG) 11

нн) 6

End of MOY Form

Screening: End of Year

Scoring: Student receives 1 point for each correct answer.

A) 10

в) 5

c) **12**

D) 30

E) 5

F) 4

G) **4**

н) 15

1) 11

J) **35**

κ) **2**

L) 13

M) 8

N) 8

0) 63

P) 17

q) **45**

R) 12

s) **24**

T) 16

U) **7**

v) **56**

w) 24

x) 42

Y) 12

z) **4**

a) 54

b) 24

c) 11

Screening: End of Year

Scoring: Student receives 1 point for each correct answer.

e) 9

f) 21

g) **9**

h) 6

i) 16

j) 3

k) 27

1) 13

m) 8

n) **8**

o) 48

p) 3

q) 1

r) **8**

s) 10

t) 8

u) 8

v) **5**

w) **5**

x) 7

y) **6**

z) 36

AA) 12

BB) 11

cc) **6**

DD) **64**

EE) 10

FF) 30

GG) 10

нн) 9

End of EOY Form

Scoring: Student receives 1 point for each correct answer.

A) 63

B) **1**

c) 10

D) 28

E) 63

F) 11

g) **5**

н) 6

1) 4

J) 14

κ) **25**

L) 9

M) 8

N) 20

0) 3

P) **5**

q) 5

R) 4

s) **4**

T) 10

U) 8

v) 10

w) 3

x) 4

Y) 16

z) 16

a) 9

b) 36

c) **5**

Scoring: Student receives 1 point for each correct answer.

e) 11

f) 8

g) 12

h) 9

i) 7

j) **8**

k) 6

1) 24

m) **1**

n) 13

o) **7**

8 (q

q) 63

r) 25

s) 10

t) 8

u) **6**

v) 24

w) 63

x) 8

y) 36

z) 14

AA) **14**

BB) **27**

cc) **12**

DD) **5**

EE) **4**

FF) 35

GG) 64

нн) 11

Scoring: Student receives 1 point for each correct answer.

A) 6

B) **4**

c) 13

D) 36

E) 16

F) 24

g) 10

н) 24

1) 13

J) 42

K) 10

L) 20

м) 7

N) 8

0) 42

P) **5**

q) **4**

R) 9

s) **1**

T) 16

U) **6**

v) 8

w) 32

x) **4**

y) 6

z) **8**

a) 35

b) 10

c) 18

Scoring: Student receives 1 point for each correct answer.

e) 28

f) **4**

g) 16

h) 12

i) 9

j) 15

k) 6

1) 15

m) 40

n) **6**

o) **3**

p) **72**

q) 14

r) **5**

s) 6

t) 63

u) 36

v) 1

w) 16

x) 18

y) **1**

z) 6

AA) 16

BB) 12

cc) **13**

DD) **5**

EE) 13

FF) 15

GG) 7

нн) 8

Scoring: Student receives 1 point for each correct answer.

A) 13

B) **8**

c) **12**

D) 13

E) 7

F) 14

G) 72

н) 4

1) 8

J) **4**

к) 5

L) 64

м) 32

N) 8

0) 15

P) 16

q) **27**

R) 40

s) 14

T) 5

U) **4**

v) 9

w) 10

x) 9

Y) 12

z) **9**

a) 15

b) 13

c) 36

Scoring: Student receives 1 point for each correct answer.

e) 35

f) 3

g) 28

h) 16

i) 16

j) 63

k) 27

1) 6

m) 72

n) **7**

o) **4**

p) 15

q) 9

r) 27

s) 9

t) 8

u) 36

v) 6

w) 6

x) 12

y) 13

z) 15

AA) **14**

BB) 12

cc) **72**

DD) 42

EE) 12

FF) **4**

GG) 11

нн) 4

Scoring: Student receives 1 point for each correct answer.

A) 6

в) 10

c) **3**

D) **4**

E) **4**

F) 9

g) 10

н) 63

1) 11

J) 40

к) **13**

L) 9

M) 1

N) 12

0) 12

P) 30

Q) 9

R) 11

s) 21

T) **7**

U) **6**

v) 11

w) 12

x) 4

Y) 12

z) 13

a) **6**

b) 8

c) 12

Scoring: Student receives 1 point for each correct answer.

e) **1**

f) 12

g) 14

h) 12

i) 9

j) 12

k) 5

1) 49

m) 24

n) 40

o) 10

p) 13

q) 3

r) 15

s) 12

t) 12

u) **6**

v) 2

w) 6

x) 27

y) 13

z) 42

AA) 40

вв) 13

cc) **45**

DD) **7**

EE) 63

FF) 11

GG) **81**

нн) 28

Scoring: Student receives 1 point for each correct answer.

A) 14

в) 10

c) **16**

D) 72

E) 3

F) 2

g) 16

н) 10

1) 24

J) 12

K) 8

L) 16

м) 13

N) 64

0) 42

P) 3

Q) **81**

R) 12

s) 11

T) 12

U) **6**

v) **7**

w) 6

x) 2

Y) 2

z) **1**

a) 10

b) 8

c) **6**

Scoring: Student receives 1 point for each correct answer.

e) 12

f) 18

g) 36

h) 6

i) 6

j) **7**

k) 10

1) 25

m) **8**

n) 30

o) **6**

p) 36

q) 16

r) **9**

s) 12

t) 6

u) **11**

v) 35

w) **81**

x) 14

y) **72**

z) 10

AA) **6**

вв) 2

cc) **9**

DD) **7**

EE) 12

FF) **9**

GG) 9

нн) 15

Scoring: Student receives 1 point for each correct answer.

A) 18

B) **4**

c) **6**

D) 11

E) 30

F) 48

g) 11

н) 9

1) 11

J) 49

к) **12**

L) 13

м) 36

N) 64

0) 21

P) 3

q) **9**

R) **7**

s) **9**

T) 9

U) **6**

v) **4**

w) **5**

x) 32

Y) 35

z) **72**

a) 5

b) 16

c) 18

Scoring: Student receives 1 point for each correct answer.

e) 54

f) 24

g) **6**

h) **1**

i) 5

j) **1**

k) 6

1) 3

m) **8**

n) **11**

o) 12

p) 12

q) 12

r) **11**

s) **4**

t) 8

u) 10

v) 6

w) 45

x) 16

y) 20

z) 11

AA) 16

BB) 10

cc) **4**

DD) **9**

EE) 6

FF) 63

GG) **9**

нн) 24

Scoring: Student receives 1 point for each correct answer.

a) 9

в) 45

c) **63**

D) 16

E) 15

F) 3

G) **4**

н) 2

1) 15

J) 32

к) **12**

L) 11

M) 40

N) 4

0) 5

P) 21

q) 5

R) 25

s) **1**

T) 9

U) 10

v) 9

w) 56

x) **54**

y) 48

z) 13

a) 24

b) 63

c) 36

Scoring: Student receives 1 point for each correct answer.

e) 12

f) 20

g) 18

h) 11

i) 9

j) 11

k) 6

1) 48

m) 15

n) 24

o) 9

p) 9

q) **5**

r) **11**

s) 14

t) 28

u) 12

v) 16

w) 2

x) 2

y) **9**

z) **8**

AA) **63**

BB) 13

cc) 18

DD) **2**

EE) 9

FF) 28

GG) 11

нн) 11

Scoring: Student receives 1 point for each correct answer.

A) 6

в) 12

c) **25**

D) **5**

E) 9

F) **6**

g) 9

н) 81

1) 3

J) 14

к) **16**

L) 8

M) 4

N) 25

0) 12

P) 28

q) 6

R) 13

s) 48

T) 7

U) **4**

v) 8

w) 14

x) 6

y) 63

z) 15

a) 9

b) 8

c) 12

Scoring: Student receives 1 point for each correct answer.

e) **3**

f) 10

g) 13

h) 10

i) 2

j) 40

k) 11

I) **9**

m) **56**

n) **5**

0) 32

p) 49

q) 9

r) 28

s) 45

t) 5

u) 18

v) 6

w) **4**

x) 20

y) **9**

z) 10

AA) 8

вв) 10

cc) **16**

DD) **64**

EE) 9

FF) 13

GG) 13

нн) 12

Scoring: Student receives 1 point for each correct answer.

A) 7

B) 5

c) 10

D) 35

E) 9

F) 9

g) 21

н) 4

ı) 36

J) **9**

к) **7**

L) **4**

м) 30

N) 4

0) 2

P) 27

q) **81**

R) 10

s) 49

T) 10

U) **4**

v) 3

w) 13

x) 12

y) 48

z) **6**

a) 10

b) 24

c) 12

Scoring: Student receives 1 point for each correct answer.

e) 10

f) **4**

g) **8**

h) 25

i) 45

j) **8**

k) 9

1) 5

m) 6

n) 12

0) 12

p) 18

q) **6**

r) 9

s) 64

t) 63

u) 6

v) 8

w) 8

x) 2

y) 14

z) 6

AA) 17

BB) 13

cc) **8**

DD) **4**

EE) 9

FF) 10

GG) 3

нн) 5

Scoring: Student receives 1 point for each correct answer.

A) 2

в) 64

c) **42**

D) 18

E) 15

F) 30

G) **4**

н) 5

1) 7

J) 9

K) 1

L) 48

м) 6

N) 13

0) 12

P) **4**

Q) 3

R) 13

s) 10

T) 5

U) 12

v) **5**

w) 24

x) 1

y) **4**

z) **11**

a) **81**

b) 12

c) 2

Scoring: Student receives 1 point for each correct answer.

e) 11

f) 81

g) **4**

h) 15

i) 10

j) **6**

k) 3

1) 8

m) 49

n) 63

0) 15

p) 8

q) 16

r) **5**

s) **6**

t) 11

u) 13

v) 12

w) 9

x) 9

y) 15

z) 32

AA) 12

вв) 6

cc) **15**

DD) **9**

EE) 30

FF) 12

GG) 16

нн) 45

Scoring: Student receives 1 point for each correct answer.

A) 11

B) 5

c) 10

D) 12

E) 16

F) 11

G) 2

н) 12

1) 15

J) **5**

к) **12**

L) 13

м) 9

N) 8

0) 5

P) 12

Q) 2

R) 64

s) **6**

T) 9

U) 32

v) 40

w) 12

x) 35

Y) 27

z) 18

a) 15

b) 16

c) 10

Scoring: Student receives 1 point for each correct answer.

e) 16

f) 6

g) 13

h) 12

i) 42

j) 28

k) 11

1) 10

m) 25

n) **8**

0) 63

p) 3

q) 56

r) **54**

s) 45

t) 8

u) 13

v) 3

w) 8

x) **4**

y) **4**

z) **3**

AA) **14**

BB) 17

cc) **49**

DD) **24**

EE) 10

FF) 10

GG) 4

нн) 16

Scoring: Student receives 1 point for each correct answer.

A) 10

B) **8**

c) **16**

D) **4**

E) 32

F) 14

g) 9

н) 27

1) 12

J) 24

K) 4

L) **4**

M) 10

N) 3

0) 10

P) 18

Q) 11

R) 63

s) **9**

T) 3

U) 16

v) **4**

w) 30

x) 3

y) 6

z) **64**

a) 5

b) **54**

c) **7**

Scoring: Student receives 1 point for each correct answer.

e) 13

f) 9

g) 72

h) 6

i) 8

j) 30

k) 35

1) 3

m) **8**

n) **4**

o) **7**

p) 12

q) **7**

r) 12

s) 9

t) 14

u) **4**

v) 11

w) 12

x) 16

y) 13

z) 40

AA) **64**

вв) 5

cc) **35**

DD) 14

EE) 12

FF) 11

GG) 5

нн) 14

Scoring: Student receives 1 point for each correct answer.

A) 21

в) 16

c) **14**

D) 13

E) 36

F) 16

g) **81**

н) 18

1) 5

J) 6

к) 48

L) 10

M) 4

N) 7

0) 3

P) 10

Q) 7

r) 15

s) **2**

T) 27

U) **7**

v) 6

w) **1**

x) 16

y) 63

z) **24**

a) 5

b) 16

c) **7**

Scoring: Student receives 1 point for each correct answer.

e) **8**

f) 8

g) **9**

h) 30

i) 11

j) 42

k) 9

1) 2

m) 9

n) 13

o) 12

p) 18

q) 6

r) 10

s) **6**

t) 10

u) 12

v) 12

w) 6

x) 13

y) 10

z) **8**

AA) **9**

вв) 12

cc) **54**

DD) **25**

EE) **6**

FF) 45

GG) **4**

нн) 72

Scoring: Student receives 1 point for each correct answer.

A) 42

в) 7

c) **6**

D) 6

E) 7

F) 3

G) 40

н) 11

1) 7

J) 10

к) 36

L) **1**

м) 6

N) 72

0) 9

P) 35

Q) 8

R) 24

s) 12

T) 25

U) 8

v) 9

w) 63

x) 16

y) 9

z) 13

a) 15

b) 8

c) 14

Scoring: Student receives 1 point for each correct answer.

e) 27

f) 6

g) 17

h) 13

i) 9

j) **4**

k) 9

1) 6

m) 14

n) 9

o) 40

p) 5

q) 24

r) **5**

s) 15

t) 16

u) 12

v) **4**

w) **4**

x) 63

y) **4**

z) 36

AA) 10

BB) **81**

cc) **36**

DD) 12

EE) **4**

FF) **7**

GG) 5

нн) 20

Scoring: Student receives 1 point for each correct answer.

A) 48

B) **1**

c) **27**

D) 12

E) 12

F) 6

g) 24

н) 6

1)

J) **5**

K) 11

L) 32

M) 10

N) 6

0) 36

P) 16

q) **30**

R) 14

s) 11

T) 25

U) **4**

v) 16

w) **7**

x) 9

y) 49

z) **24**

a) **1**

b) 9

c) **5**

Scoring: Student receives 1 point for each correct answer.

e) 18

f) 11

g) 20

h) **4**

i) 14

j) 21

k) **4**

I) 9

m) 14

n) **8**

0) 15

p) 8

q) 13

r) **56**

s) **81**

t) 9

u) 8

v) **7**

w) 7

x) 5

y) **9**

z) 6

AA) 30

BB) 12

cc) **16**

DD) **4**

EE) 3

FF) **9**

GG) 64

нн) 42

Scoring: Student receives 1 point for each correct answer.

A) 35

в) 5

c) 10

D) **5**

E) 72

F) 11

g) 2

н) 14

1) 42

J) 36

к) **16**

L) **4**

M) 11

N) 18

0) 9

P) 30

Q) 8

R) 8

s) 11

T) 32

U) **6**

v) 8

w) **72**

x) 8

y) 36

z) **8**

a) 11

b) 3

c) 63

Scoring: Student receives 1 point for each correct answer.

e) 36

f) 11

g) **8**

h) 6

i) **4**

j) **6**

k) 16

1) 14

m) 6

n) **11**

o) **81**

p) 14

q) 6

r) 14

s) 49

t) 5

u) **4**

v) 17

w) 24

x) 16

y) **4**

z) 15

AA) 18

вв) 6

cc) **25**

DD) **4**

EE) 16

FF) 11

GG) **8**

нн) 13

Scoring: Student receives 1 point for each correct answer.

A) 6

B) 28

c) **63**

D) **4**

E) 9

F) **7**

G) 1

н) 18

1) 3

J) 56

к) **12**

L) **7**

M) 11

N) 24

0) 36

P) 12

Q) 7

R) 45

s) 12

T) 18

υ) **54**

v) 10

w) 8

x) 6

Y) 10

z) 14

a) **8**

b) 63

c) **6**

Scoring: Student receives 1 point for each correct answer.

e) 6

f) 40

g) **6**

h) **7**

i) **1**

j) 10

k) 8

1) 28

m) 7

n) 30

o) 11

p) 36

q) 14

r) 30

s) 14

t) 6

u) 17

v) 25

w) 9

x) 9

y) 2

z) **5**

AA) **6**

вв) 7

cc) **8**

DD) **7**

EE) 11

FF) 16

GG) 16

нн) 4

Scoring: Student receives 1 point for each correct answer.

a) 9

B) 11

c) **8**

D) **9**

E) 15

F) **7**

G) 49

н) 24

1) 7

J) 2

к) **7**

L) 2

M) 8

N) 9

0) 42

P) 10

q) **36**

R) **7**

s) **35**

T) 9

U) **7**

v) **9**

w) 13

x) 10

y) 14

z) **72**

a) 9

b) **4**

c) 36

Scoring: Student receives 1 point for each correct answer.

e) **4**

f) 45

g) 3

h) 6

i) 20

j) **4**

k) 6

1) 27

m) 15

n) 30

o) 9

p) **1**

q) 40

r) **7**

s) 12

t) 12

u) **5**

v) 8

w) 24

x) 18

y) **7**

z) 16

AA) 11

вв) 7

cc) 10

DD) **4**

EE) 81

FF) 13

GG) 28

нн) 10

Scoring: Student receives 1 point for each correct answer.

A) 48

B) 11

c) **4**

D) 7

E) 35

F) 12

G) 54

н) 15

1) 9

J) **7**

к) **72**

L) 45

м) 7

N) 1

0) 18

P) 10

q) 6

R) 8

s) 16

T) 10

U) 8

v) 2

w) 10

x) 5

y) 6

z) 16

a) **7**

b) 9

c) **4**

Scoring: Student receives 1 point for each correct answer.

e) 48

f) 10

g) 21

h) 35

i) 9

j) 10

k) 16

1) 15

m) **56**

n) **8**

0) 32

p) **5**

q) 36

r) 16

s) **4**

t) 72

u) 6

v) 7

w) **1**

x) 7

y) **27**

z) **4**

AA) **8**

вв) 35

cc) **15**

DD) **8**

EE) 2

FF) 16

GG) 12

нн) 16

Scoring: Student receives 1 point for each correct answer.

A) 12

B) 18

c) **72**

D) **25**

E) 9

F) 15

g) 13

н) 36

1) 5

J) 63

K) 10

L) 36

M) 6

N) 12

0) 12

P) 12

q) 13

R) 28

s) **5**

T) 5

U) 8

v) **14**

w) 13

x) 10

Y) 12

z) 10

a) **2**

b) 10

c) 2

Scoring: Student receives 1 point for each correct answer.

e) 13

f) 8

g) 11

h) 15

i) 12

j) **5**

k) 81

1) 4

m) 42

n) 40

o) 18

p) 13

q) 5

r) 10

s) 21

t) 2

u) 13

v) 45

w) 36

x) 9

y) 10

z) 24

AA) **6**

вв) 56

cc) **27**

DD) **5**

EE) **1**

FF) 14

GG) 1

нн) 12

QUANTITY DISCRIMINATION

Quantity Discrimination

Quantity Discrimination is a two-minute measure that identifies a student's ability to comprehend the quantitative value of whole numbers and operations using whole numbers, fractions, and decimals. The teacher presents each student with Quantity Discrimination worksheets containing 60 problems. The student should identify the number or quantity in the set with the highest value. The teacher times the students during the assessment and scores the problems later. Performance is based on the total number of correct answers.

Purpose

Comparing the magnitude of numbers is a fundamental number concept. Within a given item, a student must recognize the written numerals and understand that the value of one number is larger than the other. The comparisons include fractions, decimals, and simple problems that could be solved without calculation. Understanding quantity has been shown to be one of the strongest predictors of mathematical performance.

Materials

Quantity Discrimination worksheets

Administration of Quantity Discrimination is as follows:

After distributing the Quantity Discrimination worksheets to the students, say the following:

"Please write your name and date at the top of the worksheet, put your pencil down, and turn the worksheet over" (wait until each student has completed this task). Next say, "On the other side of the sheet are sets of numbers. Compare each set of numbers and circle the side containing the larger number. When I say *BEGIN* circle your answer to the FIRST problem and work ACROSS the page. Then go to the next row. If you come to one that is hard or you do not know the answer, skip it and come back to it later. Solve as many problems as you can. Please show all of your work on the worksheet. When I say 'BEGIN' turn your sheet over and start working. Continue working until I tell you to stop. Are there any questions?" Answer all questions before beginning the assessment. Next say, "BEGIN." At the end of the two minutes, say "STOP. Put your pencils down." Collect the Quantity Discrimination worksheets.

Scoring Rules

Scoring: The student receives a score of one point for each correct answer.

Student Stops: If a students stops working before the end of the two minutes, say "Keep working until I say STOP." This should be an individual prompt given quietly to address a targeted need.

Excessive Skipping: If a student is skipping familiar or easy problems, say "Try each problem before moving onto the next. Do not skip problems you can do." This should be an individual prompt given quietly to address a targeted need.

Self-correction: Score the final answer provided by the student.

Screening: Beginning of Year

Scoring: Student receives 1 point for each correct answer.

A) .91

B) **54**

c) 8 x 6

D) 90 - 2

E) 10

 $F) \frac{1}{4}$

 $G) \frac{3}{4}$

н) 33 + 4

1) 40

J) 28

 $\frac{4}{5}$

L) .7

м) **9 х 3**

N) 22

0) 93 – 7

P) .21

Q) **61 – 4**

R) 5 x 10

s) <u>2</u>

 $\frac{3}{4}$

U) **17**

v) **8 + 7**

 $W) \frac{3}{4}$

x) .13

Screening: Beginning of Year

Scoring: Student receives 1 point for each correct answer.

Y) .92

 $\frac{1}{2}$

a) 16

b) 5 + 5

c) **55**

d) 4 x 8

e) .24

f) **96**

g) **83**

h) 8 x 5

i) <u>1</u>

j) 48 – 5

k) 99

1) 44

 $^{m)}$ 40 + 6

n) $\frac{1}{2}$

0) 22

p) .35

q) .12

r) .77

 $\frac{1}{3}$

t) <u>2</u>

u) **42**

.51

Screening: Beginning of Year

Scoring: Student receives 1 point for each correct answer.

w) **21**

x) 3 x 4

y) 58 – 7

z) **79**

 $AA) \frac{2}{3}$

 $^{BB)}$ 32 -8

cc) **52**

DD) <u>3</u>

EE) **82**

FF) 22

GG) $\frac{2}{3}$

нн) 6 х 9

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

A) $\frac{3}{5}$

B) .49

c) **49**

D) **35**

E) 4 x 3

F) .97

G) .58

H) 3 x 4

1) 10

J) **55**

K) 21

L) **21**

м) 73

N) $\frac{2}{3}$

o) <u>3</u>

P) 3 4

Q) **20**

 $\frac{3}{5}$

s) <u>3</u>

T) 66

U) 72 +3

 \vee $\frac{3}{4}$

w) **35**

x) **67**

Screening: Middle of Year

$$\frac{1}{3}$$

1)
$$\frac{1}{3}$$

$$\frac{3}{4}$$

Screening: Middle of Year

Scoring: Student receives 1 point for each correct answer.

$$z)$$
 $\frac{2}{3}$

$$DD) \frac{1}{2}$$

End of MOY Form

Screening: End of Year

$$^{H)}$$
 56 + 5

$$\frac{4}{5}$$

$$\frac{4}{5}$$

$$P) \qquad \frac{2}{3}$$

Screening: End of Year

$$(z)$$
 $\frac{3}{4}$

$$\frac{3}{4}$$

h)
$$\frac{1}{2}$$

Screening: End of Year

Scoring: Student receives 1 point for each correct answer.

$$(C)$$
 $\frac{2}{4}$

$$DD) \frac{1}{2}$$

$$(EE)$$
 $\frac{1}{3}$

End of EOY Form

Scoring: Student receives 1 point for each correct answer.

A) **91**

B) **9**

() $\frac{3}{4}$

D) 7 x 3

E) 37

F) 2 x 5

G) $\frac{3}{4}$

н) .72

1) 44

J) **90**

K) 8 x 9

L) <u>2</u>

м) 46

N) 7 x 9

0) $\frac{3}{5}$

P) .67

 $\frac{4}{5}$

R) **43**

s) **3 + 7**

T) **94**

U) .65

v) **96 – 4**

w) .06

x) 2 x 9

Scoring: Student receives 1 point for each correct answer.

Y) .98

z) **.27**

a) **91**

b) $\frac{1}{2}$

c) **3**

d) **60**

e) 2 x 7

f) $\frac{2}{3}$

g) .53

h) 60 + 4

i) **17**

j) 10 x 7

k) .93

1) $\frac{3}{5}$

m) **87**

n) $\frac{1}{3}$

o) **41 – 8**

p) 3/4

q) <u>2</u>

r) **84**

s) **37**

t) 4/5

 $\frac{3}{4}$

v) 37 + 9

Scoring: Student receives 1 point for each correct answer.

w) **91**

x) **51**

y) 8 x 5

z) .76

AA) **41**

BB) **9**

cc) **13**

DD) **89**

EE) **82**

FF) .97

GG) **44 + 7**

HH) $\frac{1}{2}$

$$^{\rm B)} \frac{1}{2}$$

$$\begin{array}{cc} C) & \frac{3}{5} \end{array}$$

$$M) 78 - 3$$

$$W) \frac{1}{2}$$

m)
$$\frac{2}{4}$$

Scoring: Student receives 1 point for each correct answer.

w) .94

(x) $\frac{1}{2}$

y) 4/5

z) **.64**

AA) **25**

BB) <u>2</u>

cc) **9 x 7**

DD) $\frac{1}{2}$

EE) 2 x 4

FF) 90 + 3

GG) .4

нн) .26

$$(E)$$
 $\frac{1}{2}$

$$M) \frac{2}{3}$$

N)
$$\frac{1}{2}$$

$$(2)$$
 $\frac{2}{3}$

T)
$$\frac{2}{5}$$

$$(x)$$
 $\frac{2}{3}$

$$z) \frac{4}{5}$$

$$\frac{1}{4}$$

q)
$$\frac{2}{4}$$

Scoring: Student receives 1 point for each correct answer.

w) <u>1</u>

x) 66

y) 75 – 8

z) **60**

AA) **.9**

BB) .4

 $(C) \frac{4}{5}$

DD) **64**

EE) **56**

- FF) 73 8
- GG) 3 x 7

нн) 9 х 5

Scoring: Student receives 1 point for each correct answer.

A) .97

B) .83

c) **.3**

D) $\frac{2}{4}$

E) 10

 $\frac{1}{2}$

G) **14**

H) $\frac{2}{4}$

99 + 2

J) **44**

K) 2 x 5

L) 30 + 8

M) .48

N) 9-6

0) 6

P) 43

9) **57 – 4**

R) 17

s) **12**

T) .78

U) **16**

v) **19**

w) **42**

x) **64**

Y)
$$\frac{1}{2}$$

$$c) \frac{2}{4}$$

$$\frac{2}{5}$$

$$\frac{4}{5}$$

m)
$$\frac{1}{2}$$

$$r)$$
 $\frac{2}{3}$

Scoring: Student receives 1 point for each correct answer.

- w) 13 + 6
- x) .53

y) **32**

z) **94**

AA) **14**

BB) **55**

cc) **.95**

DD) **62**

EE) .9

- FF) 73 4
- GG) **60**

HH) $\frac{2}{3}$

H)
$$\frac{2}{3}$$

$$(1)$$
 $\frac{2}{4}$

$$\frac{2}{5}$$

$$^{W)}$$
 27 + 6

$$\times$$
) $\frac{1}{3}$

Scoring: Student receives 1 point for each correct answer.

Y) .66

(5) 69 - 6

a) **99**

b) **41**

c) 4/5

d) $\frac{1}{2}$

e) 6 x 10

f) .64

g) **92**

h) **15**

i) **41**

 $\frac{1}{2}$

k) **26**

I) **.4**

m) **20**

n) .56

o) **4 + 2**

p) **73**

q) **60**

r) **9**

s) <u>3</u>

t) <u>2</u>

u) **4 x 4**

 $\frac{1}{2}$

$$z$$
) $\frac{1}{2}$

$$AA) \frac{2}{3}$$

Scoring: Student receives 1 point for each correct answer.

A) 28

B) .89

c) **36**

D) .5

E) **2**

 $\frac{2}{3}$

 $G) \frac{3}{4}$

H) 2 x 3

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

J) 6 x 2

K) 46

L) 3

M) 77 + 2

N) .91

0) 47 – 8

P) $\frac{4}{5}$

Q) **26**

R) 21

s) <u>2</u>

 $\frac{1}{2}$

u) .43

v) 10 x 3

W) = 67 + 4

x) **25**

$$\frac{2}{4}$$

$$\frac{2}{5}$$

1)
$$\frac{3}{5}$$

q)
$$\frac{4}{5}$$

Scoring: Student receives 1 point for each correct answer.

w) **62**

x) 3 x 3

y) 61 + 9

z) **28**

AA) 10 x 2

BB) 3 4

cc) **76**

DD) **92**

EE) 29

FF) **42**

GG) .22

HH) $\frac{1}{2}$

$$A) \qquad \frac{1}{2}$$

$$G) \frac{2}{3}$$

$$\frac{3}{4}$$

P)
$$\frac{4}{5}$$

$$\frac{1}{2}$$

$$^{W)}$$
 36 + 6

Scoring: Student receives 1 point for each correct answer.

Y) **44**

z) **.8**

a) **21**

b) 54 - 2

c) **64**

d) 5 x 7

e) 1

f) 11 + 8

g) **81**

h) **34**

i) 9 x 9

 $\frac{2}{5}$

k) .39

1) 75

m) $\frac{3}{4}$

n) .62

o) <u>4</u> 5

p) 37 + 8

q) 5 x 4

r) **.85**

 $\frac{4}{5}$

t) **65**

 $u) \frac{2}{4}$

v) .98

$$(c)$$
 $\frac{1}{2}$

Scoring: Student receives 1 point for each correct answer.

A) .83

B) **17**

c) **95**

D) .75

E) 17

F) **65**

G) **37**

H) 2 x 3

1) 14

J) 10 x 9

K) .42

L) **55**

M) 40 - 3

N) **56**

0) .79

P) **50**

Q) .11

R) 4 x 3

s) 4 x 5

T) $\frac{2}{5}$

U) **92**

v) <u>2</u>

w) **71**

x) .41

Y)
$$\frac{4}{5}$$

$$\frac{2}{3}$$

$$e)$$
 $\frac{1}{2}$

$$k)$$
 $\frac{1}{3}$

m)
$$\frac{1}{4}$$

$$\frac{2}{3}$$

Scoring: Student receives 1 point for each correct answer.

w) <u>4</u> 5

x) .53

y) 83 + 2

z) **46**

AA) **82**

BB) 8 X 9

 $(C) \frac{4}{5}$

DD) **35**

EE) .19

FF) $\frac{3}{4}$

GG) $\frac{1}{2}$

нн) 12

Scoring: Student receives 1 point for each correct answer.

A) 41

B) .5

c) **67**

D) $\frac{2}{3}$

E) 57 + 6

F) 12

G) 10 x 6

н) 47

1) 12

J) <u>2</u>

 $\frac{4}{5}$

L) $\frac{4}{5}$

м) 94

N) $\frac{3}{4}$

0) 37

P) $\frac{4}{5}$

Q) **31**

R) **50**

s) **.57**

T) $\frac{1}{3}$

U) 9 x 4

v) **70**

w) 8 x 5

x) 9 x 8

Scoring: Student receives 1 point for each correct answer.

Y) 6 x 9

z) **.97**

a) .88

b) 2 5

c) **98**

d) **81**

e) 2 x 5

f) 6 x 4

g) 88 + 6

h) 3/4

i) .78

j) 2 x 2

k) **85**

.57

m) 56 - 4

n) **98**

o) **.59**

p) .35

q) **13**

r) **25**

 $s) \qquad 77 + 4$

t) 3 5

 $\frac{1}{2}$

v) **57**

Scoring: Student receives 1 point for each correct answer.

w) **77**

x) .62

y) **2**

- z) 10 x 4
- AA) **83**

BB) .48

(C) $\frac{1}{2}$

DD) 7 x 4

^{EE)} 72 – 6

FF) <u>2</u> 3

GG) **42**

HH) $\frac{1}{2}$

Scoring: Student receives 1 point for each correct answer.

A) **29**

B) 3 x 6

() $\frac{3}{4}$

D) .76

E) 83

F) 93

G) **42**

н) 23

1) 59

J) 80

K) 10 x 2

^{L)} 25 + 5

M) 18

 $^{N)}$ 24 + 7

0) 51

P) .57

Q) **22**

R) 96 – 9

s) **.06**

T) $\frac{2}{3}$

U) 14 – 6

v) 38

w) **17**

x) **20**

$$m) 29 - 5$$

$$\frac{2}{3}$$

$$\frac{4}{5}$$

q)
$$\frac{2}{4}$$

$$r) \frac{1}{2}$$

$$\frac{4}{5}$$

Scoring: Student receives 1 point for each correct answer.

w) <u>2</u>

x) $\frac{1}{2}$

y) .74

z) $\frac{1}{2}$

AA) **96**

BB) .29

cc) **43**

DD) .98

EE) .91

FF) .45

GG) .24

нн) .81

$$()$$
 $\frac{3}{4}$

J)
$$\frac{4}{5}$$

$$\frac{3}{4}$$

$$T)$$
 $\frac{2}{3}$

Scoring: Student receives 1 point for each correct answer.

Y) 35

 $\frac{2}{3}$

a) <u>2</u> 3

b) **49**

c) 33

d) 8 x 7

e) **50**

 $\frac{1}{2}$

g) .3

h) **92**

i) **94**

j) .45

k) $\frac{3}{5}$

 $\frac{3}{4}$

m) **12**

n) 8 x 4

o) 8 x 3

p) **.9**

 $q) \frac{2}{4}$

r) **42**

s) **96**

t) **94**

u) .91

v) **64**

Scoring: Student receives 1 point for each correct answer.

w) **44**

x) 58 – 2

y) **55**

z) 18 + 8

AA) **27**

BB) 4 5

cc) **74 – 2**

DD) **60**

EE) 6+6

 $FF) \qquad \frac{3}{4}$

GG) **47**

нн) 17

D)
$$\frac{1}{2}$$

$$F)$$
 $\frac{2}{3}$

$$G$$
) $\frac{1}{2}$

0)
$$\frac{3}{4}$$

$$Q) \frac{3}{4}$$

$$W) \frac{1}{2}$$

x)
$$\frac{4}{5}$$

Scoring: Student receives 1 point for each correct answer.

Y) 12

z) **70**

a) **52**

b) 61 + 3

c) 69 + 8

d) .91

e) 3

f) 3 5

g) 10 x 3

h) 78 - 6

i) **21**

j) **.51**

k) .67

 $\frac{4}{5}$

m) 23

n) **57**

 $\frac{3}{4}$

p) 55

q) $\frac{3}{4}$

r) .98

s) **68**

t) 7 x 2

u) 82 + 5

v) 88 + 5

$$(x)$$
 $\frac{2}{3}$

$$_{BB)}$$
 $60-3$

Scoring: Student receives 1 point for each correct answer.

A) **87**

B) **81**

c) 3 x 7

D) 37 + 9

 $E) \frac{3}{4}$

F) **91**

 $G) \frac{2}{4}$

н) 66

 $\frac{1}{2}$

 $\frac{3}{4}$

K) **25**

L) **75**

M) **57**

 9×7

0) 63

P) .48

Q) **21**

 $\frac{3}{4}$

s) **.5**

T) **72**

U) **25**

(1) $\frac{2}{3}$

w) **27 - 7**

(x) 6 + 6

Scoring: Student receives 1 point for each correct answer.

Y) 12

^{z)} 27 + 9

a) .39

b) **26**

c) 2

d) $\frac{1}{2}$

e) 86 – 5

f) .61

g) <u>2</u> 5

h) **62**

i) 48

j) 3 x 5

k) .23

1) 4 x 5

m) .89

n) **57**

o) **24 – 2**

p) **71**

q) **.4**

r) $\frac{4}{5}$

s) .99

t) 17 – 5

u) **21**

v) .49

$$\frac{4}{5}$$

DD)
$$\frac{1}{2}$$

$$GG) \frac{3}{4}$$

$$()$$
 $\frac{1}{3}$

$$M) \qquad \frac{1}{4}$$

$$\frac{3}{5}$$

T)
$$\frac{1}{2}$$

$$(x)$$
 61 – 3

$$\frac{4}{5}$$

$$\frac{2}{4}$$

$$_{\rm BB)} \frac{3}{4}$$

$$(EE)$$
 $\frac{2}{3}$

A)
$$\frac{4}{5}$$

$$D) \qquad \frac{3}{4}$$

$$\frac{2}{3}$$

$$\frac{1}{2}$$

i)
$$\frac{1}{2}$$

$$y) \frac{1}{2}$$

$$^{\text{HH})}$$
 62 + 6

$$(c) \frac{2}{3}$$

$$18 - 7$$

H)
$$73 + 4$$

$$M) \frac{3}{4}$$

$$\frac{2}{4}$$

Scoring: Student receives 1 point for each correct answer.

Y) 3

 $\frac{1}{2}$

a) **24**

b) $\frac{1}{2}$

c) **73**

d) .56

e) .55

f) $\frac{2}{3}$

g) 16

h) **85**

i) 13

j) 6 x 2

k) $\frac{4}{5}$

.91

m) 65

n) 2 x 8

o) **79**

p) 16 - 8

q) 18 + 4

r) **78**

s) .45

t) .48

u) 9 x 6

 $\frac{1}{3}$

Scoring: Student receives 1 point for each correct answer.

w) 2 x 5

(x) $\frac{1}{4}$

y) **22**

- z) 73 + 4
- AA) **89**

BB) **65**

cc) **75**

DD) .45

EE) .73

FF) **8**

 $_{GG)} \frac{3}{4}$

HH) $\frac{1}{2}$

Scoring: Student receives 1 point for each correct answer.

A) **32**

B) **75**

c) 6 x 2

D) .8

80 - 6

 $\frac{3}{4}$

G) 5 x 5

 $\frac{1}{2}$

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

^{J)} 32 + 4

() $\frac{2}{3}$

5 x 6

 $M) \qquad \frac{1}{3}$

N) 9 x 8

0) .54

P) .47

 $\frac{3}{5}$

R) **71**

s) **9 –2**

T) **97**

(0) $\frac{1}{2}$

v) <u>4</u> 5

w) 7 x 8

x) .42

$$\frac{4}{5}$$

$$\frac{3}{4}$$

$$w) \frac{1}{2}$$

AA)
$$\frac{1}{2}$$

$$(2)$$
 $\frac{2}{4}$

$$G$$
) $\frac{1}{2}$

$$\frac{2}{3}$$

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

$$(K) \frac{2}{3}$$

$$N) 88 - 3$$

$$Q) \frac{3}{4}$$

$$W) 38 + 7$$

$$(z)$$
 $\frac{3}{4}$

$$\frac{1}{2}$$

m)
$$\frac{4}{5}$$

n)
$$\frac{2}{4}$$

q)
$$\frac{1}{2}$$

Scoring: Student receives 1 point for each correct answer.

End of Form 18

$$(2)$$
 $\frac{2}{3}$

$$\frac{4}{5}$$

H)
$$14 + 5$$

$$\frac{3}{4}$$

$$^{\text{W}}$$
 65 + 7

Scoring: Student receives 1 point for each correct answer.

Y) **37**

z) **.71**

a) **52**

b) 5 x 6

c) **44 – 7**

d) .31

e) .05

f) 1

 $\frac{1}{2}$

h) **74**

i) **64**

 $\frac{1}{3}$

k) 15

1) 5 x 3

m) $\frac{4}{5}$

n) **78**

o) **.65**

p) 48 + 9

q) .9

r) <u>3</u> 5

s) 4 x 2

t) .17

u) 53 – 4

 $\frac{2}{3}$

Scoring: Student receives 1 point for each correct answer.

w) .47

x) 55

y) **59**

z) <u>2</u> 5

AA) 70 - 4

BB) **18**

cc) **88**

DD) 2 + 7

EE) 3 5

FF) **64**

GG) **25**

HH) $\frac{1}{2}$

$$G) \frac{1}{2}$$

$$P) \frac{2}{3}$$

$$(87 + 9)$$

Scoring: Student receives 1 point for each correct answer.

Y) **37**

z) **21**

a) 6 x 2

b) .98

c) **56**

d) .95

e) 96 – 4

f) 10 x 4

g) 8 x 10

h) 7 x 6

i) 22

j) **.67**

(k) $\frac{2}{3}$

1) 82

m) **.84**

n) $\frac{3}{4}$

 $\frac{1}{2}$

 $\frac{1}{2}$

q) 3 4

r) **84**

 $\frac{3}{4}$

t) 8 x 5

u) **19**

v) 4 x 6

$$(x)$$
 60 + 8

$$AA) \frac{2}{3}$$

DD)
$$\frac{4}{5}$$

$$GG) \frac{2}{3}$$

HH)
$$\frac{3}{5}$$



The mCLASS® Web Site

The secure mCLASS:Home Web site provides password-protected access to class and student reports of assessments conducted on the handheld. Over the Internet, results can only be viewed, not edited or deleted.

Results for your students only appear on the mCLASS Web site when you have:

- Used your handheld to conduct interviews and record the results
- Performed a synchronization with your handheld at a designated mCLASS Sync Station

Types of Reports

- The Class Report shows each student's scores and percentiles for each measure during the selected benchmark window.
- The Student Report provides one student's scores and percentiles for a selected measure during all benchmark windows, showing the overall progress of the chosen student.
- The Measure Detail Reports present one student's Screening and Progress Monitoring scores and percentiles for the selected measure.

Logging In

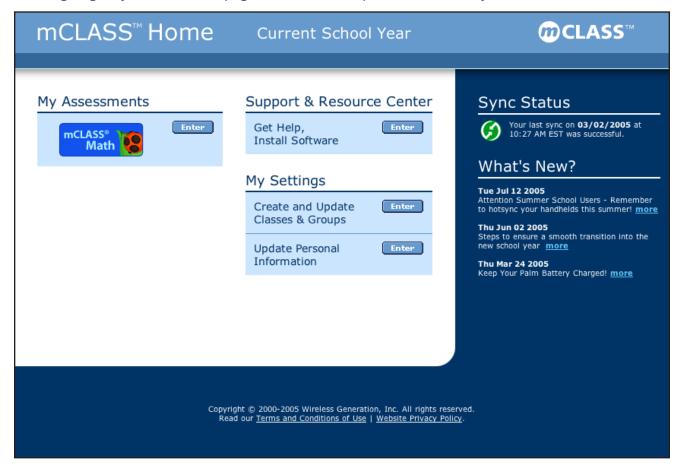
- 1. To access the Web reports, locate any computer with an Internet connection. This does not have to be one of the designated Sync Stations in your school.
- 2. Open your Web browser and go to www.mclasshome.com.
- 3. At the Welcome page, type your assigned user name and password, then click **Enter**.



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Accessing mCLASS:Math

After signing in, you see a home page for the mCLASS products to which you have access.



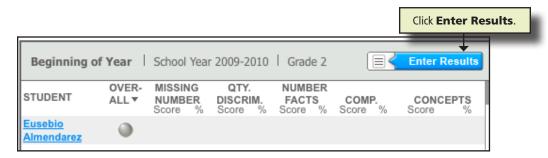
If you have forgotten your password, click the **Need help logging in?** link. If you experience issues, contact your school's technology department or contact Wireless Generation's Customer Care at (800) 823-1969 and select Option 3.

Click the **Enter** button next to the mCLASS:Math logo in the My Assessments section. You are taken to the Class Report.

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Results Entry: Screening

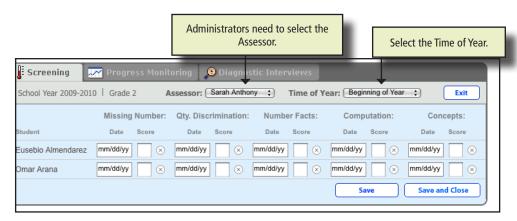
To enter screening results for your students, go to the Class Report, scroll to the class you are entering results for, and click **Enter Results**.



Clicking **Enter Results** takes you to the Screening tab of the Results Entry page. On this page you can enter Screening results for any student in any of your classes.

To enter student results:

1. Use the list on the top of the page to select the Time of Year the assessments took place. If you are an administrator, select the name of the person who administered the assessment from the Assessor list.



2. Click a date box to enter the date of the assessment. A calendar appears.

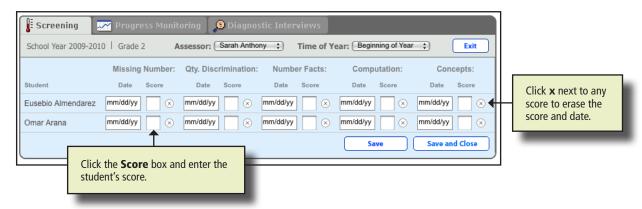


DATA ENTRY AND ANALYSIS ON THE WEB

- 3. Click the arrows in the calendar to choose the month and year, and click the date the assessment was administered. The boxes in this window can save time when entering several scores.
 - Select **Use date for all measures** to use the date you select for every measure for the selected student.
 - Select Use date for all students to use the date you select for every student for the selected measure.
 - Select both boxes to use this assessment date for all measures for each student in the class.

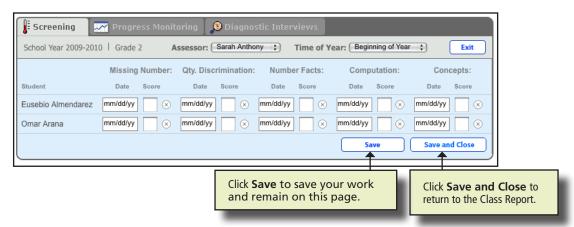


- 4. Click **Done**.
- 5. Click the **Score** box and type the student's score. If you accidentally save an incorrect date or score, click **x** to the right of the score to delete the date and score.



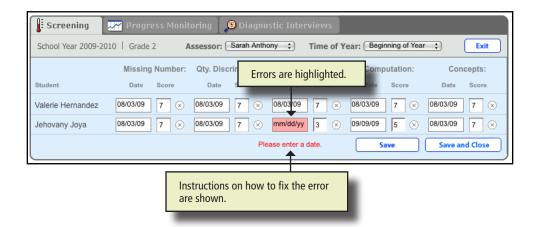
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6. Click Save to save your work. Click Save and Close to return to the Class Report.



If you forget to enter a score or provide a date when a score is entered, the box containing the error is highlighted red. Instructions for fixing the error also appear.

When there are several errors, instructions for the first error are shown. Fix this error and click **Save** to see instructions for the next error.



Results Entry: Progress Monitoring

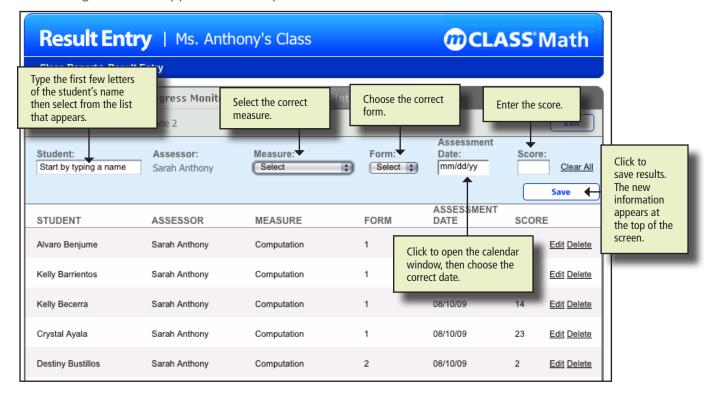
To enter Progress Monitoring result data, click the **Progress Monitoring** tab. Once at the Progress Monitoring tab, click **Enter Results** next to the grade you are entering scores for.



The Progress Monitoring Entry screen lists previously entered data for Progress Monitoring measures. To add a new entry, first begin typing a student's name in the **Student** box, then select the student you are entering scores for.

Next, select the measure and form number from their respective lists, then click the **Date** box to open the calendar and select the date of the measure.

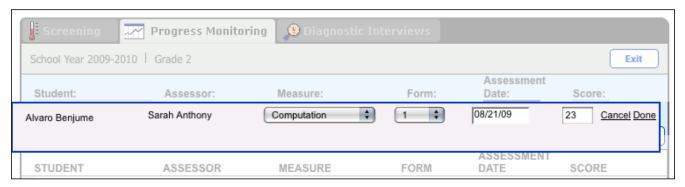
Finally, enter the student's score for that measure in the **Score** box and click **Save**. The new Progress Monitoring score data appears at the top of the screen.



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You can edit or delete any Progress Monitoring score data by clicking the buttons on the right of the data. Clicking **Edit** highlights that particular information on the page and allows you to make the changes you desire. Click **Done** when the changes have been made, or click **Cancel** to undo the changes.

Clicking **Delete** opens a confirmation window asking you to confirm whether you want to erase the score data.



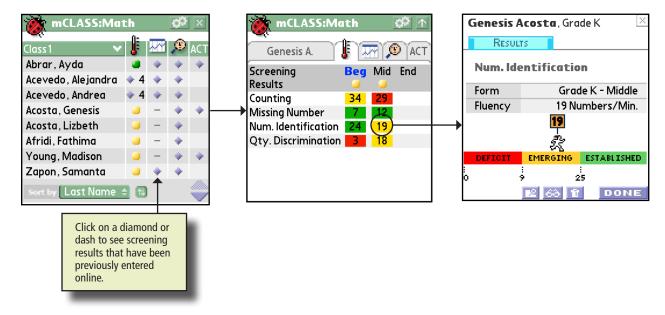
To return to the Progress Monitoring Class Report, click Exit.

Accessing Data on the Handheld

After syncing, return to the Class List on the handheld. Tapping a diamond or dash in a student's Screening or Progress Monitoring column takes you to the Results screen for that measure.

Screening Measures

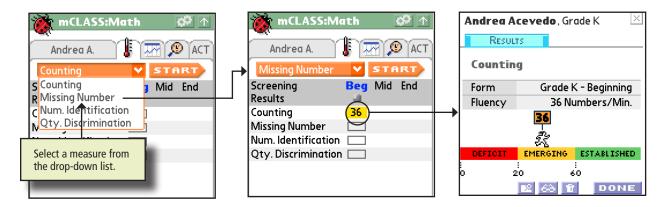
- 1. From the Class List, tap any result displayed in the Screening column.
 - Closed diamonds indicate that incomplete measures remain. The number corresponds to the exact number of remaining measures
 - A dash indicates that the applicable Screening measures are complete for the current Time
 of Year
- 2. The Screening tab displays the names and scores of completed measures as entered online.
- 3. Tapping any score takes you to the Results screen for that measure. The Results screen displays the student's name, grade, form, and fluency.
- 4. Tap **Done** to return to the Screening tab.



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Progress Monitoring

- 1. From the Class List, tap a student's name or a Progress Monitoring result to go to the Progress Monitoring results screen.
 - Closed diamonds indicate that progress for one or more measure periods remain to be monitored in any one 14-day period.
 - A dash indicates that progress has been monitored at least once for any one measure in the last 14 days.
- 2. From the Progress Monitoring results screen, choose the appropriate measure from the **Select**Measure list.
- 3. Tap on any score to see the Progress Monitoring results for that measure.
- 4. Tap **Done** to return to the Progress Monitoring tab.



Navigating mCLASS:Math Web Reports

Every Web report has navigational features that help you to find and view class, student, and measure information.

The Banner

The banner displays the name of the report you are viewing. On Class Reports, the banner also will show the name of the class; on Student and Measure Detail Reports, the banner also will show the child's name.

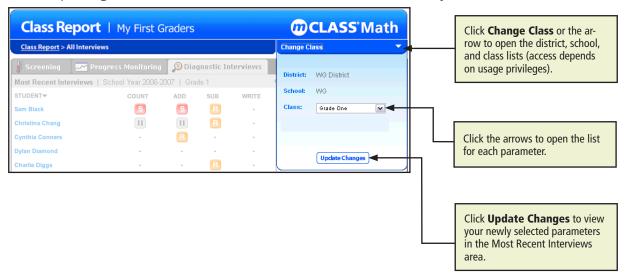
In addition, the banner contains a navigation bar that shows the path you took to arrive at the report you are viewing.



If you click an underlined report name, you will be taken to that report. The last name in the series will not be underlined, as that is the report you are currently viewing.

Changing the Class

Your access privileges determine which district, school, and class results you can view.



Report Tabs

Report tabs allow you to switch among the various viewing options that exist. The three tabs correspond to three of the components of the mCLASS:Math assessment: Screening, Progress Monitoring, and Diagnostic Interviews.



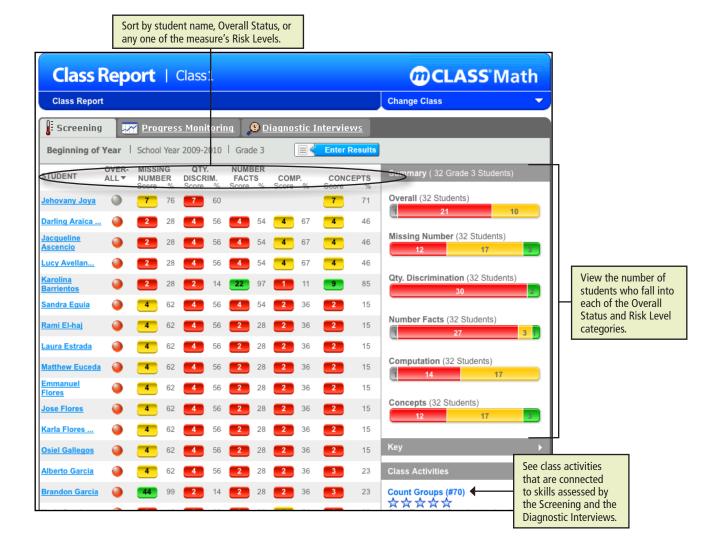
Each tab's reports provide different ways of filtering information to support rich data analysis that can be used for classroom instructional changes.

Screening Class Report

The Screening Class Report displays the scores and percentiles of measures for all children in a class during the selected Benchmark window.

Scores reflect the number of correct responses in one minute, and district-level percentiles may help you gauge a student's performance relative to other students in your district. (Please note that these may fluctuate but will stabilize as data becomes available.)

Sort by Student Name, Overall Status, or Risk Level within a measure. Click a **Student Name** to open the Student Report or click the **Progress Monitoring** tab to view a Progress Monitoring Class Report.



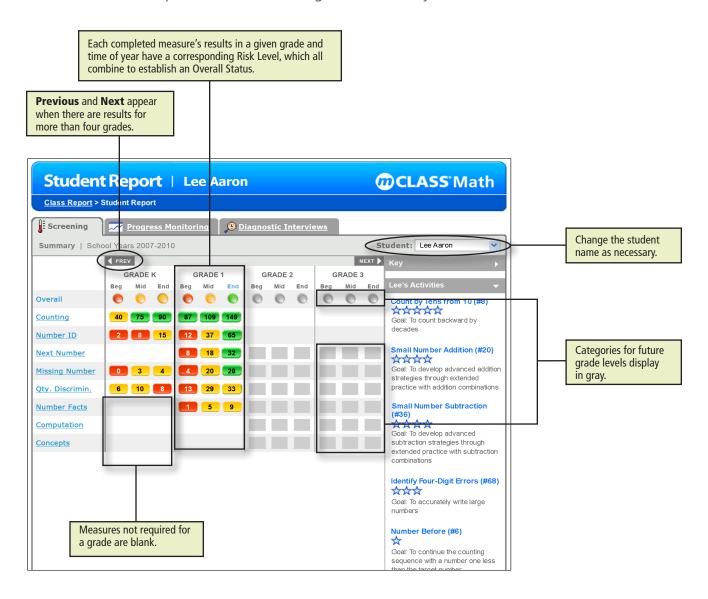
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Student Report

The Student Report provides a rich history of a student's mathematical development. Results are documented each year a student participates in the assessment, for all grades and assessment periods.

The gray boxes represent measures that have yet to be completed, while the empty areas mean that the measure is not required for the student's grade or time of year.

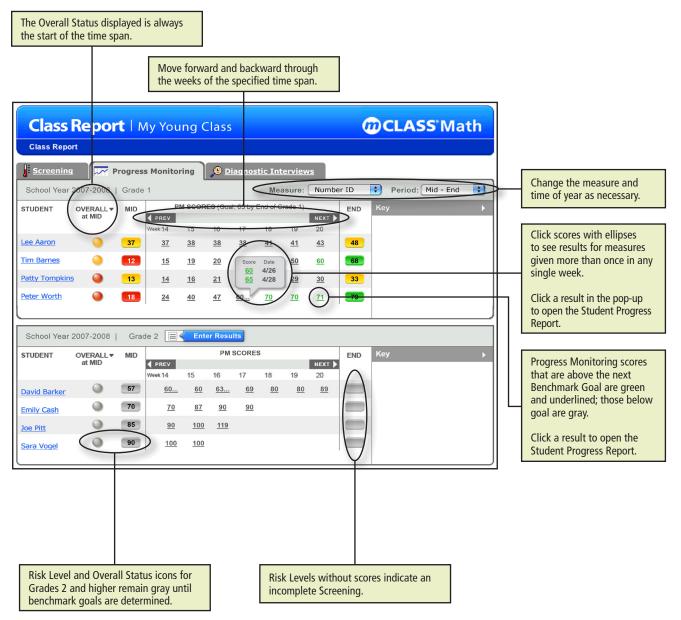


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Progress Monitoring Class Report

The Progress Monitoring Class Report lists all results for measures administered between Screenings, from Beginning of the Year to Middle of the Year and Middle of the Year to End of the Year. There are no reports for any other time frames. To view every week of the time span, click **Previous** and **Next**.

Each assessment period's Risk Level displays as well as the Overall Status established at the beginning of the time span.

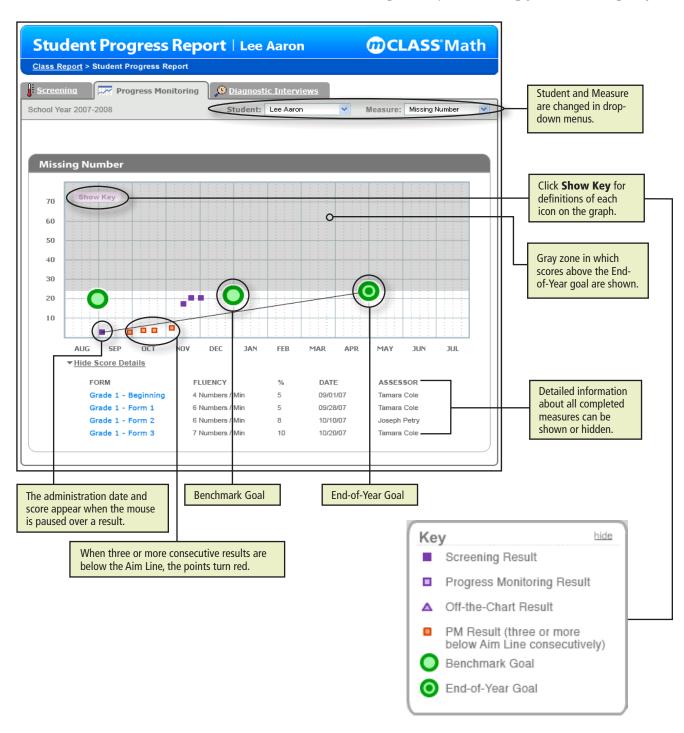


Only one score can display for each week. Weeks in which there are multiple results are marked by an ellipsis. When you hover the mouse over those scores, information for each administration of that week pops up. Click a score to open the Student Progress Report.

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Student Progress Report

The Student Progress Report shows both Screening and Progress Monitoring scores for an individual student and measure. It also displays the Benchmark and End-of-Year goals with an Aim Line from the first Benchmark result to the End-of-Year goal. The objective is for all results to be above the Aim Line, meaning the student is making sufficient advancement toward the upcoming goal. Students who score below the Aim Line three or more times consecutively require significant and immediate intervention. Those scores become red on the Student Progress Report, alerting you to that urgency.





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Activities

After a student has completed Screening measures and Diagnostic Interviews, activities are recommended based on assessment results, the current benchmark window, and the grade of the student. These activity recommendations are linked to four of the measures within Screening/Progress Monitoring: Computation, Concepts, Number Facts, and Quantity Discrimination.

When choosing activities, mCLASS:Math only considers activities that benefit more than half of the students in your class. The activities that affect the largest amount of students are chosen first. If two activities benefit the same amount of students, the lower-numbered activity is chosen.

GRADE 3 - BEGINNING OF YEAR						
	Deficit	Emerging	Established			
Computation	Trade in Addition (#77) Trade in Subtraction (#80)	Model Algorithms in Addition (#78) Model Algorithms in	Regroup in Addition (#79) Regroup in Subtraction			
		Subtraction (#81)	(#82)			
Concepts	Add by Tens (#16) Subtract by Tens (#46)	Count Groups (#70)	Explore Place Value (#71)			
Number Facts	Small Number Addition (#20)	Make Tens in Addition (#28)	Use Tens in Addition (#30)			
	Small Number Subtraction (#36)	Make Tens in Subtraction, Chips (#43)	Make Tens in Subtraction (#44)			
Quantity Discrimination	Create & Identify Groups		Make Tens in Addition, Chips (#27)			
	of 10 (#69) Count Groups (#70)	Explore Place Value (#71)	Make Tens in Subtraction, Chips (#43)			
			Multiply by Counting All, Chips (#49)			

ACTIVITIES

GRADE 3 - MIDDLE OF YEAR, END OF YEAR						
	Deficit	Emerging	Established			
Computation	Model Algorithms in Addition (#78) Model Algorithms in Subtraction (#81)	Regroup in Addition (#79) Regroup in Subtraction (#82)	Simplify Addition Problems (#86) Simplify Subtraction Problems (#87) Simplify Two-by-One Non- Carrying Multiplication Problems (#84)			
Concepts	Add Multiples of 10 (#31)	Explore Place Value (#71)	Simplify Two-by-Two Addition (#32) Simplify Two-by-Two Subtraction (#48)			
Number Facts	Make Tens in Addition, Chips (#27) Make Tens in Subtraction, Chips (#43) Multiply by Counting All, Chips (#49)	Use Tens in Addition (#30) Make Tens in Subtraction (#44) Small Number Multiplication, Chips (#51) Link Addition to Multiplication (#50)	Small Number Multiplication (#52) Multiply by Tens (#59)			
Quantity Discrimination	Make Tens in Addition (#28) Make Tens in Subtraction (#44)	Add Multiples of 10 (#31) Subtract Multiples of 10 (#47) Multiply by Counting All, Chips (#49)	Simplify Two-by-Two Addition (#32) Simplify Two-by-Two Subtraction (#48) Small Number Multiplication (#52)			

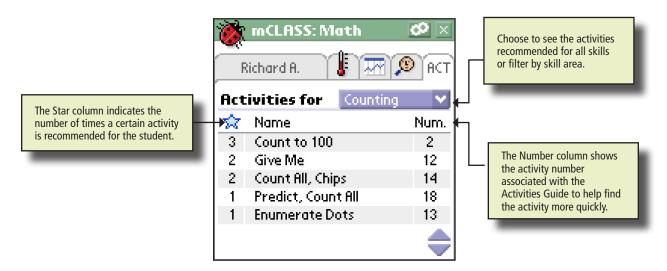
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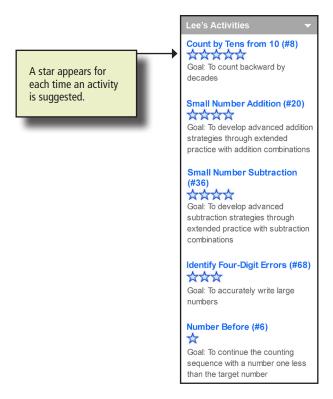
Viewing Activities on the Handheld and the Web

All recommended activities, whether the source of the recommendation was a Diagnostic Interview or a Screening, show on the ACT section of the Student Menu on the handheld. Each time an activity is recommended, it receives one star. Activities that are highly recommended, or have the most stars, appear close to the top of the list. These stars also appear on the Web in the Activities section; however, on the Web, only the top five are visible.

Click the ACT tab on the Student Menu to see the Activities list.



On the Web, activities are listed in both the Class Report and Student Report. In the Class Report, activities that are recommended for the selected class are shown. In the Student Report, activities that are recommended for the selected student are shown.



The full details of each of these activities, including any necessary blackline masters, are printed in the *Activities* guide available with the mCLASS:Math kit.

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