

STEP-BY-MATH SUCCESS

Criterion Referenced Assessment

Step-By-Step Math Success provides a criterion-referenced assessment for each skill objective within a content area strand. The individual strand assessments may be used as placement tests, pretests and/or posttests. Some objectives may have more than one question. The results need to be recorded on each individual student's progress form. If the assessment is being used as a pretest, the results will help instructors develop individual lesson plans for students. The posttest results will show which objectives have or have not been mastered. The results will also help in planning further remedial instruction when needed. The worksheets provided with each lesson can be used if a more thorough assessment is needed of a particular skill.

Directions for Administering

This assessment can be administered to an individual student or to a group of students (*individual testing is preferred). Each direction should be read aloud to the student/students and time should be allowed for completion. Some questions require a student to answer individually. These should be administered before the group assessment starts. There is no time limit of answering the questions but student should be encouraged to use their time wisely. Some of the questions require more than one response. For example in objective 1-2 there are seven responses. If the student gets four correct, the fraction 4/7 should be recorded. The fraction can then be changed into a percentile. It is best to assess one strand at a time. In some cases testing may consist of part of a strand. If the student needs very little re-teaching of the objectives in the assessed stand the net stand assessment should be administered. Many of the skills tough in the first stand are prerequisites for later objectives. Teachers should also use their own judgments in determining needs of individual students. Many times the class structure will dictate how the assessment results are to be used. When a student makes a percentile between 85 and 94 it is best to let the student self-correct before re-teaching is begun. If the student observed during the self-correcting period the teacher can usually determine whether the error was due to lack of knowledge or just carelessness. Once the re-teaching is complete the objective can be reassessed.

Objective %	Mastery	Correct Errors – Re-teach	Complete Re-teaching
95% - 100%	X		
85% - 94%		Self-correct before instruction	
75% – 84%		Re-teach before correcting	
50% – 74%			X
Below 50%			Intensive instruction

Most of the assessment procedures are self-explanatory but some require further instructions. These additional instructions are listed below. You may want to use some of the worksheets provided with the individual lessons to further test specific concepts.

Specific Testing Directions for Content Stands

Numbers, Operations, and Quantitative Reasoning

- 1-1 Administer individually
- 1-2 Dictate the following numbers. 44 56 91 30 15 5 22
- 1-3 Administer individually. Give the student five sets containing 10 to 50 objects and have them group each set into tens and ones. Have the student explain his/her work.
- 1-10 Dictate the following: - One more than 17 – Ten less than 40 – One less than 100 – Ten more than 10 – One less than 34 – Ten more than 15 – One more than 67 – One more than 41
- 1-15 Administer individually. Have groups of buttons or small objects (pennies) in jars. Label the jars 1-5. Place the following number of objects in each jar. (Jar #1-9), (Jar #2-50), (Jar #3-25) (Jar #4 – 100), (Jar #5 – 75) Show the jars to the student. Have the student estimate the number of objects in each jar. Have him/her write his/her answers on the lines provided. Estimates should be reasonable. (Tell them that the numbers can be 1-100)

Patterns, Relationships, and Algebraic Thinking

- 1-21 Administer individually. Have students sort objects according to their different attributes. You may want to use the game provided with the lesson.
- 1-22 Use some of the worksheets from the lesson.
- 1-23 Have students write the answers to all problems.

Data Collection, Analysis, and Probability

- 1-28 Make sure students know that the picture drawn must contain at least five different shapes. The picture can contain any other types of lines the student chooses.
- 1-29 Instruct the student to use position words such as below, above, under, to the right of, to the left of and etc.
- 1- 29 Instruct the student to use position words in this exercise also.
- 1-30 Tell the students that all of the shapes may be symmetrical but some may not be.
- 1-30.1 Have the students color in the right side of the pattern to make it symmetrical. (a mirror image)

Measurement

- 1-31 Administer the first two individually by having each student say the days of the week and the months of the year. Record results on the student's individual assessment sheet. Administer the reading section individually by having each student read the days of the week and the months of the year. Do not present the words sequentially. Record results on the student's individual assessment sheet. Make flashcards for this assessment. Administer the writing section individually or in small groups.
- 1-32 Instruct the students to draw both hands and make sure one is larger than the other. Question students about events that relate to the times shown. EX. Which clock shows the closest to (school starting time – school ending time – lunch time)?
- 1-33 Provide students with rulers, yardsticks, a balance scale, a bathroom scale, various plastic containers and sand or water. This assessment takes longer and may be done on an individual basis.

STEP-BY-MATH SUCCESS

Book One

Numbers, Operations, and Quantitative Reasoning

Assessment – Objectives 1 – 20

1-1 Read the following numbers orally to your teacher.

58 77 15 42 80 12 100

1-1 Your teacher will ask you to write some numbers. Write them on the line below.

1-2 Count the following dots. Write your answers on the lines next to the dots.

• • • • • • • • • • • • • • • • _____

• • • • • • • • • _____

• _____

• _____

1-4 Write the missing numerals on the lines provided.

44, 45, _____ 20, _____, 22 _____, 55, 56 22, _____, 24

1-4 Circle the largest number in each box with a red color. Circle the smallest number with a green color.

25 30 19	99 34 12	5 11 87	78 56 62
57 45 50	81 90 43	21 12 34	28 15 18

1-5 Circle the odd numbers in each box with a blue color. Circle the even numbers with an orange color.

11 20	12 19	9 3	5 8
15 6	4 7	10 13	2 1

1-6 Draw lines to connect the correct words, numerals, and sets.

- | | |
|-------|----|
| nine | 4 |
| seven | 8 |
| four | 1 |
| one | 6 |
| three | 9 |
| eight | 7 |
| six | 2 |
| ten | 5 |
| two | 10 |
| five | 0 |
| zero | 3 |

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1-7 Circle the correct dot in each row with your pencil.

seventh	• • • • • • • • • •	tenth	• • • • • • • • • •
first	• • • • • • • • • •	fourth	• • • • • • • • • •
ninth	• • • • • • • • • •	fifth	• • • • • • • • • •
third	• • • • • • • • • •	eighth	• • • • • • • • • •
second	• • • • • • • • • •	sixth	• • • • • • • • • •

1-8 The number in the box at the beginning of each row represents the total number of balls. Some of the balls in each row are hidden. Draw the number of hidden balls in the last box in the row.

8	● ● ●	
6	● ● ● ●	
3	●	

1-9 Complete the following skip-counting sequences.

2, 4, 6, _____, _____, _____, _____, _____, _____, _____.

10, 20, _____, _____, _____, _____, _____, _____, _____, _____.

5, 10, 15, 20, _____, _____, _____, _____, _____, _____, _____.

1-10 Your teacher will give you some oral directions. Write your answers in the boxes below.

1	2	3	4	5	6	7	8	9

1- 11 Follow the directions by using the number line below. Write your answers on the lines below.

0	1	2	3	4	5	6	7	8	9	10
●	●	●	●	●	●	●	●	●	●	●
Start on four and count on 4 _____					Start on six and count back 3 _____					
Start on five count back 2 _____					Start on zero and count on 5 _____					
Start on seven count on 2 _____					Start on 10 and count back 9 _____					
Start on three and count back 1 _____					Start on two and count on 6 _____					

1- 12 Write the correct answers to the problems below.

$2 + 3 = \underline{\quad}$ $5 - 2 = \underline{\quad}$ $5 + 4 = \underline{\quad}$ $9 - 5 = \underline{\quad}$ $9 - 4 = \underline{\quad}$

$4 + 3 = \underline{\quad}$ $6 + 2 = \underline{\quad}$ $7 - 4 = \underline{\quad}$ $7 - 3 = \underline{\quad}$ $5 - 3 = \underline{\quad}$

1-13 Write the correct answers to the problems below.

$\begin{array}{r} 2 \\ 5 \\ + 1 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 4 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 2 \\ + 1 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 2 \\ + 0 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 0 \\ + 1 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 3 \\ + 1 \\ \hline \end{array}$
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1-14 Solve the problems in each box. Write the correct number sentences and answers on the lines provided. You may draw a picture to help you solve the problems.

<p>Mary had two toy dogs. Her mother gave her two more. How many toy dogs does Mary have in all?</p> <hr/>	<p>Jack had three cookies. He gave one to his friend. How many cookies does Jack have now?</p> <hr/>
<p>Mother made five cakes. She sold four of them at the bake sale. How many cakes are left?</p> <hr/>	<p>My dad caught seven fish. I caught two fish. How many fish did we catch in all?</p> <hr/>

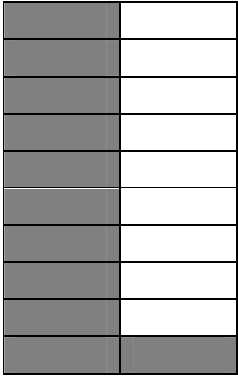
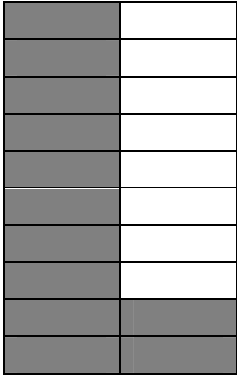
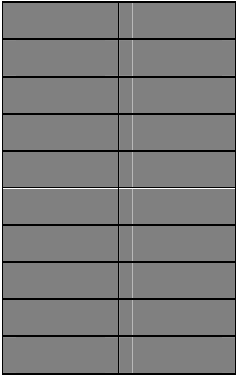
1-15 Your teacher will ask you several questions. Write your answers in the boxes below.

Box #1	Box #2	Box #3	Box #4	Box #5

1-16 Write different equivalent forms of the numbers below. The first one is done for you.

9	5 + 4	10 - 1	6 + 3
6			
8			
7			

1-17 Count the number of shaded tens and ones in each box. Write the numbers on the lines provided. The first one is done for you.

		
$\underline{1}$ tens + $\underline{1}$ ones = $\underline{11}$	___ tens + ___ ones = ___	___ tens + ___ ones = ___

1-17 Circle the groups of ten in each row of dots. Write the number of tens and ones on the lines provided.

● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ___ tens + ___ ones = ___

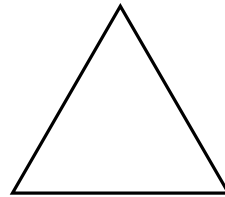
● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ___ tens + ___ ones = ___

1-18 Write the correct answers to the problems below.

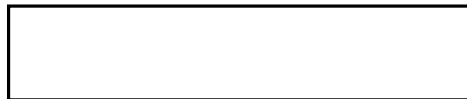
$\begin{array}{r} 24 \\ + 14 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ + 54 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ + 23 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ + 23 \\ \hline \end{array}$
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$\begin{array}{r} 88 \\ - 13 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ - 14 \\ \hline \end{array}$	$\begin{array}{r} 76 \\ - 24 \\ \hline \end{array}$	$\begin{array}{r} 44 \\ - 22 \\ \hline \end{array}$
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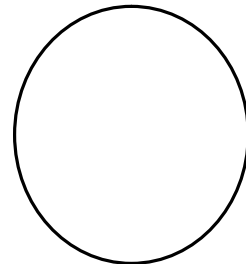
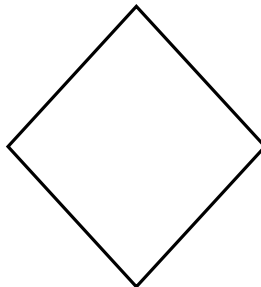
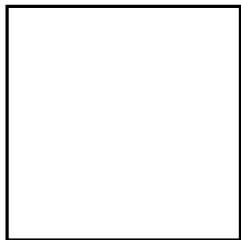
1-19 Color $\frac{1}{2}$ of each shape.



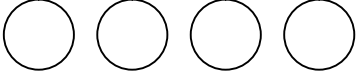
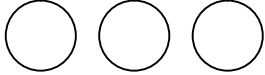
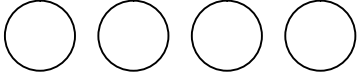
Color $\frac{1}{3}$ each shape











Color $\frac{1}{4}$ of each shape.



1-19 Follow the directions given in each box.

<p>Color $\frac{1}{2}$ of the circles red.</p> 	<p>Color $\frac{1}{3}$ of the circles blue.</p> 	<p>Color $\frac{1}{4}$ of the circles green.</p> 
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1-20 Count the following rows of coins. Write the total value in the box at the end of each row.

1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

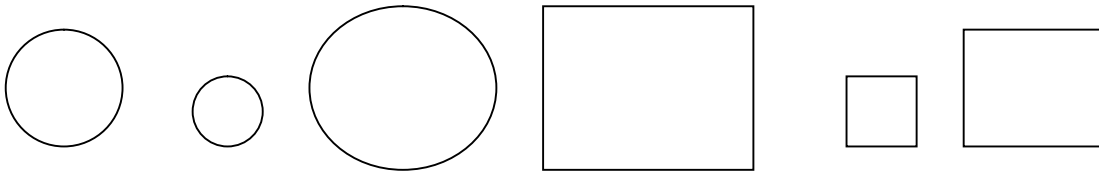
STEP-BY-STEP MATH SUCCESS

BOOK ONE

Patterns, Relationships, and Algebraic Thinking

Assessment objectives 21-25

1-21 Color the small shapes red, the medium sized shapes green, and the large shapes orange.













1-22 Follow the directions given for each pattern.

Continue this pattern.

2	3	5	6	8	9				
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Correct the pattern by putting an X on the incorrect shape and drawing the correct shape below the box.

									
---	---	---	---	---	---	--	---	---	---

Create a pattern in the boxes below.

--	--	--	--	--	--	--	--	--	--

1-23 Write a number sequence to solve each problem below.

Mark has five birds. Two of his birds flew away. How many birds does he have now? _____

Mother gave me five nickels. Dad gave me four nickels. How many nickels do I have now? _____

1-24 Use the greater than, less than, and equal symbols to compare the numbers in the boxes below. $<$ $>$ $=$

12	18	40	21	34	34	81	72	52	66
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1-25 Use the commutative property to write two different addition number sequences for the three numbers in each box.

7 4 3		
9 4 5		
10 6 4		
8 5 3		

1-25 Use the associative property to write each addition sentence in another way. The first one is started for you.

$(4 + 3) + 2 =$	$(4 + 2) + 3 =$
$(1 + 3) + 5 =$	
$(6 + 2) + 1 =$	

STEP-BY-STEP MATH SUCCESS

Data Collection, Analysis, and Probability

Assessment - Objectives 26-30

- 1- 26 Two teams had a basketball game. Team one scored 21 points and team two scored 34 points. Place tally marks in the correct boxes to show the scores. Answer the questions when finished.

Team One	Team Two

Which team won? _____ What was the difference in their scores? _____

- 1-26 Use the chart below to help you answer the questions.

	Number of Books Read							
	1	2	3	4	5	6	7	8
Mary	■	■	■	■				
Chin	■	■	■	■	■			
Joe	■	■	■					
Peg	■	■	■	■	■	■	■	

Who read the most books? _____

Who read the least number of books? _____

How many books did Joe and Mary read altogether? _____

What was the number of books read by all four students? _____

- 1-27 Ten blocks are placed in a bag. There are six red ones, three blue ones, and two green ones. If you pick one block from the bag without looking which one has the best chance of being picked? _____ Which one has the least chance of being picked? _____

- 1-28 Draw a picture on the back of this page using five different shapes. Label each shape.