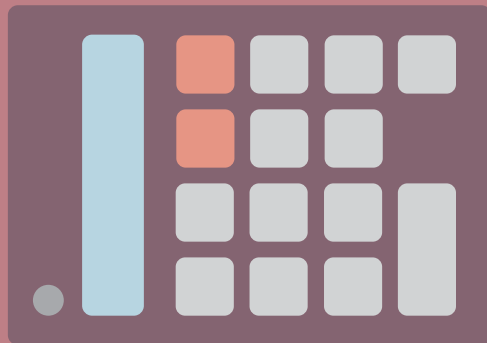




# MATH

Teacher's Guide



▶ **3rd Grade**

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# MATH 300

## Teacher's Guides

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# STRUCTURE OF THE LIFEPAC CURRICULUM

The LIFEPAC curriculum is conveniently structured to provide one teacher handbook containing teacher support material with answer keys and ten student worktexts for each subject at grade levels two through twelve. The worktext format of the LIFEPACs allows the student to read the textual information and complete workbook activities all in the same booklet. The easy to follow LIFEPAC numbering system lists the grade as the first number(s) and the last two digits as the number of the series. For example, the Language Arts LIFEPAC at the 6th grade level, 5th book in the series would be LAN0605.

Each LIFEPAC is divided into 3 to 5 sections and begins with an introduction or overview of the booklet as well as a series of specific learning objectives to give a purpose to the study of the LIFEPAC. The introduction and objectives are followed by a vocabulary section which may be found at the beginning of each section at the lower levels or in the glossary at the high school level. Vocabulary words are used to develop word recognition and should not be confused with the spelling words introduced later in the LIFEPAC. The student should learn all vocabulary words before working the LIFEPAC sections to improve comprehension, retention, and reading skills.

Each activity or written assignment has a number for easy identification, such as 1.1. The first number corresponds to the LIFEPAC section and the number to the right of the decimal is the number of the activity.

Teacher checkpoints, which are essential to maintain quality learning, are found at various

locations throughout the LIFEPAC. The teacher should check 1) neatness of work and penmanship, 2) quality of understanding (tested with a short oral quiz), 3) thoroughness of answers (complete sentences and paragraphs, correct spelling, etc.), 4) completion of activities (no blank spaces), and 5) accuracy of answers as compared to the answer key (all answers correct).

The self test questions are also number coded for easy reference. For example, 2.015 means that this is the 15th question in the self test of Section 2. The first number corresponds to the LIFEPAC section, the zero indicates that it is a self test question, and the number to the right of the zero the question number.

The LIFEPAC Test is packaged at the centerfold of each LIFEPAC. It should be removed and put aside before giving the booklet to the student for study.

Answer and test keys have the same numbering system as the LIFEPACs. The student may be given access to the answer keys (not the test keys) under teacher supervision so that he can score his own work.

A thorough study of the Curriculum Overview by the teacher before instruction begins is essential to the success of the student. The teacher should become familiar with expected skill mastery and understand how these grade-level skills fit into the overall skill development of the curriculum. The teacher should also preview the objectives that appear at the beginning of each LIFEPAC for additional preparation and planning.

## TEST SCORING AND GRADING

Answer keys and test keys give examples of correct answers. They convey the idea, but the student may use many ways to express a correct answer. The teacher should check for the essence of the answer, not for the exact wording. Many questions are high level and require thinking and creativity on the part of the student. Each answer should be scored based on whether or not the main idea written by the student matches the model example. "Any Order" or "Either Order" in a key indicates that no particular order is necessary to be correct.

Most self tests and LIFEPAC Tests at the lower elementary levels are scored at 1 point per answer; however, the upper levels may have a point system awarding 2 to 5 points for various answers or questions. Further, the total test points will vary; they may not always equal 100 points. They may be 78, 85, 100, 105, etc.

### Example 1

58 72	<b>SCORE</b> _____	<b>TEACHER</b> _____ initials                      date
----------	--------------------	------------------------------------------------------------

### Example 2

84 105	<b>SCORE</b> _____	<b>TEACHER</b> _____ initials                      date
-----------	--------------------	------------------------------------------------------------

A score box similar to ex. 1 above is located at the end of each self test and on the front of the LIFEPAC Test. The bottom score, 72, represents the total number of points possible on the test. The upper score, 58, represents the number of points your student will need to receive an 80% or passing grade. If you wish to establish the exact percentage that your student has achieved, find the total points of his correct answers and divide it by the bottom number (in this case 72). For example, if your student has a point total of 65, divide 65 by 72 for a grade of 90%. Referring to ex. 2, on a test with a total of 105 possible points, the student would have to receive a minimum of 84 correct points for an 80% or passing grade. If your student has received 93 points, simply divide the 93 by 105 for a percentage grade of 89%. Students who receive a score below 80% should review the LIFEPAC and retest using the appropriate Alternate Test found in the Teacher's Guide.

The following is a guideline to assign letter grades for completed LIFEPACs based on a maximum total score of 100 points.

**Example:**

LIFEPAC Test	=	60% of the Total Score (or percent grade)
Self Test	=	25% of the Total Score (average percent of self tests)
Reports	=	10% or 10* points per LIFEPAC
Oral Work	=	5% or 5* points per LIFEPAC

\*Determined by the teacher's subjective evaluation of the student's daily work.

**Example:**

LIFEPAC Test Score	=	92%	$92 \times .60 = 55$ points
Self Test Average	=	90%	$90 \times .25 = 23$ points
Reports	=		8 points
Oral Work	=		4 points

---

TOTAL POINTS = 90 points

**Grade Scale based on point system:**

100 – 94	=	A
93 – 86	=	B
85 – 77	=	C
76 – 70	=	D
Below 70	=	F

## TEACHER HINTS AND STUDYING TECHNIQUES

LIFEPAC activities are written to check the level of understanding of the preceding text. The student may look back to the text as necessary to complete these activities; however, a student should never attempt to do the activities without reading (studying) the text first. Self tests and LIFEPAC Tests are never open book tests.

Language arts activities (skill integration) often appear within other subject curriculum. The purpose is to give the student an opportunity to test his skill mastery outside of the context in which it was presented.

Writing complete answers (paragraphs) to some questions is an integral part of the LIFEPAC curriculum in all subjects. This builds communication and organization skills, increases understanding and retention of ideas, and helps enforce good penmanship. Complete sentences should be encouraged for this type of activity. Obviously, single words or phrases do not meet the intent of the activity, since multiple lines are given for the response.

Review is essential to student success. Time invested in review where review is suggested will be time saved in correcting errors later. Self tests, unlike the section activities, are closed book. This procedure helps to identify weaknesses before they become too great to overcome. Certain objectives from self tests are cumulative and test previous sections; therefore, good preparation for a self test must include all material studied up to that testing point.

The following procedure checklist has been found to be successful in developing good study habits in the LIFEPAC curriculum.

1. Read the introduction and Table of Contents.
2. Read the objectives.
3. Recite and study the entire vocabulary (glossary) list.
4. Study each section as follows:
  - a. Read the introduction and study the section objectives.
  - b. Read all the text for the entire section, but answer none of the activities.
  - c. Return to the beginning of the section and memorize each vocabulary word and definition.
  - d. Reread the section, complete the activities, check the answers with the answer key, correct all errors, and have the teacher check.
  - e. Read the self test but do not answer the questions.
  - f. Go to the beginning of the first section and reread the text and answers to the activities up to the self test you have not yet done.
  - g. Answer the questions to the self test without looking back.
  - h. Have the self test checked by the teacher.
  - i. Correct the self test and have the teacher check the corrections.
  - j. Repeat steps a-i for each section.
5. Use the SQ3R method to prepare for the LIFEPAC Test.
  - Scan the whole LIFEPAC.
  - Question yourself on the objectives.
  - Read the whole LIFEPAC again.
  - Recite through an oral examination.
  - Review weak areas.
6. Take the LIFEPAC Test as a closed book test.
7. LIFEPAC Tests are administered and scored under direct teacher supervision. Students who receive scores below 80% should review the LIFEPAC using the SQ3R study method and take the Alternate Test located in the Teacher Handbook. The final test grade may be the grade on the Alternate Test or an average of the grades from the original LIFEPAC Test and the Alternate Test.



## GOAL SETTING AND SCHEDULES

Each school must develop its own schedule, because no single set of procedures will fit every situation. The following is an example of a daily schedule that includes the five LIFEPAC subjects as well as time slotted for special activities.

### Possible Daily Schedule

8:15	-	8:25	Pledges, prayer, songs, devotions, etc.
8:25	-	9:10	Bible
9:10	-	9:55	Language Arts
9:55	-	10:15	Recess (juice break)
10:15	-	11:00	Math
11:00	-	11:45	History & Geography
11:45	-	12:30	Lunch, recess, quiet time
12:30	-	1:15	Science
1:15	-		Drill, remedial work, enrichment*

**\*Enrichment:** *Computer time, physical education, field trips, fun reading, games and puzzles, family business, hobbies, resource persons, guests, crafts, creative work, electives, music appreciation, projects.*

Basically, two factors need to be considered when assigning work to a student in the LIFEPAC curriculum.

The first is time. An average of 45 minutes should be devoted to each subject, each day. Remember, this is only an average. Because of extenuating circumstances a student may spend only 15 minutes on a subject one day and the next day spend 90 minutes on the same subject.

The second factor is the number of pages to be worked in each subject. A single LIFEPAC is designed to take 3 to 4 weeks to complete. Allowing about 3 to 4 days for LIFEPAC introduction, review, and tests, the student has approximately 15 days to complete the LIFEPAC pages. Simply take the number of pages in the LIFEPAC, divide it by 15 and you will have the number of pages that must be completed on a daily basis to keep the student on schedule. For example, a LIFEPAC containing 45 pages will require 3 completed pages per day. Again, this is only an average. While working a 45-page LIFEPAC, the student may complete only 1 page the first day if the text has a lot of activities or reports, but go on to complete 5 pages the next day.

Long-range planning requires some organization. Because the traditional school year originates in the early fall of one year and continues to late spring of the following year, a calendar should be devised that covers this period of time. Approximate beginning and completion dates can be noted on the calendar as well as special occasions such as holidays, vacations and birthdays. Since each LIFEPAC takes 3 to 4 weeks or eighteen days to complete, it should take about 180 school days to finish a set of ten LIFEPACs. Starting at the beginning school date, mark off eighteen school days on the calendar and that will become the targeted completion date for the first LIFEPAC. Continue marking the calendar until you have established dates for the remaining nine LIFEPACs making adjustments for previously noted holidays and vacations. If all five subjects are being used, the ten established target dates should be the same for the LIFEPACs in each subject.

# INSTRUCTIONS FOR MATH

The LIFEPAC curriculum from grades two through twelve is structured so that the daily instructional material is written directly into the LIFEPACs. The student is encouraged to read and follow this instructional material in order to develop independent study habits. The teacher should introduce the LIFEPAC to the student, set a required completion schedule, complete teacher checks, be available for questions regarding both content and procedures, administer and grade tests, and develop additional learning activities as desired. Teachers working with several students may schedule their time so that students are assigned to a quiet work activity when it is necessary to spend instructional time with one particular student.

This remainder of the Teacher's Guide includes the following teacher aids:

- 1) Introduction of Skills
- 2) Additional Activities
- 3) Teacher Instruction Pages
- 4) Answer Keys
- 5) Alternate Tests
- 6) Math Terms Glossary

The Introduction of Skills is a more detailed overview of skills than that presented in the *Scope and Sequence*. Additional Activities provide opportunities for problem solving, encourage the student's interest in learning, and may be used as a reward for good study

habits. These are general activities that can be used to supplement the concepts as they are covered in the units. The Teacher Instruction Pages contain guidelines for teaching each lesson. The Math Terms Glossary gives a definition of many math terms and a table of measurements.

Math is a subject that requires skill mastery. But skill mastery needs to be applied toward active student involvement. The Teacher Instruction Pages list the required or suggested materials used in the LIFEPAC lessons. These materials include items generally available in the school or home. Measurements require measuring cups, rulers, empty containers. Boxes and other similar items help the study of solid shapes. Construction paper, beads, buttons, beans are readily available and can be used for counting, base ten, fractions, sets, grouping, and sequencing. Students should be presented with problem situations and be given the opportunity to find their solutions.

Any workbook assignment that can be supported by a real world experience will enhance the student's ability for problem solving. There is an infinite challenge for the teacher to provide a meaningful environment for the study of math. It is a subject that requires constant assessment of student progress. Do not leave the study of math in the classroom.

## MATH 300 INTRODUCTION OF SKILLS

Introduction of Skills is a quick reference guide for the teacher who may be looking for a rule or explanation that applies to a particular skill or to find where or when certain skills are introduced in the LIFE PACs. The first number after the skill identifies the LIFE PAC, and the second number identifies the section.

CONCEPT	LIFE PAC	SECTION	CONCEPT	LIFE PAC	SECTION
Addition			Geometry		
facts to 18	301	1	flat (plane) shapes	302	4
3 numbers 1-digit	302	1	lines, closed and curved, end points	302	4
2 numbers 2, 3-digits n/c	301	2,3	line segment, angle	306	4
2 numbers 4-digit n/c	306	1	solid shapes	302	4
3 numbers 2-digit n/c	303	1	symmetry	305	3
3 numbers 3-digit n/c	304	1	Graphs (Charts)		
2 numbers 2-digits w/c	301	4	gathering and posting data	305	2
2 numbers 3-digits w/c	302	2	bar	305	2
2 numbers 4-digits w/c	306	1	line	306	4
3 numbers 2-digits w/c	303	1	circle	307	3
3 numbers 3-digits w/c	305	2	picture	308	3
checking answers	302	4	Measurements – standard		
sum, addend	301	2	area	306	2
Decimals			dozen	301	3
used in money	302	4	length, width	308	4
to tenths	308	2	linear		
Digits			inches, feet, yards	301	3
as number symbols	301	5	miles	306	2
Directions			perimeter	305	3
north, south, east, west	308	3	ruler		
Even and odd			to quarter-inch	304	2
numbers	302	3	square measurement	305	3
rules to add and subtract	305	4	temperature (Fahrenheit)	305	2
Expanding numbers			time		
see place value			to hour, half-hour, minute	301	4
Families of facts			AM, PM	303	4
addition and subtraction	302	1	digital clock	301	4
Fractions			calendar – days, weeks, months, years	301	4
addition and subtraction	304	4	volume – cups, pints, quarts, gallons	303	2
equal to one whole	309	1	weight – ounces, pounds, tons	303	2
equivalent fractions	306	3	Measurements – metric		
mixed numbers			Celsius (temperature)	309	2
in words	307	1	liter, gram	309	4
addition and subtraction	307	2	Missing number problems		
numerator, denominator, fraction bar	302	3	addition	307	4
part of an object or set	302	3	subtraction	310	3
writing in words	302	3			

\*n/c no carrying \*w/c with carrying

## MATH 300 INTRODUCTION OF SKILLS

CONCEPT	LIFEPAC	SECTION	CONCEPT	LIFEPAC	SECTION
Money			Problem solving		
add and subtract	306	3	adding or subtracting up to 4-digits 'mentally'	301	2
coins, dollars	302	4	equations	310	5
dollar and cent signs, decimal point	302	4	estimation		
making change	308	2	add rounded numbers	304	2
Multiplication			subtract rounded numbers	307	4
facts			parentheses	310	5
for 2	306	4	patterns	302	1
for 5	307	1	probability	307	2
for 3 and 10	308	4	sensible answers	306	2
for 4	309	3	Roman numerals	304	4
multiples			Rounding		
of 2, 5, 10	302	2	to nearest 10	304	2
of 3	303	3	to nearest 100	305	3
of 4	308	4	to nearest 1,000	309	4
operation signs (x, times)	306	4	Story problems	all LIFEPACs Section 5	
Number line			Subtraction		
add or subtract to 20	301	1	facts to 18	301	1
Number order			2 numbers 2-digits n/b	301	2
to 999	301	1	2 numbers 3-digits n/b	301	3
to 9,999	304	3	2 numbers 4-digits n/b	306	2
to 10,000	309	4	2 numbers 2-digits w/b	302	3
Number sentences			2 numbers 3-digits w/b 10's or 100's	303	3
operation symbols as words	305	1	2 numbers 3-digits w/b 10's and 100's	304	2
Number words			2 numbers 4-digit w/b	307	1
to nine hundred ninety-nine	301	1	from 0	307	2
to nine thousand, nine hundred ninety-nine	301	1	checking answers	302	3
ten thousand	309	4	minuend, subtrahend, difference	301	2
Operation symbols			Zero as a place holder	301	2
+ , - , = , ≠ , > , <	301	4			
x	306	4			
Ordinal numbers					
to tenth	301	4			
to ninety-ninth	305	1			
Place value					
ones, tens, hundreds	301	2			
thousands	304	3			

\*n/b no borrowing \*w/b with borrowing

## ADDITIONAL ACTIVITIES

1. Plan **regular drill** periods for **math facts**. These should occasionally be timed. They may be either oral or written.
2. **Manipulatives, hand-held objects**, are basic to developing a relationship between the written problem and an understanding by the student of the problem solution. Manipulatives are both appropriate and essential at all grade levels. A majority of the manipulatives used in problems may be developed from material already available in the classroom or home. Measurements require measuring cups, rulers, and empty containers. Boxes and other similar items help the study of solid shapes. Construction paper, beads, buttons, beans are readily available to use for counting, fractions, sets, grouping, sequencing, and flat and solid shapes. **Manipulatives may extend to drawings**. For example, students may draw the shape of a figure when solving for area or perimeter. Have the students use colored pencil or crayons to show the figure's dimensions and flat surface. Then have them explain the logic of their answers.
3. **Dictation** strengthens comprehension. Dictate problems with answers for students to write on paper. (Five plus six equals eleven or  $5 + 6 = 11$ .) This will help them to develop vocabulary and spelling of math terms. Problems may be written numerically or in words.
4. Keep a **log book of terms** with which the student is having difficulty. These may be identified from the *Introduction of Skills* or the *Math Terms Glossary*. Quiz the student regularly until the term is mastered.
5. An **oral arithmetic bee** can be held in which problems are given orally and must be solved mentally. Selected LIFE PAC pages may be used for this exercise. Teach estimation and grouping of numbers for easier problem solving.
6. The student may create **number patterns** for others to solve.

### When studying geometry,

7. Create 2- and 3-dimensional figures out of construction paper or cardboard.
8. Create figures that are congruent and/or similar. Form circles, squares, and rectangles from triangles. Try making octagons and pentagons from triangles, squares and rectangles. Cut figures into geometric shapes similar to jigsaw puzzles and then put back together.

### When studying measurements,

9. Use groups of coins to show what combination of coins may be worth a certain amount of money.
10. Using local newspaper advertisements, have students make a collage of the items they could buy if they had \$10.00 to spend. Prices should be included on the clippings.
11. Have students fill containers and then use a combination of measurers such as cup and quart, ounce and pound to determine quantity and weight.
12. Have the students measure their height, length of arms, legs and feet, the lengths around their heads, arms, wrists, and ankles.

**When studying statistics,**

13. Gather data to form charts and graphs. Begin with gathering the data; then, decide how the data could be most effectively presented. Suggestions for data collection would be number of people living in each home, students' eye color, shoe size, height, weight, food preferences.
14. LIFEPAC **word problems** often reflect everyday experiences of the student. If a problem relates to the distance, rate and time of travel when a family visits friends or relatives, develop a similar problem the next time an actual trip is taken. Use all possible opportunities to translate word problems into similar real experiences.

# MATH 301

Unit 1: Addition and Subtraction to 18 and Place Value

# TEACHING NOTES

## MATERIALS NEEDED FOR LIFE PAC

- Chart of numbers from LIFE PAC page 6
- Fact cards for addition and subtraction through 18
- Counters for ones, tens, and hundreds – these may be cardboard strips 2 inches by 5 inches each set (ones, tens, hundreds) a different color. (Popsicle sticks work well as counters. Cereal boxes are an excellent source of cardboard.) pages 10 and 16.
- Ten digit cards – ten pieces of cardboard 2 inches by 5 inches numbered 0 through 9 – page 16
- 12-inch ruler, yardstick – page 23
- Digital clock, dial clock for student use, current calendar – pages 33 and 34

### Objectives

1. I can remember addition and subtraction facts.
2. I can learn the meaning of digits.
3. I can count and read numbers to 999.
4. I know place value for ones, tens, and hundreds.
5. I can learn the names of addition and subtraction problems.
6. I can add and subtract on the number line.
7. I can add and subtract three-digit numbers and carry in addition to tens' place.
8. I can measure inches, feet, yards, and dozen.
9. I know operation symbols  $+$ ,  $-$ ,  $=$ ,  $\neq$ ,  $>$ ,  $<$ .
10. I know cardinal and ordinal numbers.
11. I can tell time on the clock and on the calendar.
12. I can read and write about the things I have learned.

### Teaching Notes

NOTE to teachers, parents, and students:

As part of a continuing effort to improve the LIFE PAC curriculum a new layout of this unit has been produced. The content of this unit has not changed but the page numbers referenced in the Teacher Notes of the Teacher's Guide may no longer match.

### Section 1: Addition and Subtraction

1. Page 3 – Read the introduction. Discuss the *Objectives*.
2. Pages 4 and 5 – These pages contain a random selection of addition and subtraction facts. An assessment of the students' mastery of facts should be made. Students should be drilled regularly on facts not committed to memory.



3. Page 6 – Review counting to 100. When the page is completed have the students cut out and paste or glue the chart to cardboard. It will be a useful reference for future number order problems.
4. Pages 6 and 7 – Introduce the word *digit*. Use the chart from page 8 for the number order problems. Have the students read aloud the number words on page 6. Explain that the hyphen is used to join numbers in the tens' place and ones' place.
5. Complete the Self Test.

## Section 2: Place Value

1. Pages 10 and 11 – Use the counters to illustrate tens and ones. Explain the role of zero as a place holder. Introduce place value (3 tens = 30, 5 ones = 5). Discuss why a number is greater when the larger of two digits is in the tens' place.
2. Pages 12–14 – Introduce the names for addition and subtraction problems. A good math vocabulary helps in explaining math operations to the students. Emphasize moving from right (ones' place) to left (tens' place) in addition and subtraction so that students will be using correct steps when they begin carrying in addition and borrowing (regrouping) in subtraction.
3. Page 15 – Use the number line to introduce addition and subtraction of multinumber problems. Although the number line is useful to introduce the concept, students should learn to complete these problems by thinking the answer.
4. Page 16 – The exercise on page 16 stresses digit location and place value. If the digit symbol cards 3 and 7 are drawn, the largest number possible is 73 and the smallest number is 37. Some digits may be drawn several times.
5. Complete the Self Test.

## Section 3: Numbers to 999

1. Pages 18–20 – Use the chart of numbers to introduce number order to 999. Have the students practice counting by adding one hundred, two hundred, three hundred, and so on to the numbers on the chart. Point out to the students that numbers are arranged in number order beginning with the largest place value (hundreds), looking to the next place value (tens), and finally to the last place value (ones). In the last exercise on page 19, discuss with the students why the largest digit should be in the hundreds' place and the smallest in the ones' place. Use counters to help in the explanation. Continue using counters on page 19.
2. Pages 21 and 22 – Review names of problems. Introduce addition and subtraction to hundreds' place. When adding three numbers on page 21, be sure students are adding  $6 + 4 = 10$ ,  $10 + 5 = 15$  and not counting  $6 + 4 = 10$ ,  $10 + 1 + 1 + 1 + 1 = 15$ .
3. Pages 23, 24, and 25 – Introduce standard measurements to the students. Students should have access to each one of the items listed at the bottom of the page. They should decide which measurer (12-inch ruler or yardstick) is most appropriate to use and then complete the measurement. Be sure that students are labeling answers correctly. On page 24, problems about 2, 3, and 4 dozen can be completed using addition. Students should begin committing standard measurements to memory. They may refer to page 8 to complete the number word exercises.
4. Complete the Self Test.

### Section 4: Operations

1. Pages 27 and 28 – These pages are for review. Students should be familiar with the operation symbols. Remind them that the open side of the greater than, less than ( $>$ ,  $<$ ) symbols is always toward the larger number. Students may select any number for the last exercise ( $>$ ,  $<$ ) to make the sentence true.
2. Page 29 – Have the students read the problems, write them in digits in the corresponding boxes, and then find the answer. Monitor the students closely to be sure they are reading the number words correctly and are lining up the digits in correct place value columns. Have them name the parts of the problems when they have completed the addition and subtraction.
3. Page 30 – Students should be familiar with carrying in addition. Review the steps and have them complete the page.
4. Page 31 – Review cardinal (counting) and ordinal (order) numbers. Have the students complete the exercise writing number words (first, *not* 1st).
5. Pages 32 – 34 – Have both a digital and dial clock available for comparison. Allow the students to move the hands on the dial clock as they complete the exercises. Have the students use a current calendar to answer questions on page 34. Keep a dial clock and current calendar on display in the classroom and use them regularly. Students should commit standard measurements to memory.
6. Complete the Self Test.

### Section 5: Application and Review

1. Pages 38, 39, 40, 41, and 42 – These pages give the students an opportunity to practice the skills taught in this LIFEPAC. Questions are not grouped in any particular order and each question may deal with a different skill. Some problems will need to be written out on the LIFEPAC pages or scrap paper. Students should be allowed to read and solve the problems as independently as possible; however, they should be monitored closely so they understand this type of exercise and do not become mired in a particular problem. Students not reading at grade level may need some additional support. The teacher may use this as a test of the students' skill mastery and review concepts as needed before administering the LIFEPAC Test.
2. Complete the Self Test.

### Administer the LIFEPAC Test.

The test may be administered in two sessions. Give no help except with directions. Evaluate the tests and review areas where the students have done poorly. Review the pages and activities that stress the concepts tested.

## ANSWER KEYS

## SECTION 1

- 1.1** 13 13 7 15 8 13 11 14 10  
 10 12 6 8 9 11 11 15 18  
 14 11 7 10 12 5 12 15 12  
 6 9 12 10 9 16 10 16 7  
 8 8 15 9 17 13 10 16 17  
 11 14 9 12 14 13 14 13 11
- 1.2** 8 4 5 6 8 7 8 9 7  
 4 8 6 7 5 9 6 8 9  
 7 4 6 8 6 5 9 9 5  
 5 7 4 5 6 7 9 8 7  
 6 5 7 8 9 5 6 9 8  
 5 6 9 7 5 6 8 9 7

**1.3**

		2			5	6			9
10		12				16		18	
	21		23		25		27		
30			33	34				38	
		42		44		46			49
	51				55		57	58	
60		62			65				69
	71		73	74		76			
80					85		87		89
	91	92		94		96			
	101	102	103	104	105	106	107	108	109

- 1.4** 101
- 1.5** Teacher check
- 1.6** 36 42 54 63 76 89 96  
 12 15 39 50 51 68 86
- 1.7** 52, 54 39, 41 66, 68  
 17, 19 98, 100 30, 32  
 88, 90 44, 46 0, 2  
 21, 23 11, 13 105, 107
- 1.8** 35, 37, 38, 40  
 99, 100, 102, 103
- 1.9** seven fifty-eight  
 thirty seventy-two  
 sixty-four ninety-three  
 forty-one nineteen  
 eighty-two thirty-six

## SELF TEST 1

- 1.01** 8 9 7 4 13 14 6 10  
 5 4 6 7 7 4 5 8
- 1.02** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
- 1.03** 12 35 41 47 67 73 76 93
- 1.04** thirteen forty-seven  
 sixty-three twenty  
 eight ninety-five

## SECTION 2

2.1 3, 5

2.2 9, 8 7, 6

5, 4 3, 2

1, 7 5, 0

0, 9 2, 3

2.3 ③0 3 ①0 1

4 ④0 7 ⑦0

⑨0 9 ⑧0 8

2.4 6, 2 9, 0

60, 2 90, 0

1, 1 0, 6

10, 1 0, 6

2.5 94, ninety-four

60, sixty

37, thirty-seven

20, twenty

2.6 6

7

2.7 95, 59 81, 18

43, 34 70, 7

2.8 18 36 76 68 99

58 74 48 17 88

89 47 57 89 68

85 99 58 79 85

2.9 addend addend

addend addend

77 sum 78 sum

2.10 26 12 33 10 45

44 68 26 75 94

56 79 60 63 42

36 18 62 43 21

2.11 minuend minuend

subtrahend subtrahend

55 difference 22 difference

2.12 8

2.13 8

2.14 4 5

15 19

20 20

14 9

2.15

+			
	6	9	11
	4	7	9
	10	13	15

+			
	11	9	4
	17	15	10
	13	11	6

Suggested Answers for 2.16 – 2.21:

2.16 73, 46, 92, 5, 84, 23, 53, 67, 49, 31

2.17 5, 23, 31, 46, 49, 53, 67, 73, 84, 92

2.18 5, 92

same

2.19 5, 32, 13, 64, 94, 35, 76, 37, 48, 29

2.20 5, 13, 29, 32, 35, 37, 48, 64, 76, 94

2.21 5, 94

less than 50

## SELF TEST 2

- 2.01** 5, 8                                 3, 0  
50, 8                                     30, 0
- 2.02** 74, seventy-four  
69, sixty-nine
- 2.03**                 addend                                 minuend  
                      + addend                             - subtrahend  
                      79 sum                                 17 difference
- 2.04** 68       85       79       34       23       27
- 2.05** 14                                     15  
8                                         4

## SECTION 3

- 3.1** 200, 400, 500, 700, 900
- 3.2** 361, 363                                 203, 205  
794, 796                                 997, 999  
800, 802                                 102, 104  
648, 650                                 442, 444  
499, 501                                 728, 730
- 3.3** 420, 421, 422, 423, 424, 425, 426, 427, 428, 429
- 3.4** 705, 715, 725, 735, 745, 755, 765, 775, 785, 795
- 3.5** 64, 164, 264, 364, 464, 564, 664, 764, 864, 964
- 3.6** 5, 4, 7
- 3.7** 3, 7, 6  
5, 4, 0
- 3.8** 8, 6, 3                                 3, 4, 9  
800, 60, 3                             300, 40, 9  
2, 2, 7                                     5, 6, 0  
200, 20, 7                             500, 60, 0
- 3.9** three hundred fifty-seven  
four hundred two
- 3.10** addend                                 addend  
addend                                     addend  
969 sum                                   addend  
                                                   15 sum
- 3.11** 687               849               668               757  
995               575               859               487  
9               16               17               16               16               9  
16               13               12               15               11               17
- 3.12** minuend  
subtrahend  
343 difference
- 3.13** 772               123               452               580  
375               462               164               446  
415               325               342               263  
460               543               772               543
- 3.14** 12               36               3
- 3.15** Suggested Answers  
ruler, 6 inches  
ruler, 9 inches  
ruler or yardstick, 36 inches or 1 yard  
yardstick, 3 yards  
yardstick, 16 yards
- 3.16** 12  
24  
36  
48

- 3.17** 365 – three hundred sixty-five  
 70 – seventy  
 273 – two hundred seventy-three  
 653 – six hundred fifty-three  
 84 – eighty-four  
 112 – one hundred twelve  
 327 – three hundred twenty-seven  
 121 – one hundred twenty-one  
 48 – forty-eight  
 17 – seventeen
- 3.18** five hundred sixty  
 nine hundred thirteen  
 seven hundred four

## SELF TEST 3

- 3.01** 252      352      452      552  
 652      752      852      952
- 3.02** 498, 500      300, 302      751, 753
- 3.03** 5, 0, 7  
 500, 0, 7
- 3.04** six hundred thirty-one  
 one hundred three
- 3.05** 479      15      623      560
- 3.06** yards  
 feet  
 inches  
 dozen

## SECTION 4

**4.1**  $8 + 7 = 15$   
 $6 - 2 \neq 5$   
 $15 > 14$   
 $27 < 30$

**4.2**  $\neq -$   
 $< -$   
 $= +$   
 $> +$

**4.3** Suggested Answers:

8                    5

7                    20

11                  2, 4

7                    15, 8

**4.4** 59                    17  
                           + 42  
                                   
                           59

32                    53  
                           - 21  
                                   
                           32

22                    63  
                           - 41  
                                   
                           22

675                  987  
                           - 312  
                                   
                           675

254                  895  
                           - 641  
                                   
                           254

557                  533  
                           + 24  
                                   
                           557

696                  256  
                           + 440  
                                   
                           696

740                  780  
                           - 40  
                                   
                           740

**4.5** 43      38      52      70      95  
       31      21      53      74      30  
       75      51      81      70      92  
       63      95      73      66      72

**4.6** fourth  
 second  
 seventh  
 first  
 eighth  
 ninth  
 sixth  
 third  
 fifth  
 tenth

**4.7** 9, 5, 3, 6, 11, 4, 7, 8  
 7, 3, 1, 10, 5, 6, 2, 4

**4.8** 6:48

**4.9** 3:53

**4.10** 8:15                    1:35                    10:22

**4.11** 24

60

60

**4.12** February, June, November

12

Teacher check, 28, 31, 30

30, 31

Teacher check

Tuesday, Wednesday, Friday

**4.13** 7                            30, 31                    12

365 (366 – leap year)

**4.14** Teacher check

## SELF TEST 4

- 4.01**  $6 + 5 = 11$   
 $18 - 9 \neq 7$
- 4.02**  $\neq$                        $=$   
 $>$                                $<$
- 4.03** 35            54            92            52            160
- 4.04** sixth  
third
- 4.05** 12, 7  
30, 31  
29
- 4.06** 3:55                      8:19

## SECTION 5

- 5.1** 4 3 16 4 9 4 14 7
- 5.2** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
- 5.3** 58  
23  
607  
three hundred fifty-five
- 5.4** 2, 7, 9  
2, 70, 900
- 5.5** 158, 159, 160, 161, 162
- 5.6** 94, 93, 92, 91, 90
- 5.7** 3 candles
- 5.8**  $12 > 10$  or  $10 < 12$
- 5.9** 7                              14  
15                              0
- 5.10** 142 pennies  
22 pennies  
120 pennies  
142 pennies
- 5.11** 12                              36                              3
- 5.12** inches                              feet  
inch                                      yard  
feet                                      inches
- 5.13** 12 apples  
5 apples  
2 apples
- 5.14** 4  
50  
1  
2  
Teacher check  
3  
1  
3  
7  
12  
12  
5  
2  
12  
3  
12  
36  
2
- 5.15** 358 - three hundred fifty-eight  
853 - eight hundred fifty-three  
538 - five hundred thirty-eight  
835 - eight hundred thirty-five  
385 - three hundred eighty-five  
583 - five hundred eighty-three
- 5.16** SUBTRAHEND



**5.17** addend                      minuend  
 addend                      subtrahend  
 979 sum                      632 difference

**5.18** 4:35  
 Teacher check

<b>5.19</b> 1.	$\begin{array}{r} 36 \\ + 4 \\ \hline 40 \end{array}$	2.	$\begin{array}{r} 46 \\ + 23 \\ \hline 69 \end{array}$	3.	$\begin{array}{r} 57 \\ + 27 \\ \hline 84 \end{array}$
4.	$\begin{array}{r} 456 \\ + 42 \\ \hline 498 \end{array}$	5.	$\begin{array}{r} 243 \\ + 616 \\ \hline 859 \end{array}$	6.	$\begin{array}{r} 562 \\ + 213 \\ \hline 775 \end{array}$
7.	$\begin{array}{r} 76 \\ + 58 \\ \hline 134 \end{array}$	8.	$\begin{array}{r} 49 \\ + 83 \\ \hline 132 \end{array}$	9.	$\begin{array}{r} 79 \\ - 3 \\ \hline 76 \end{array}$
10.	$\begin{array}{r} 98 \\ - 51 \\ \hline 47 \end{array}$	11.	$\begin{array}{r} 18 \\ - 5 \\ \hline 13 \end{array}$	12.	$\begin{array}{r} 96 \\ - 64 \\ \hline 32 \end{array}$
13.	$\begin{array}{r} 358 \\ - 34 \\ \hline 324 \end{array}$	14.	$\begin{array}{r} 498 \\ - 252 \\ \hline 246 \end{array}$	15.	$\begin{array}{r} 757 \\ - 340 \\ \hline 417 \end{array}$

## SELF TEST 5

**5.01** 91  
 803  
 eight hundred three

**5.02**  $76 < 95$

**5.03** 15                      0

**5.04** 12                      36

**5.05** inches

**5.06** 35 rocks  
 23 rocks

**5.07** 198                      82  
 33                      440

## LIFEPAC TEST

1. 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
2. five hundred twenty-nine  
eight hundred four
3. 5, 18, 43, 57, 195, 356, 791, 820
4. 6, 7                      5, 8, 4  
60, 7                      500, 80, 4
5.                      addend                      minuend  
                         addend                      subtrahend  
                         78 sum                      21 difference
6. 15                      7
7. 72    17    120    593    514    451
8. 12                      36
9. feet                      inches
10.  $11 - 4 \neq 8$   
 $0 + 6 = 6$
11. =                       $\neq$   
<                      >
12. second  
fifth
13. 7                      9:28
14. 277                      486                      271
15. 85 pennies  
42 pennies

## ALTERNATE LIFEPAC TEST

1. 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
2. seven hundred three  
nine hundred sixty-one
3. 3, 17, 38, 72, 204, 430, 600, 931
4. 8, 6                      2, 7, 6  
80, 6                      200, 70, 6
5.                      addend                      minuend  
                         addend                      subtrahend  
                         96 sum                      23 difference
6. 6                      19
7. 42    16    103    682    427    733
8. 12                      36
9. feet                      inches
10.  $5 + 4 = 9$   
 $7 - 3 \neq 5$
11. =                       $\neq$   
>                      <
12. third  
fifth
13. 7                      4:58
14. 498                      685                      441
15. 58 rocks  
40 rocks

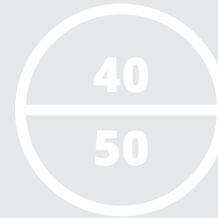
# MATH 301

## ALTERNATE LIFEPAC TEST

**NAME** \_\_\_\_\_

**DATE** \_\_\_\_\_

**SCORE** \_\_\_\_\_



**Each answer** = 1 point unless otherwise noted

1. Write the ten digits. (5 points)

\_\_\_\_\_

2. Write the number words.

703 \_\_\_\_\_

961 \_\_\_\_\_

3. Write the numbers in number order. (4 points)

72 17 600 38 931 430 204 3

\_\_\_\_\_

4. Write how many. Write the value. (4 points)

86 = \_\_\_\_\_ tens + \_\_\_\_\_ ones

86 = \_\_\_\_\_ + \_\_\_\_\_

276 = \_\_\_\_\_ hundreds + \_\_\_\_\_ tens + \_\_\_\_\_ ones

276 = \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_

5. Find the answers. Name the problem.

difference    subtrahend    addend    sum    minuend

34 \_\_\_\_\_                      59 \_\_\_\_\_

+ 62 \_\_\_\_\_                      - 36 \_\_\_\_\_

\_\_\_\_\_                                      \_\_\_\_\_

- 6.** Think the answer. Write the answer.

$$4 + 3 + 8 - 9 = \underline{\hspace{2cm}}$$

$$13 - 8 + 6 + 8 = \underline{\hspace{2cm}}$$

- 7.** Add or subtract.

$$\begin{array}{r} 37 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ 3 \\ \hline \end{array}$$

$$+ 9$$

$$\begin{array}{r} 56 \\ + 47 \\ \hline \end{array}$$

$$\begin{array}{r} 423 \\ + 259 \\ \hline \end{array}$$

$$\begin{array}{r} 459 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 865 \\ - 132 \\ \hline \end{array}$$

- 8.** How many ...  
inches in a foot? \_\_\_\_\_

inches in a yard? \_\_\_\_\_

- 9.** Write the answer on the line.

yards

inches

dozen

feet

What would you use to measure ...

how tall you are? \_\_\_\_\_

the size of a pencil? \_\_\_\_\_

- 10.** Write the sentences using digits and operation symbols.

Five plus four is equal to nine. \_\_\_\_\_

Seven minus three is not equal to five. \_\_\_\_\_

- 11.** Circle the operation sign.

$$6 + 4 (=, \neq) 2 + 8$$

$$12 - 5 (=, \neq) 11 - 5$$

$$4 + 8 (<, >) 18 - 9$$

$$16 - 7 (<, >) 9 + 8$$

- 12.** Write the ordinal number word.

63   24   46   59   73   18

Forty-six is the \_\_\_\_\_ number in the row.

Seventy-three is the \_\_\_\_\_ number in the row.

13. Write the answer.

How many days in a week? \_\_\_\_\_



\_\_\_\_\_:

14. Add or subtract.

$437 + 61 =$  \_\_\_\_\_     $325 + 360 =$  \_\_\_\_\_     $748 - 307 =$  \_\_\_\_\_

15. Read the story. Work the problem. (2 points)

Betsy and John were collecting rocks. Betsy had 23 rocks. John had 35 rocks. How many rocks did they have altogether? \_\_\_\_\_

Betsy and John decided to share 18 of their rocks with James. How many rocks do Betsy and John have now? \_\_\_\_\_





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