



# Mathematics 400

## Teacher's Guide

### CONTENTS

Curriculum Overview . . . . .	3
LIFEPAC® Management . . . . .	11
Teacher Notes . . . . .	25
Alternate Tests . . . . .	41
Answer Keys . . . . .	83
Self Test Keys . . . . .	133
Test Keys . . . . .	153
Alternate Test Keys . . . . .	159

**Author:**

**Carol Bauler, B.A.**

**Editor:**

**Alan Christopherson, M.S.**

**Graphic Design:**

**JoAnn Cumming, A.A.**



Alpha Omega Publications®

804 N. 2nd Ave. E., Rock Rapids, IA 51246-1759

© MCMXCVII by Alpha Omega Publications, Inc. All rights reserved.

LIFEPAC is a registered trademark of Alpha Omega Publications, Inc.

All trademarks and/or service marks referenced in this material are the property of their respective owners. Alpha Omega Publications, Inc. makes no claim of ownership to any trademarks and/or service marks other than their own and their affiliates', and makes no claim of affiliation to any companies whose trademarks may be listed in this material, other than their own.





**O**

**V**

**E**

**R**

**V**

**I**

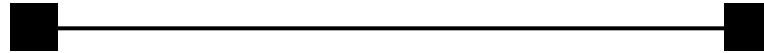
**E**

**W**



# MATHEMATICS

## Curriculum Overview Grades K-12



### Kindergarten

#### Lessons

1-40	41-80	81-120	121-160
<b>Directions</b> -right, left, high,low,etc. <b>Comparisons</b> -big, little,alike,different <b>Matching</b> <b>Cardinal Numbers</b> -to 9 <b>Colors</b> -red,blue,green, yellow, brown,purple <b>Shapes</b> -circle,square, rectangle,triangle <b>Number Order</b> <b>Before and After</b> <b>Ordinal Numbers</b> -to 9th <b>Problem Solving</b>	<b>Directions</b> -right,left, high,low,etc. <b>Comparisons</b> -big, little,alike,different <b>Matching</b> <b>Cardinal Numbers</b> -to 12 <b>Colors</b> -orange  <b>Shapes</b> -circle,square, rectangle,triangle <b>Number Order</b> <b>Before and After</b> <b>Ordinal Numbers</b> -to 9th <b>Problem Solving</b> <b>Number Words</b> -to nine <b>Addition</b> -to 9	<b>Directions</b> -right,left, high,low,etc. <b>Comparisons</b> -big, little,alike,different <b>Matching</b> <b>Cardinal Numbers</b> -to 19 <b>Colors</b> -black,white  <b>Shapes</b> -circle square, rectangle,triangle <b>Number Order</b> <b>Before and After</b> <b>Ordinal Numbers</b> -to 9th <b>Problem Solving</b> <b>Number Words</b> -to nine <b>Addition</b> -to 10 and multiples of 10 <b>Subtraction</b> -to 9 <b>Place Value</b> <b>Time/Calendar</b>	<b>Directions</b> -right,left, high,low,etc. <b>Comparisons</b> -big, little,alike,different <b>Matching</b> <b>Cardinal Numbers</b> -to 100 <b>Colors</b> -pink  <b>Shapes</b> -circle,square, rectangle,triangle <b>Number Order</b> <b>Before and After</b> <b>Ordinal Numbers</b> -to 9th <b>Problem Solving</b> <b>Number Words</b> -to nine <b>Addition</b> -to 10 and multiples of 10 <b>Subtraction</b> -to 10 <b>Place Value</b> <b>Time/Calendar</b> <b>Money</b> <b>Skip Counting</b> -2's, 5's, 10's <b>Greater/ Less than</b>

# Mathematics LIFEPAC Overview

	Grade 1	Grade 2	Grade 3
LIFEPAC 1	<p><b>NUMBERS TO 99</b></p> <ul style="list-style-type: none"> <li>• Number order, skip-count</li> <li>• Add, subtract to 9</li> <li>• Story problems</li> <li>• Measurements, shapes</li> </ul>	<p><b>NUMBERS TO 100</b></p> <ul style="list-style-type: none"> <li>• Numbers and words to 100</li> <li>• Operation symbols +, -, =, &gt;, &lt;</li> <li>• Add, subtract, story problems</li> <li>• Place value, fact families</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Digits, place value to 999</li> <li>• Add, subtract, time</li> <li>• Linear measurements, dozen</li> <li>• Operation symbols +, -, =, ≠, &gt;, &lt;</li> </ul>
LIFEPAC 2	<p><b>NUMBERS TO 99</b></p> <ul style="list-style-type: none"> <li>• Add, subtract to 10</li> <li>• Number words</li> <li>• Place value, shapes</li> <li>• Patterns, sequencing, estimation</li> </ul>	<p><b>NUMBERS TO 200</b></p> <ul style="list-style-type: none"> <li>• Numbers and words to 200</li> <li>• Add, subtract, even and odd</li> <li>• Skip-count 2's, 5's, 10's, shapes</li> <li>• Ordinal numbers, fractions, money</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Fact families, patterns, fractions</li> <li>• Add, subtract - carry, borrow</li> <li>• Skip count 2's, 5's, 10's</li> <li>• Money, shapes, lines, even, odd</li> </ul>
LIFEPAC 3	<p><b>NUMBERS TO 100</b></p> <ul style="list-style-type: none"> <li>• Number sentences,</li> <li>• Fractions, oral directions</li> <li>• Story problems</li> <li>• Time, symbols =, ≠</li> </ul>	<p><b>NUMBERS TO 200</b></p> <ul style="list-style-type: none"> <li>• Add w/ carry to 10's place</li> <li>• Subtract, standard measurements</li> <li>• Flat shapes, money, a.m./p.m.</li> <li>• Rounding to 10's place</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Add 3 numbers w/ carry</li> <li>• Coins, weight, volume, a.m./p.m.</li> <li>• Fractions, oral instructions</li> <li>• Skip count 3's, subtract w/ borrow</li> </ul>
LIFEPAC 4	<p><b>NUMBERS TO 100</b></p> <ul style="list-style-type: none"> <li>• Add to 18, place value</li> <li>• Skip-count, even and odd</li> <li>• Money</li> <li>• Shapes, measurement</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Numbers and words to 999</li> <li>• Add, subtract, place value</li> <li>• Calendar, making change</li> <li>• Measurements, solid shapes</li> </ul>	<p><b>NUMBERS TO 9,999</b></p> <ul style="list-style-type: none"> <li>• Place value to 9,999</li> <li>• Rounding to 10's, estimation</li> <li>• Add and subtract fractions</li> <li>• Roman numerals, 1/4 inch</li> </ul>
LIFEPAC 5	<p><b>NUMBERS TO 100</b></p> <ul style="list-style-type: none"> <li>• Add 3 numbers - 1 digit</li> <li>• Ordinal numbers, fractions</li> <li>• Time, number line</li> <li>• Estimation, charts</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Data and bar graphs, shapes</li> <li>• Add, subtract to 100's</li> <li>• Skip-count 3's, place value to 100's</li> <li>• Add fractions, temperature</li> </ul>	<p><b>NUMBERS TO 9,999</b></p> <ul style="list-style-type: none"> <li>• Number sentences, temperature</li> <li>• Rounding to 100's, estimation</li> <li>• Perimeter, square inch</li> <li>• Bar graph, symmetry, even/odd rules</li> </ul>
LIFEPAC 6	<p><b>NUMBERS TO 100</b></p> <ul style="list-style-type: none"> <li>• Number words to 99</li> <li>• Add 2 numbers - 2 digit</li> <li>• Symbols &gt;, &lt;</li> <li>• Fractions, shapes</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Measurements, perimeter</li> <li>• Time, money</li> <li>• Subtract w/ borrow from 10's place</li> <li>• Add, subtract fractions</li> </ul>	<p><b>NUMBERS TO 9,999</b></p> <ul style="list-style-type: none"> <li>• Add, subtract to 9,999</li> <li>• Multiples, times facts for 2</li> <li>• Area, equivalent fractions, money</li> <li>• Line graph, segments, angles</li> </ul>
LIFEPAC 7	<p><b>NUMBERS TO 200</b></p> <ul style="list-style-type: none"> <li>• Number order, place value</li> <li>• Subtract to 12</li> <li>• Operation signs</li> <li>• Estimation, graphs, time</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Add w/ carry to 100's place</li> <li>• Fractions as words</li> <li>• Number order in books</li> <li>• Rounding and estimation</li> </ul>	<p><b>NUMBERS TO 9,999</b></p> <ul style="list-style-type: none"> <li>• Times facts for 5, missing numbers</li> <li>• Mixed numbers - add, subtract</li> <li>• Subtract with 0's in minuend</li> <li>• Circle graph, probability</li> </ul>
LIFEPAC 8	<p><b>NUMBERS TO 200</b></p> <ul style="list-style-type: none"> <li>• Addition, subtract to 18</li> <li>• Group counting</li> <li>• Fractions, shapes</li> <li>• Time, measurements</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Add, subtract, measurements</li> <li>• Group count, 'think' answers</li> <li>• Convert coins, length, width</li> <li>• Directions-N, S, E, W</li> </ul>	<p><b>NUMBERS TO 9,999</b></p> <ul style="list-style-type: none"> <li>• Times facts for 3, 10 - multiples of 4</li> <li>• Convert units of measurement</li> <li>• Decimals, directions, length, width</li> <li>• Picture graph, missing addend</li> </ul>
LIFEPAC 9	<p><b>NUMBERS TO 200</b></p> <ul style="list-style-type: none"> <li>• Add 3 numbers - 2 digit</li> <li>• Fact families</li> <li>• Sensible answers</li> <li>• Subtract 2 numbers - 2 digit</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Area and square measurement</li> <li>• Add 3 numbers - 20 digit w/ carry</li> <li>• Add coins and convert to cents</li> <li>• Fractions, quarter-inch</li> </ul>	<p><b>NUMBERS TO 9,999</b></p> <ul style="list-style-type: none"> <li>• Add, subtract whole numbers, fractions, mixed numbers</li> <li>• Standard measurements, metrics</li> <li>• Operation symbols, times facts for 4</li> </ul>
LIFEPAC 10	<p><b>NUMBERS TO 200</b></p> <ul style="list-style-type: none"> <li>• Add, subtract, place value</li> <li>• Directions - N, S, E, W</li> <li>• Fractions</li> <li>• Patterns</li> </ul>	<p><b>NUMBERS TO 999</b></p> <ul style="list-style-type: none"> <li>• Rules for even and odd</li> <li>• Round numbers to 100's place</li> <li>• Time - digital, sensible answers</li> <li>• Add 3 numbers - 3 digit</li> </ul>	<p><b>NUMBERS TO 9,999</b></p> <ul style="list-style-type: none"> <li>• Add, subtract, times facts 2,3,4,5,10</li> <li>• Rounding to 1,000's, estimation</li> <li>• Probability, equations, parentheses</li> <li>• Perimeter, area</li> </ul>