This sample contains Lessons 1-5 from

Mathematics 101

Math 101 is the first of 10 workbooks for grade 1 math.

Visit our website to learn more or request a free catalog.

You can see sample pages from all 10 LightUnit workbooks on our website.



Harrisonburg, Virginia 800-776-0478 www.christianlight.org

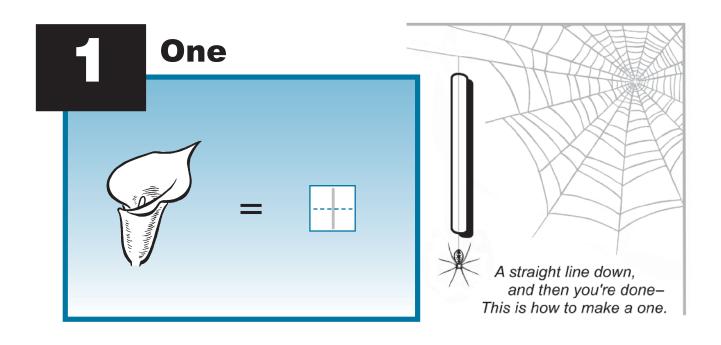
Contents

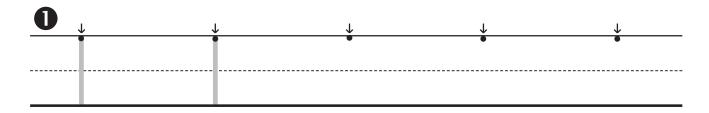
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esson 2	4
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esson 4	8
esson 5	1
esson 6	3
esson 7	6
_esson 8	9
esson 9	22
_esson 10 2	25
_esson 11 2	28
_esson 12 3	3 1
_esson 13 3	34
_esson 14 3	37
esson 15	łO
esson 16 4	ŀ3
esson 17 4	16
esson 18	19
esson 19	52
_esson 20 5	5
Speed Drills	6
Place-Value Chart	0

Fact Chart

Addition Facts

0 + 0 = 0	1 + 0 = 1	2 + 0 = 2	3 + 0 = 3	4 + 0 = 4	5 + 0 = 5
0 + 1 = 1	1 + 1 = 2	2 + 1 = 3	3 + 1 = 4	4 + 1 = 5	
0 + 2 = 2	1 + 2 = 3	2 + 2 = 4	3 + 2 = 5		
0 + 3 = 3	1 + 3 = 4	2 + 3 = 5			
0 + 4 = 4	1 + 4 = 5				
0 + 5 = 5					











Lesson 1





6 How many ducks?

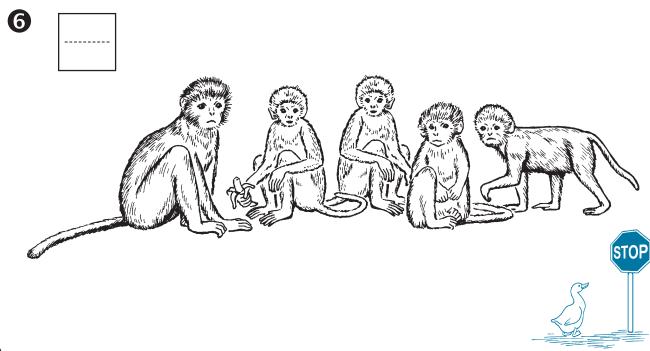


Make a mark for each duck.



Color the duck.



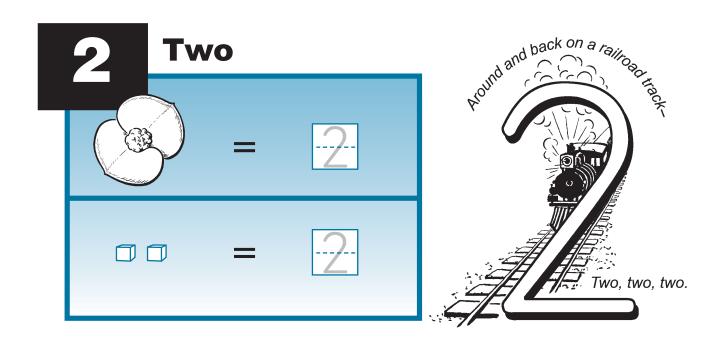


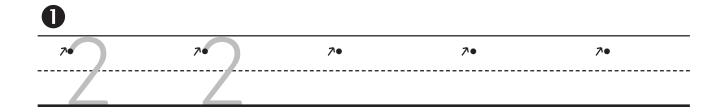
Just for Fun

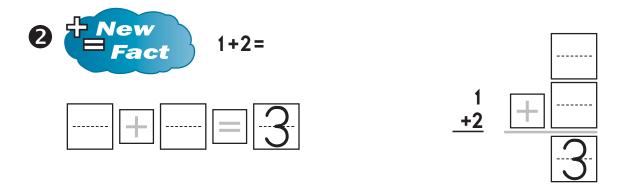
About Me
I havenose.
I have head.
I have mouth.
I haveGod.

Draw	a	picture	of	yourself.
DIUW	u	piciuie	OI.	your sem









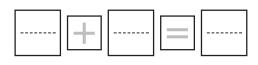


4 Trace a mark for each picture. How many marks?

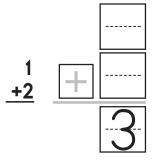




6 1+1=



1 +1 +1



6 Color the correct number of balls. Start at the bottom.

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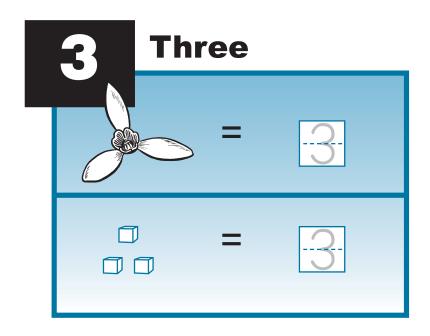


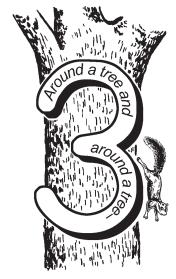






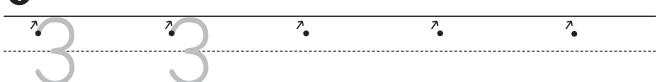






This is how to make a three.



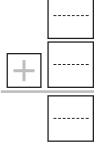




2+1=



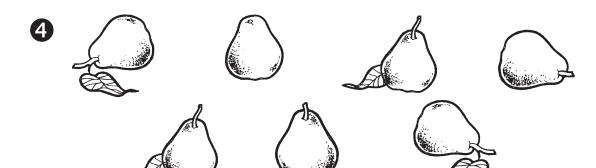
2 +1



3 Write the number that is one more.

2 ----

1 -----



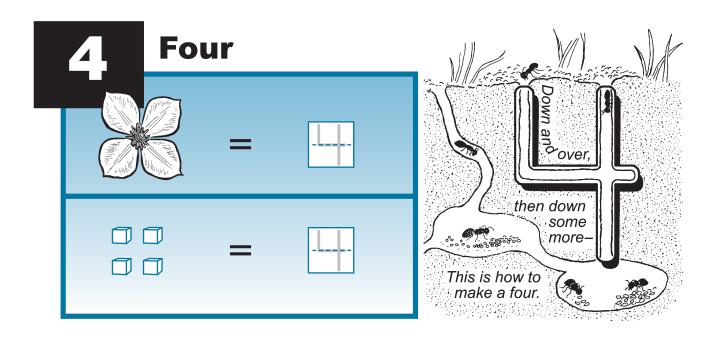
6 How many circles?

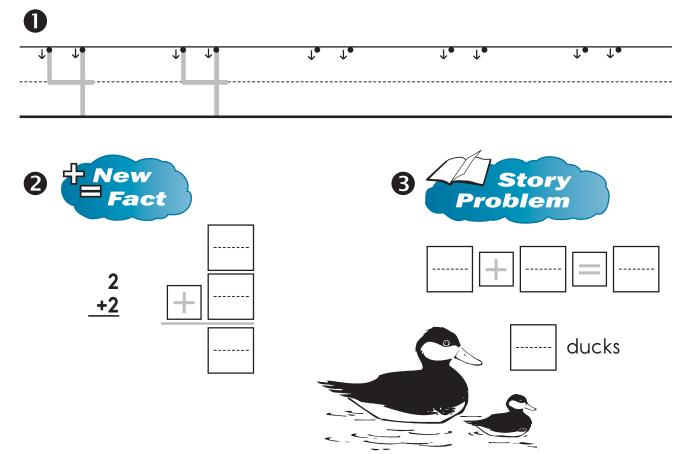


Write the sums.

+ 1	<u>+ 1</u>







4 Write the number that is one more.

3	 	-	 -	 	-	-

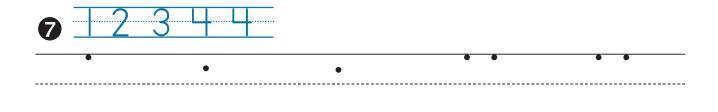
2	-	-	-	-	-	-	-	-	-	-	-	-

1	-	-	-	-	-	-	-	-	-	-	-	-

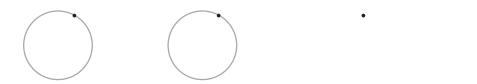




6 Write the sums.



1 Trace 2 circles. Draw 2 circles. Color the circles.



Lesson 4

9 Write the sums.

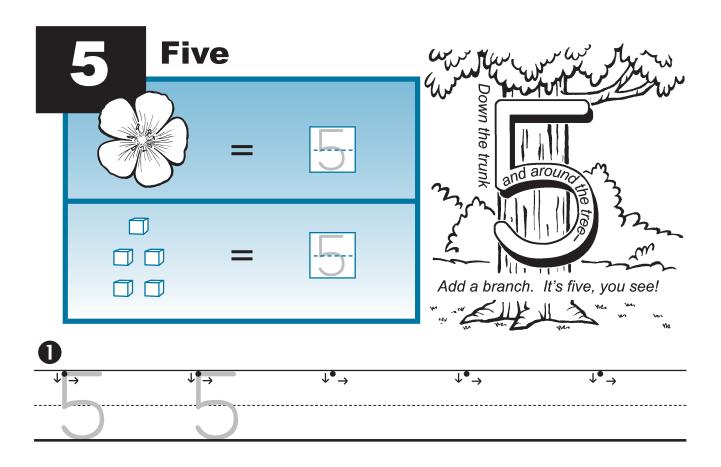


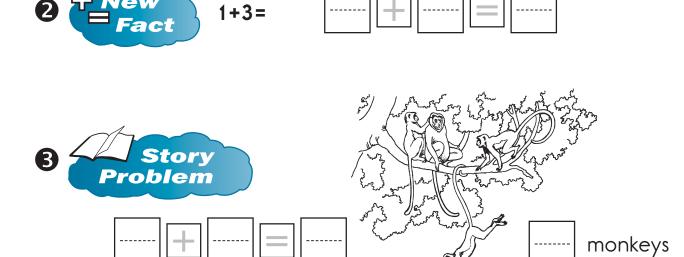


About Me



- I have ____ eyes.
- I have ____ ears.
- I have ____ arms.
- I have ____ hands.
- I have ____ legs.
- I have _____ feet.





4 Write the number that is one more.

4	 2	

Lesson 5





I Can Do This

6 Write the sums.

8



This sample contains Lessons 1-5 from

Teacher's Guide Math 101-105



Harrisonburg, Virginia 800-776-0478 www.christianlight.org

Introduction

"This math doesn't make any sense. I'll never use it again anyway!" Have you ever heard this? But math does make sense. And it is a useful tool that nearly everyone uses in one way or another every day.

CLE math is built on the thesis that most children can learn, understand, and master mathematics concepts. It seeks to relate math to everyday life and to make it practical. Mathematics should help students achieve the ultimate goal—serving and bringing glory to God.

CLE Sunrise math introduces concepts in incremental steps. This allows students to master each increment of a skill before advancing to the next step. Thus he does not face entire lessons or chapters on a single concept, but meets several simple concepts simultaneously. Each increment easily becomes a part of his "big picture," not only because it is small, but also because it fits with what he has already learned.

The only way a student will retain what he has learned is by consistent, systematic review. CLE math uses continuous review. Instead of having a grand review at the end of the year, much of each day's work is review. This way, you teach for *mastery*, not only for *exposure*. Students will be able to retain important concepts for the whole year.

Course Materials

Here is what's needed to teach this course. Items in italics come from CLE.

Teacher:

- Teacher's Guides for 101-105 and 106-110
- Flash Cards (See "Flash-Card System" in this introduction.)
- A container of manipulatives such as blocks, craft sticks, and toothpicks
- A teaching clock, beginning with Lesson 43 (See "Teaching Clock" on page viii of this introduction.)

For each student:

• *LightUnits* (10 workbooks numbered 101 through 110)

- My Counting Book, beginning with Lesson 48 (See "My Counting Book" on page viii of this introduction.)
- 1-200 Counting Chart (See "Counting Chart" on page viii of this introduction.)
- Dry-erase marker to use with the counting chart
- Container with manipulatives, beginning with Lesson 10 (See "Manipulatives" on page viii of this introduction.)
- Student Clock (Available from CLP.)

To order additional items, use the CLE Order Forms Booklet or call 1-800-776-0478.

Teaching a Lesson

Lessons vary, but here is a typical teaching sequence for a lesson.

Step 1: Prepare.

- Preview the lesson. Read the lesson objectives. Then read the text in the "new" boxes, making sure you understand the concepts. Although the notes explain some items in detail, customize your presentation to suit your method. Imagine how your students would best respond, and plan accordingly. Write notes in the margins.
- Prepare materials, using the *Class Preparation* list.

Step 2: Teach the Lesson.

- Meet with students and follow the notes under the "Meet With Students" heading. Counting routines and oral reviews are the main features of this section.
- Ask students to open their LightUnits and follow your directions, using the notes under "Begin LightUnit Activities." This section focuses on the title bar, new fact(s), the story problem, new concepts for the day, and number dictation.

Introduction

Step 3: Drill flash cards (see below).

Step 4: Administer the speed drill (see page vii).

Step 5: Assign the "I Can Do This" section.

 This section of the lesson is a collection of review activities that students should be able to complete independently.
 Make sure students understand the directions before assigning.

Fact Learning

One of the greatest challenges for the young mathematician is memorizing facts. That should be no surprise when we consider that the average first grader needs to learn over 200 math facts.

Because of time constraints, teachers sometimes skimp on fact learning. Don't do it. A solid foundation in fact learning helps students rise to the higher levels of math. Consider the fifth grader who hasn't fully mastered his facts—how will he handle fractions, geometry, and pre-algebra?

One hindrance to fact learning is substituting computers for brains. Do not neglect math facts even in an age of calculators.

The goal in fact learning is automatic recall. Eventually, the answers should pop out as fast as the facts are given. This takes years of practice, so math facts must be constantly reviewed in the first several years of school. For this, you must have a thorough, efficient system.

Sunrise Math 100 uses four methods to introduce and drill the basic addition and subtraction facts:

- 1. Teacher introduction of each fact
- 2. Workbook practice
- 3. Daily flash-card practice
- 4. Speed drill practice

Flash-Card System

The Sunrise Math 100 flash-card system helps you control when and how often each card is flashed. Cards are grouped in the storage box with divider tabs, and each day certain groups are flashed to the students.

Cards begin in the *Unused Facts* category and end being flashed one day a week. Following is a description of each step and directions on how to move the cards from one division to another.



Unused Facts are the facts that are kept stored until you introduce them. You will begin the year with all the flash cards in front of the Unused Facts divider card.



New Facts are the most recently introduced cards that need review several times a day. Anytime you introduce a new fact, the teacher's guide directs you to take its flash card from *Unused Facts* and place it here



Once a Day facts should be more familiar to the students and need to be reviewed only once a day. The teacher's notes direct you to gather a group of cards from New Facts and move them here once a week. The tabs on the back of the flash cards help you locate the correct cards.



Monday, Tuesday,
Wednesday, Thursday,
Friday. These are facts for which students can "pop out" answers with little hesitation, and need to be reviewed only once a week. Each week the teacher's notes direct you to place a group of cards into one of these categories.

Don't hesitate to move a fact back into a previous division if students become "rusty" with that fact. Facts must be continually reviewed if you want to maintain mastery.

A stimulating flash-card drill is a good way to begin class, or it could be used in the middle of class for a refreshing change. You may want to include a drill before or after a break, or at other times during the day. You may want to put the facts for the day or difficult facts on the board and require students to recite a fact before leaving their seat. In a homeschool, the father may want to drill the students each evening or morning. This is an enjoyable way to involve Dad and keep him informed of the student's progress.

Have students stand during flash-card drills for a relaxing variation. When flashing down or across the rows, teach them to pay attention even when it is not their turn. Keep them on their toes by calling on students out of order.

Don't let students guess at the answers. It is better to establish a pattern of correct answer recall. Students should learn that "2+2=4," not "2+2=3, no, 7, no, 5, no...." If students don't answer quickly, supply the answer and review the fact.

Accuracy is more important than speed. If students learn the facts accurately in the early grades, they will find it easy to build speed in subsequent grades.

The key to mastering math facts is consistent, systematic review. Students do not master the facts in one day or one week or one month. That is why it pays to be diligent each day to begin memorizing the new facts and to review the previous facts.

Spacing drills out enhances students' learning of facts. Several three-minute drills throughout the day are better than one 15-minute drill.

Don't overdo flash-card drills. Try to make them stimulating and enjoyable. Use games and variation to drill the facts.

Speed Drills

Regular use of speed drills helps your students rivet the math facts into their minds, thus helping you reach your goal of automatic recall.

Speed drills do not affect the LightUnit grade. Each lesson, beginning with Lesson 19, has a speed drill. Students have one minute to complete the drill.

Encourage speed and accuracy. Each student should compete against himself—not other students.

The teacher's notes recommend administering the speed drill during math class, but you may want to do them at other convenient times.

Generally there are more facts than the average student can answer in a minute. Don't put students under undue pressure to complete every fact. You may want to give some students a minute and a half or even two minutes.

The speed drills continually have new facts added to them. The day before a fact first appears on a speed drill, it is listed beside the galloping horse at the end of the LightUnit lesson. This allows students to prepare with extra practice if they haven't mastered the fact yet.

If a student is struggling, you may want to send the new facts home with him for parents' help.

Do not allow students to jump around on the drill to answer all the easy facts first.

Students may not always get more facts correct today than they did yesterday. Don't let students get discouraged if their scores are slightly lower some days.

If a student shows weakness in certain facts, give concentrated practice on those facts.

Follow these steps to administer speed drills:

- 1. Have students turn to the speed drill in the back of the LightUnit. Make sure students know which drill they are to do.
- 2. Explain or say the following: "When I say, *Ready, begin,* do as many of the facts as you can in one minute. Start at the top and work from left to right. If you come to a fact that you do not know, skip that fact. You can come back to it later if you have time. When I say *Stop,* lay your pencil down."

Time the students for one minute. Observe to see that the students are completing the drill properly.

- 3. At the end of one minute, say, *Stop and put your pencils away*.
- 4. Check the problems as a class. Have students circle correctly answered facts. Teach them to follow from one problem to the next with their finger as you say the fact and the answer from left to right, proceeding down the page. Use terms such as *left* and *right*, *first line*, *second line*, etc. After checking, instruct them to count the circled facts and write the number correct in the box at the top of the drill. Collect the speed drills and check them for accuracy. Check the speed drills as soon as possible.
- 5. Students should correct and complete the remainder of the drill, either right away or later. Doing this will give them the full benefit of the drill.

Counting Chart

Counting charts are used throughout the year in a variety of applications. Each student should have a small laminated 1-100 counting chart with a 101-200 counting chart on the back, available from CLE.

For large classes of students, you may also want to purchase a 1-100 wall poster chart from a local teacher supply store, or make one yourself.

Each student should have a dry-erase marker for writing on the chart. A bullet-tip works best.

Manipulatives

Manipulatives are hands-on teaching tools. Some students seem to naturally see and understand concepts in their minds, while others find it very difficult. Use manipulatives to help these students visualize and understand the concepts you are teaching.

Build a manipulative kit for you and for each student. These may simply be a collection of everyday objects such as blocks, toothpicks, craft sticks, Legos, and crayons.

Store each set of manipulatives in a container such as a closable storage bag or plastic bowl.

Managing manipulatives can be difficult. First and most important is to teach the students prompt obedience and orderliness. Train your students to listen and follow along carefully as you proceed with an activity. Don't allow them to do things in their own way and their own time. To reinforce prompt obedience, do some follow-the-leader drills. For example, have all the students raise their hands at the same time, hold up a pencil with their left hands, sit, tap their toes, touch their ears, etc.

Money Cup

Beginning with Lesson 6, students begin counting real money. The teacher's notes direct you to place a certain number of coins in a container for students to count. Use a mug, jar, plastic container, etc., for your Money Cup. You may want to write *Money Cup* on the outside and decorate it. We recommend that you have at least one Money Cup for every three students.

For preparing the student Money Cups, keep a reserve of coins on hand, perhaps using an individual container for each type of coin.

Teaching Clock

Beginning with Lesson 43, you will need a teaching clock. If you are teaching a large group of students, use a clock large enough for all to see. A clock with gears that synchronize the hands is preferable. A simple kitchen clock with minute markings works well. Order CLE's student clock for teaching small groups of students and for individual student practice.

My Counting Book

Beginning with Lesson 48, students write a series of ten numbers daily (except on quiz and test days). The teacher's notes guide you in assigning the written practice, as well as leading a series of oral counting. After completing each page of 100 numbers, students may do the fun activity on the facing page as a reward.

Although this number writing may seem mundane, it plays a crucial role in helping students understand our number system and in visualizing large numbers like 200 and 1,000.

Quizzes and Tests

Sunrise Math tests concepts only after they have been reviewed for five days or more. The tests are cumulative. LightUnit 101 has only a final LightUnit test. The other LightUnits have two quizzes and a test. Average the two quizzes together and use that average as 50% of the LightUnit grade, with the test being the other 50%.

Here is an example showing how it works:

Quiz 1 – 95% Quiz 2 – 98% Test – 93% 95 + 98 + 93 + 93 = 379 Divide 379 by 4 = 94.75 (95%)

Since tests are for learning and assessment, students should review difficult concepts and correct their errors. You may want to have them retake the test if they score below 80%. Then review the difficult concepts until they have mastered them.

Just For Fun

Just For Fun activities are just that. They are found at the end of some lessons. The students may do them if time permits. You could use them for spare-time activities later in the day. After the first several LightUnits, students should be able to do them independently.

My Calendar Book

This is a weather/calendar book for learning calendar skills such as days of the week, months, etc. It also leads students in daily observations of clouds, wind, precipitation, temperature, and other weather patterns. Students practice data skills by building several graphs. *My Calendar Book* may be used in first and second grade.

My Calendar Book may be used independently of Sunrise Math 100, and is a great way to apply math concepts in a practical way. See the CLE catalog for ordering information.

Symbols Used in the Teacher's Guide



Counting exercises



Introducing a new concept



Introducing a new fact



Dictation exercises

Story problem. In earlier LightUnits you will read the problem to the students. Story problems are not in the student books until LightUnit 107.

★ Optional Story problem. Enrichment problems that extend the story problem that the student answers in the LightUnit. Students do not need to write the answers to these problems.



Money Cup

Symbols Used in the LightUnits



Introducing the new fact



Story problem



End of lesson





Tells students what new fact(s) will be on the speed drill for the next lesson.



Money Cup



Dictation



Calls attention to what students will do in a given set of problems.

Daily Schedule, First Semester

	Day	LTR	BI	MA
	1	101:1		101:1
_	2	2		2
Week	3	3	101:1	3
>	4	4		4
	5	5	2	5
	6	6		6
7	7	7	3	7
Week 2	8	8		8
≥	9	Rev.	4	9
	10	Test		10
	11	102:1	5	11
3	12	2		12
Week	13	3	6	13
>	14	4		14
	15	5	7	15
	16	6		16
4	17	7	8	17
Week	18	8		18
Š	19	9	9	19
	20	Rev.		Test
	21	Test	10	102:21
2	22	103:1		22
Week	23	2	11	23
>	24	3		24
	25	4	12	25
	26	5		26
9	27	6	13	27
Week 6	28	7		28
>	29	8	14	29
	30	9		30

	Day	LTR	LA	BI	MA
	31	Rev.		15	31
_	32	Test			32
Week	33	104:1		16	33
≥	34	2			34
	35	3			35
	36	4		102:1	36
ω	37	5			37
Week 8	38	6		2	38
Š	39	7			39
	40	8		3	Test
	41	Rev.			103:41
6	42	Test		4	42
Week 9	43	105:1			43
Š	44	2		5	44
	45	3			45
	46	4		6	43
9	47	5	101:1		47
Week 10	48	6	2	7	48
Me	49	7	3		49
	50	8	4	8	50
П	51	Rev.	5		51
=	52	Test	6	9	52
Week 11	53	106:1	7		53
×	54	2	8	10	54
	55	3	9		55
П	56	4	10	11	56
12	57	5	Rev.		57
Week 12	58	6	Test	12	58
We	59	7	102:1		59
	60	8	2	13	Test
\rightarrow					

	Day	LTR	LA	BI	MA
Week 13	61	Rev.	3		104:61
	62	Test	4	14	62
	63	107:1	5		63
	64	2	6	15	64
	65	3	7		65
	66	4	8	16	66
14	67	5	9		67
Week 14	68	6	10		68
We	69	7	Rev.	103:1	69
	70	8	Test		70
	71	9	103:1	2	71
15	72	Rev.	2		72
Week 15	73	Test	3	3	73
W	74	108:1	4		74
	75	2	5	4	75
	76	3	6		76
16	77	4	7	5	77
Week 16	78	5	8		78
W	79	6	9	6	79
	80	7	10		Test
	81	8	Rev.	7	105:81
17	82	9	Test		82
Week 17	83	10	104:1	8	83
We	84	Rev.	2		84
	85	Test	3	9	85
Week 18	86	109:1	4		86
	87	2	5	10	87
	88	3	6		88
	89	4	7	11	89
	90	5	8		90
_					

Daily Schedule, Second Semester

	Day	LTR	LA	RTL	BI	MA
Week 19	91	6	9		12	91
	92	7	10			92
	93	8	Rev.		13	93
	94	9	Test			94
	95	10	105:1		14	Test
Week 20	96	Rev.	2			106:96
	97	Test	3		15	97
	98	110:1	4			98
Me	99	2	5		16	99
	100	3	6			100
	101	4	7			101
21	102	5	8		104:1	102
Week 21	103	6	9			103
Ň	104	7	10		2	104
	105	8	Rev.			105
	106	9	Test		3	106
22	107	Rev.	106:1			107
Week 22	108	Test	2		4	108
×	109		3	101:1		109
	110		4	2	5	Test
	111		5	3		107:111
Week 23	112		6	4	6	112
	113		7	5		113
	114		8	6	7	114
	115		9	7		115
Week 24	116		10	8	8	116
	117		Rev.	9		117
	118		Test	10	9	118
	119		107:1	11		119
	120		2	12	10	120

_					
	Day	LA	RTL	BI	MA
	121	3	102:1		121
25	122	4	2	11	122
Week	123	5	3		123
×	124	6	4	12	124
	125	7	5		Test
	126	8	6	13	108:126
26	127	9	7		127
Week 26	128	10	8	14	128
We	129	Rev.	9		129
	130	Test	10	15	130
	131	108:1	11		131
k 27	132	2	12	16	132
/eek	133	3	103:1		133
We	134	4	2		134
	135	5	3	105:1	135
П	136	6	4		136
58	137	7	5	2	137
Week 28	138	8	6		138
Me	139	9	7	3	139
	140	10	8		Test
	141	Rev.	9	4	109:141
53	142	Test	10		142
Week ;	143	109:1	11	5	143
We	144	2	12		144
	145	3	104:1	6	145
	146	4	2		146
30	147	5	3	7	147
Week 30	148	6	4		148
We	149	7	5	8	149
	150	8	6		150

	Day	LA	RTL	BI	MA
Week 31	151	9	7	9	151
	152	10	8		152
	153	Rev.	9	10	153
	154	Test	10		154
	155	110:1	11	11	Test
	156	2	12		110:156
32	157	3	105:1	12	157
Week 32	158	4	2		158
×	159	5	3	13	159
ı	160	6	4		160
	161	7	5	14	161
33	162	8	6		162
Week 33	163	9	7	15	163
Me	164	10	8		164
ı	165	Rev.	9		165
	166	Test	10		166
34	167		11		167
Week 34	168		12		168
We	169				169
	170				Test
Week 35	171				
	172				
	173				
	174				
	175				
	176				
စ္က	177				

180

Note: All new concepts introduced in Math LightUnit 110 are reintroduced in grade two. If your schedule makes it difficult to complete all ten LightUnits, omitting 110 is an option.

Math 101

Lessons 1-20

Materials Needed for LightUnit 101

- Beginning in Lesson 6, you will need pennies and dimes for the money cup. Use real money, or buy a coin set. You will need as many as 30 pennies and 10 dimes.
- Keep a box of pencils, blocks, small farm toys, toothpicks, etc. for counting objects, illustrating place value, and teaching the concept of addition.
- The 1-100 Counting Chart is a laminated chart with numbers from 1 to 100 on one side and 101-200 on the other side. We recommend dry-erase markers for each student for writing on the charts. A bullet tip works best for small children. Teachers from larger schools may want to purchase a large wall chart.

Lesson 1 (Pages 1-3)

New Skills / Concepts

- Learn the concept of addition
- Count to 15
- Count with one-to-one correspondence 1 to 5
- Identify and write 1
- Learn first and last
- Begin memorizing 1+1=2

Class Preparation

- 1 − 100 Counting Chart
- A flower to show what flower petals are
- ♦ New Flash Card: Move 1+1=2 from Unused Facts to New Facts.

Read the instructions for using the flash-card system in the Introduction.

Meet With Students

Understanding Order and Sequence

• God is a God of order. He likes to do things in an orderly way. He made you and me in an orderly way. He made the world in an orderly way. Suppose God would have made the fish and birds before He made land and water. Do you think the fish and birds could have lived without land and water? no Or suppose God would have made man and animals before He made the sun, moon, and stars. They would have had a hard time without light, wouldn't they? Why do you think God made plants before He made animals and man? Pause for student response. God is a God of order. He does everything in the right time. He wants first graders to be orderly as well.

• In math we study about numbers, shapes, and how numbers work together. God made numbers in an orderly way too. In math we study about this order. When we count we must use order. We do not say, "1, 4, 7, 3, 5, 10." We say our numbers in order, like this: "1, 2, 3, 4, 5, 6, 7, 8, 9, and 10."

Tips for teaching counting sequences

Use the 1-100 Counting Charts for counting exercises.

Point to the numbers as smaller groups of students count.

Point to the numbers as individual students count.

Have individual students point and count.

Have individual students count without pointing.

Have a student point while the class counts in unison.



Counting from 1 to 15

Have students point to the numbers on their counting charts as you count from 1 to 10. After students are familiar with the chart, practice counting from 11 to 15.



• Count 1 to 15

Teach One-to-One Correspondence

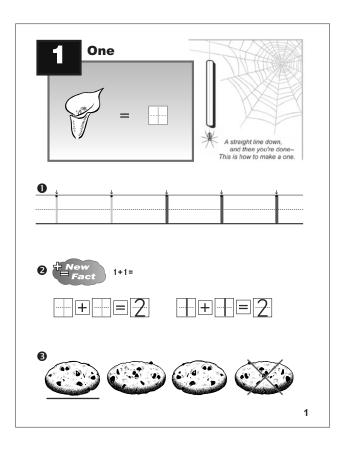
• Place five objects on your desk. Students should point to each object as they count.

Some students may skip items or numbers as they count. Or they may count one number on two objects or two numbers on one object. Monitor students to see that they count with one-to-one correspondence.

Begin LightUnit Activities

Title Bar

- Now we are ready to work in our LightUnits. Remember in math we learn about numbers, shapes, order, and many more things. Look through your LightUnits to see what you will study. Give students a few minutes to browse through their books and comment on what they like.
- Turn to page 1. Find the flower at the top of the page. Show them the flower you brought and explain what petals are. How many petals does this flower have? 1. Yes,



this flower is called a white calla lily. Other calla lilies are pink, lavender, or red. A calla lily has one petal. It grows well at sunny windows. The flowers grow on straight stalks.

I know a rhyme that will help you remember how to make a 1. Listen carefully as I say the rhyme and write a 1. Read the rhyme. Illustrate on the board how to make a 1.

A straight line down,

And then you're done-

This is how to make a one.

- Let's say the rhyme together as we make 1 in the air with our fingers.
- Now trace the big 1 in your LightUnit with your finger as we say the rhyme. When the spider spins a web, she can go straight down just like a 1.
- Now, look at the flower again. How many petals does the calla lily have? 1 Write a 1 in the box beside the flower.



Understanding Addition

Use pencils, erasers, or other objects to help students understand the principle of addition.

Today we learn to add. When we add we join groups. Hold up one pencil. How many pencils do I have in my hand? 1 Hold up one more pencil. Now how many pencils do I have? 2 When we have one pencil and add one more pencil, we have two pencils. We say, "one plus one equals two." Say it with me. One plus one equals two.

Do not allow students to say, "One and one equals two." Teach them to say, "One plus one equals two" or "One plus one is two."

If I have one eraser in my hand and I put a paper clip with it, how many things do I have in my hand? 2 Good! If we have one, and add one more, we have two things.

Use other manipulatives to illustrate the new fact.

- What number do you see on the lines? 1 That's right. You will fill this line with 1's.
 - Look at the arrow and the dot that shows you where to start. Trace the one. Start at the top and draw a line straight down. Now finish the row. You may want to say the rhyme in unison each time students write 1.



New Fact: 1+1=2

Introduce the new fact.

Suggestions for Introducing New Facts

- 1. Recite the new fact.
- 2. Illustrate it using manipulatives.
- 3. For facts with numbers under 5, have students use their fingers to illustrate the facts.

Suggestions for Memorizing Facts

See the introduction for more suggestions.

- 1. Say facts before going out for recess.
- 2. Review the fact throughout the day. (Spacing is a key to memorization.)
- 2 Trace the numbers in the first fact. In the second one, write the numbers neatly yourself.

New

Understanding First and Last

Jesus said, "I am . . . the first and the last" (Revelation 22:13).

How can Jesus be first and last at the same time?

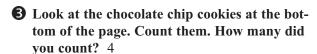
The verse means that Jesus was alive before the world began and He will live forever.

If your father was the first one to get up, could he also be the last?

Illustrate *first* and *last* by having students stand in a line. Point to the first person and say, "This is the first person in this line." Point to the last person in the line and say, "This is the last person in this line."

More examples:

- The first and last day of school
- The first and last lesson of the LightUnit
- The first and last desk in a row



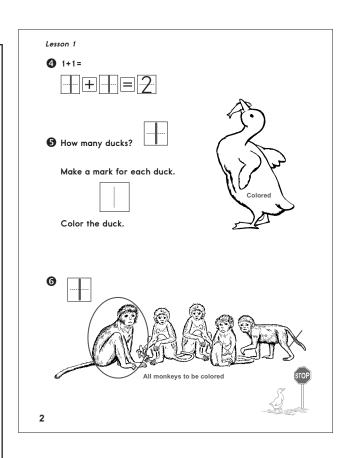
Listen carefully and do what I tell you:

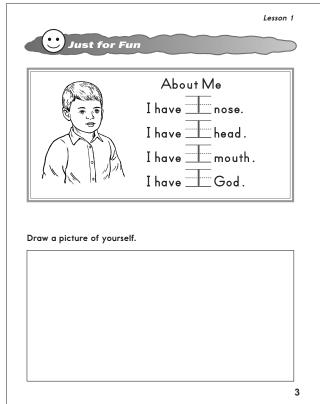
- Underline the first chocolate chip cookie.
- Draw an X on the *last* chocolate chip cookie.
- Turn to the next page. Do you see our new fact at the top of the page? What is it? 1+1=2. Have someone read the fact and then read it in unison.

Write the new fact.

Point to the duck. How many ducks do you see? 1 Write a 1 in the box. What is the rhyme that will help you remember how to write a 1? Let's say it together. "A straight line down, And then you're done— This is how to make a 1."

We will make a mark in the next box to show how many ducks there are. There is one duck so we will make one mark. This





mark shows us how many we have counted. Illustrate on the board.

Now you may color the duck.

6 Look at the monkeys. How many do you see? 5

Listen carefully and follow the directions as I give them:

- Circle the first monkey.
- Put an X on the tail of the *last* monkey.
- How many monkeys are holding a banana? 1 Write the number in the box.
- Color the monkeys.

Just for Fun Activities

These activities are included in some lessons to be used as the teacher wishes. They are not required. Until students learn to read, these activities will need some teacher involvement. Later, students will be able to do them independently.

Lesson 2 (Pages 4, 5)

New Skills / Concepts

- Identify and write 2
- Learn the symbols for plus and equals
- Write facts vertically
- Answer flash cards
- Identify top and bottom
- Understand ordinal numbers second
- Begin memorizing 1+2=3

Class Preparation

- 1-100 Counting Chart (Students will need their counting charts every day. After this it will not be listed under Class Preparation.)
- Plus and equals symbols from the back of the Teacher's Guide (You may prefer to introduce them by writing them on the board.)
- ♦ New Flash Card: Move 1+2=3 from UNUSED FACTS to NEW FACTS.

Meet With Students



• 1 to 15 (Use 1-100 counting chart)

Begin LightUnit Activities

Title Bar

Follow routine as in Lesson 1.

- Flower: Crown of Thorns.
- Description: 2 petals. This flower is prickly like a cactus. It grows well in sunny windows. At first the flowers are yellow to orange. Later they turn to a bright scarlet.
- Rhyme:

Around and back on a railroad track— Two, two, two.

- Count the blocks under the flower. Trace the number in the box.
- **1** Trace the 2's and write three more on the line. You may want to say the rhyme in unison as students write 2.

Review

• The concept of addition

Lay one object on your desk where all can see.

Now count out two more objects and lay them beside the object you already have.

When we add something to the first group, we are joining the two groups.

How many objects do you see now? 3 When we add one object and two objects we have three objects. One plus two equals three. Say it with me, "One plus two equals three."



Introducing Symbols (+ and =)

Write the *plus* and *equals* symbols on the board or use the master in the appendix of this Teacher's Guide.

We use these symbols when we write addition problems. When you see this symbol (point to the plus symbol) we say plus. It means we are joining two groups.

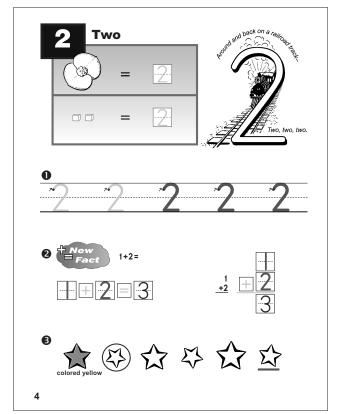
When you see this symbol (point to the equals symbol) we say equals. That means we have just as many on this side of the equals symbol (point to the left of the equals symbol) as we have on this side of the equals symbol (point to the right side of the equals symbol).

At first students may not remember the terms *plus* and *equals*. Keep using them. Eventually they will be using them too.



New Fact: 1+2=3

Introduce the new fact, following the procedure in Lesson 1.





Writing Facts in Vertical Format

There are two ways to write facts. We can write them across or we can write them up and down. Write 1+2=3 vertically on the chalkboard as you explain. Write the first number at the top. Below the first number write the plus symbol and the 2. Under +2 draw a straight line. This straight line is the same as the equals symbol. At the bottom of the fact write the answer.

2 Have students write the two facts. Drill for memorization.

New

Understanding Ordinal Numbers

Place five objects on your desk.

Which object is first? Which object is second? First and second tell which. Which lesson did we do today? The second lesson. Which lesson did we do yesterday? The first lesson. Let's count the objects on my desk using first and second.

- **3** Follow these directions:
 - Underline the last star.
 - Color the first star yellow.
 - Circle the second star.
- 4 Look at the fish at the top of the page. How many do you see? 2 Trace a mark for each fish. How many marks do you see? 2 Write a 2 on the line.

Now you may do the next fish.

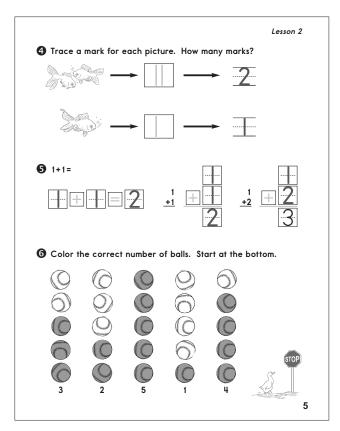
6 Write the facts and the answers. Trace the symbols.

New

Contrasting Top and Bottom

Make sure students understand top and bottom. Have them identify the top or bottom of their desk, a book, a paper, or other items.

6 Look at the balls at the bottom of the page. At the bottom of each stack of balls is a number. That number tells you how many balls to



101 – Lessons 2, 3

color in that stack. Starting at the bottom of each stack, color the amount it tells you to color. If the students cannot read the numbers, tell them how many balls to color.



Flash Cards

- Show students the two flash cards from your flash-card box. What do you think of when you say the lightning flashed or the ambulance flashed past the house? Is something moving slowly or quickly? Quickly.
- When something goes quickly we say it flashed by. That's what flash cards are all about. Each flash card has a fact to memorize. We want to learn these facts so well that I can *flash* the cards to you.
- I will hold up a flash card. Read the fact to me. You may tell me the answer when you know it.

 Practice reading them in this manner several times.
- Now I will *flash* the cards to you. See if you can say them as fast as an ambulance would *flash* past your house. Or as fast as a fire engine would go to a fire. Ready? Let's try!

Practice until students can say the answers quickly.

Lesson 3 (Pages 6, 7)

New Skills / Concepts

- Count from 16 to 20
- Identify and learn to write 3
- Identify a circle
- Learn one more than and to add one
- Introduce the term sum
- Begin memorizing 2+1=3

Class Preparation

- Circle from master in the back of this Teacher's Guide (You may use the chalkboard if you prefer.)
- ♦ New Flash Card: Move 2+1=3 from Unused Facts to New Facts.

Meet With Students



New

Counting From 16 to 20

Point to the numbers from 16 to 20. Today we are going to learn to count from 16 to 20. Read the numbers in unison as you point to each one.

• 1 to 20

Review

- First and last
- Top and bottom

Begin LightUnit Activities

Title Bar

Follow routine as in previous lessons.

- Flower: Snowdrop
- Description: 3 petals. These tiny little plants are the first to bloom in early spring. They have a small light green dot in the center.
- Rhyme:

Around a tree and around a tree— This is how to make a three.

- Count the blocks under the snowdrop. Write the number in the box.
- Trace the 3's and write three more on the lines.

Review

- Plus and equals symbols
- · Writing facts horizontally and vertically
- Concept of addition



New Fact: 2+1=3

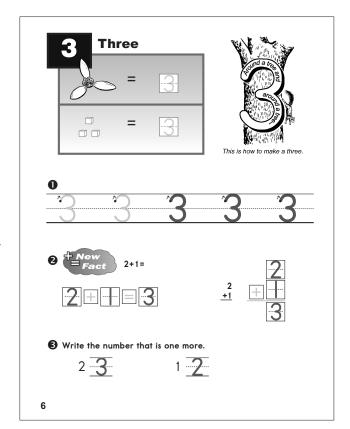
Introduce the new fact, following the procedure in Lesson 1. Use objects to illustrate.

2 Write the new fact. Drill for memorization.



Introducing the Term Sum

The answer to our new fact is called the *sum*. The *sum* is the number that tells how many all together.





Adding One More

Lay two crayons on the corner of your desk. How many crayons do you have? 2 Now count out one more crayon and lay it beside the other crayons. How many crayons do you have now? 3 We say, "Two crayons plus one crayon equals three crayons."

Whenever we add one to a number we can find how many we have by counting one more.

What is two and one more? 3 Two plus one equals three.

What is one and one more? 2 One plus one equals two.

What is five and one more? 6 Five plus one equals six.

Now let's see if we can do a big number. What is 12 and one more? 13 Good! Twelve plus one equals 13.

What is 26 and one more? 27 Twenty-six plus one equals 27.

Give more practice as needed.

3 Write the number that is one more than the given number. Assist students as needed.



4 Practice counting objects by using ordinal numbers through *third* until students are familiar with them.

Follow these directions: Count the pears.

Draw a circle around the first pear in the bottom row.

Draw an X on the last pear in the top row.

Write a 3 on the third pear in the top row.

Write a 2 on the second pear in the bottom row.



Identifying Circles

Display a large circle.

Discuss the characteristics of a circle.

This is a circle. It is round. Does it have any corners? No. Can you tell where a circle begins or ends? No.

A circle is like the love of Jesus. His love has no beginning or ending. It always was and always will be.

I know a song that talks about how God's love is like a circle. Let's sing God's Love Is Like a Circle.

God's love is like a circle,
A circle big and round.

For when you see a circle
No ending can be found.

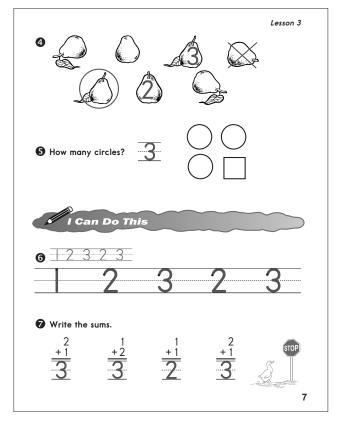
And so the love of Jesus
Goes on eternally.

Forever and forever
I know that He loves me.

5 Count the circles and write how many.

Show students the flash cards from your flash-card box. Every time we learn a new fact we will add a flash card to these flash cards. We will practice them every day so that you learn them well. Learning facts is very important. It will help you when you bake a cake or measure lumber. It will help you do many more things in school and even after you are out of school. Let's learn them the best we can.

- As I hold up a flash card, read the fact to me. Say the sum when you know it.
 Practice reading them in this manner several times.
- Now let's do what flash cards are made for. Let's see how fast I can flash them. Say the sums as quickly as you can.
- → Drill flash cards.



New

I Can Do This

I Can Do This is a section of activities students can do independently. For several lessons you may need to explain each activity to the students. Teach them to work independently as soon as they are capable.

- → Explain and assign *I Can Do This*.
- 6 Copy the numbers in the same order as the small numbers beside No. 6.
- In No. 7, you will write the sums. Who can tell me what a sum is?

Lesson 4 (Pages 8-10)

New Skills / Concepts

- Identify and write 4
- Solve an addition story problem
- Identify left and right
- Begin memorizing 2+2=4

Class Preparation

- Circle from master in the back of this Teacher's Guide (or draw one on the board).
- ♦ New Flash Card: Move 2+2=4 from Unused Facts to New Facts.

Story Problems

Story problems are a very practical part of math. They teach logic and problem-solving skills. Many adults use math mostly in real-life story problems. Some students find solving story problems to be one of the most difficult skills in math. For this reason, we introduce story problems early and continue them daily through the year. We want students to enjoy them. Help the students understand and think through the problems, but don't give too much help too soon or give away the answers. You'll help students most by helping them understand how to solve the problems.

At first you may need to read the problem several times, but work to teach the students listening skills by reading the problem once while you have their full attention. Then if necessary, read the problem again, especially if it is a longer problem. Teach students to listen attentively. As adults, they will be better

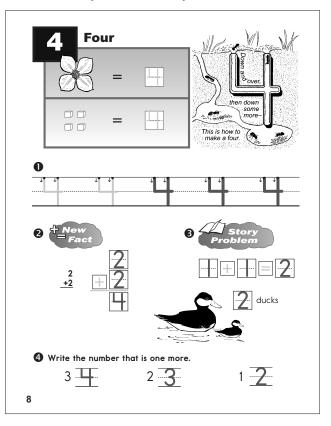
prepared to listen to lectures, sermons, and the still small voice of God.

Read the story problems to the students until they are able to read them on their own. Story problems will not be in the LightUnits until 107. We have not limited the problems to simple, easily read words. It is good for students to begin problem-solving with your assistance. You can help them know how to think through the problems. Later encourage students to work on their own as they are able.

Method to use to solve story problems

- 1. **Read** the story problem to the students.
- 2. **Ask** the students if the story joins groups. When we join groups, we add.

Step 2 may not seem essential at this time, but teach students the habit of asking if it is an addition problem. Later you will use this step to ask if the problem is an addition or subtraction problem.



- 3. **Show** the problem. Have students illustrate the problem with objects from the classroom. Show them the groups and how they are joined into one group. This step may be omitted when it is no longer needed.
- 4. Write the problem. Have the students trace and write the addition sentence.
- 5. **Answer** the problem.

Meet With Students



• 1 to 20

New

Identifying Left and Right

Many people write (make motions to illustrate writing) with their right hand (raise right hand).

But God made some people to write with their left hand. One way is just as good as the other.

God made people to do things in different ways.

What are some things you do with your right hand? left hand?

Raise your left hand if you write with your left hand. Raise your right hand if you write with your right hand.

Touch your left ear.

Lift your left elbow.

Stomp your right foot.

Rub the left side of your desk.

Cover your right eye.

Use the rhyme below to reinforce right and left.

Left Hand, Right Hand

This is my left hand (Hold out hand)

This is my right. (Hold out hand)

Up, up left hand (Raise left hand)

Up, up right. (Raise right hand)

Wave high, left hand, (Wave left hand)

Wave high, right hand, (Wave right hand)

Down comes my left hand, (Lower left hand)

Down comes my right. (Lower right hand.)

Use *left* and *right* as often as possible in your instructions. Give practice often throughout the day. Examples: Hand your papers in with your left hand. Stand on your left foot and hop to the door. Hold your left elbow with your right hand while going out for break, etc.

Begin LightUnit Activities

Title Bar

Follow the usual routine.

- Flower: Clematis
- Description: 4 petals. These plants climb anything that will hold them. They often climb on a wire or a trellis. They can be white, blue, or reddish purple. The seeds are white and hairy looking. Sometimes this vine is called *Old Man's Beard*.
- Rhyme:

Down and over, then down some more— This is how to make a four.

1 Trace and write 4 on the lines.



2+2=4

Review

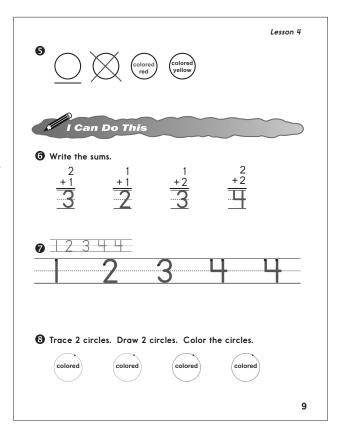
- The concept of addition
- The plus and equals symbols

Introduce the new fact.

2 Copy the new fact and write the sum.



Story Problem



New

Solving Story Problems

- **3** Use the five steps to solve the story problem.
- 1. READ THE PROBLEM.

Debbie Duck was swimming alone on the pond. Mama Dora Duck came to swim with her. How many ducks were swimming on the pond?

2. Ask if the story joins groups.

Does this problem join groups? yes

3. Show the problem.

Look at the picture of Debbie Duck and Mama Dora Duck. When Debbie Duck was swimming alone on the pond, how many ducks were on the pond? 1

When Mama Dora Duck joined her, how many ducks were swimming on the pond? 2

4. WRITE THE PROBLEM.

Now we will write the problem. First, there were how many ducks on the pond? 1 Write the 1 in the first box above the ducks. How many ducks came to swim with Debbie Duck? 1 Write 1 in the second box.

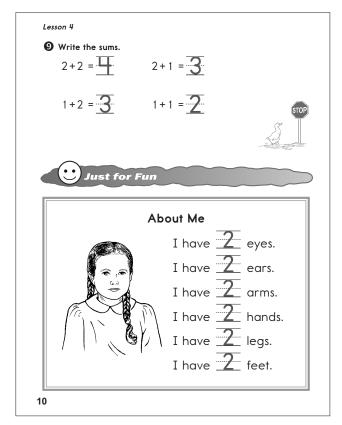
5. Answer the Problem.

One plus one equals what? 2 Write it in the answer box beside the equals symbol. One duck plus one duck equals how many ducks? 2 ducks Write the 2 in the box beside the ducks. The word beside the answer says ducks. Let's read our answer together: "2 ducks."

4 Assist as needed.



- Count from first to third in unison.
- Place several objects on your desk. Ask students to point to the second object. The first object. The third object.
- Introduce fourth.
- **6** Follow these instructions:
 - Color the third circle red.
 - Underline the first circle.
 - Color the fourth circle yellow.
 - Put an X on the second circle.
- → Drill flash cards.
- → Explain and assign *I Can Do This*. For No. 8, tell students to begin drawing the circle at the dot and trace to the left.



Lesson 5 (Pages 11, 12)

New Skills / Concepts

- Identify and write 5
- Begin memorizing 1+3=4

Class Preparation

♦ New Flash Card: Move 1+3=4 from Unused Facts to New Facts.

Meet With Students



• 1 to 20

Optional Activity

Write the numbers 1 to 4 on index cards, one number on a card. Have students order (place in the correct order) the number cards by making a row with 1 on the left and 4 on the right.

Review

· Left and right

Teaching the LightUnit

Title Bar

Follow the usual routine.

- Flower: Wild flax
- Description: Five petals. The pretty blue flowers fall off every day, but many more are there the next day. This flower was common where Jesus lived. He probably saw it often. It likes a dry sunny place to grow.
- Rhyme:

Down the trunk and around the tree—Add a branch. It's five, you see!

Trace and write 5 on the lines.



1 + 3 = 4

Introduce and illustrate the new fact. When we add one we find the sum by counting one more.

Review

- The concept of addition
- Plus and equals symbols
- **2** Write the new fact and the sum. Drill for memorization.

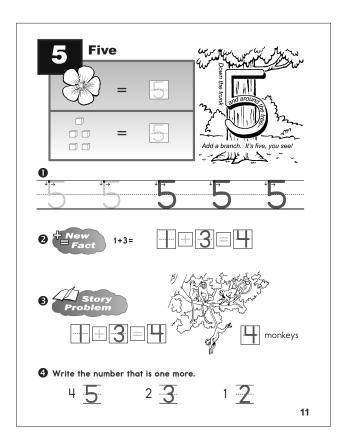


Story Problem

3 Use the steps from Lesson 4 (pp. 12, 13) to solve the story problem.

One summer day the Yoders went to the zoo. They saw Marvin Monkey swinging from a branch by his tail. Three more monkeys watched from the branch above. How many monkeys were in the tree? 1+3=4 monkeys

4 Assist as needed.

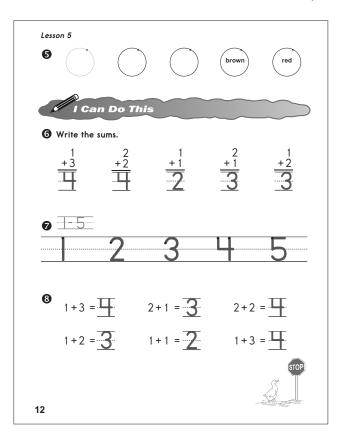




6 Review ordinal numbers and introduce *fifth*.

Follow the directions:

- Trace the circle.
- Draw four more circles.
- Color the fifth circle red.
- Color the fourth circle brown.
- → Drill flash cards.
- → Explain and assign *I Can Do This*. For No. 7, explain that the little mark between the *I* and the 5 means that they are to write all the numbers from 1 to 5.



Lesson 6 (Pages 13-15)

New Skills / Concepts

- Count 20 to 30
- Identify and write 6
- Identify and learn the value of a penny
- Identify *large* and *small*
- Identify *larger* and *smaller*
- Begin memorizing 3+1=4

Class Preparation

• Money Cup – 5 pennies

You will need the money cup for the first several LightUnits. Use a mug, jar, paper cup, or similar container. You or one of the students may prepare the money cup for each day. When it is time to use it, each student will count the money individually and write the answer in the LightUnit.

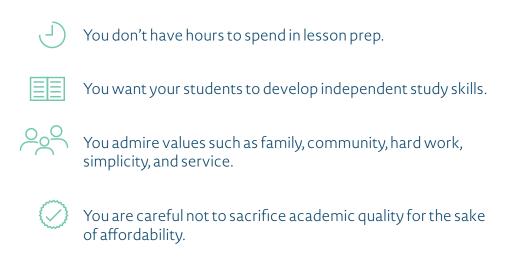
♦ New Flash Card: Move 3+1=4 from UNUSED FACTS to NEW FACTS.

Your Homeschooling Journey

Every family has its own unique story, but some things are the same. Sorting through dozens of options to choose a curriculum that meets your standard of quality, teaches your values, and works well for your child can make your head spin.

And then there's **the daily dose of grit and grace** needed to homeschool while keeping up with the whirlwind of everyday life.

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