Unit 1
Addition and Subtraction Strategies Within 20
These are the targets, or skills, your child should be able to do by the end of this unit:

Vocabulary		
symbol **something that stands for something else** **7, +, ¢, $,**	**difference** **8 – 3 = 5** answer in subtraction	**whole number** **a number that tells how many complete things there are** **1, 2, 3, 0 are** **½, ¾ are not**
digit **0, 1, 2, 3, 4, 5, 6, 7, 8, 9** one of the number symbols	**number** **A symbol used for a value or quantity** **1, 2, 3, … or 1st, 2nd, 3rd …**	**pattern** ☆ △ ☆ △ design that repeats

1) Should be able to order numbers from 0 to 1,000.

2) Should be able to skip count.

3) Recall basic facts.
Use these sites for practice: Addition   Subtraction

Should be able to use various strategies for adding and subtraction, such as counting on (count on cards, red count on cards), make a ten (see video), use addition to subtract (see video), Power of Ten, doubles, and doubles plus one.

4) Be able to complete a partner house containing all related facts:

Example:

```
        7
┌───────────┬───────────┐
│   1+6     │    6+1    │
├───────────┼───────────┤
│   2+5     │    5+2    │
├───────────┼───────────┤
│   3+4     │    4+3    │
└───────────┴───────────┘
```

5) Be able to solve addition and subtraction word problems that involve joining, separating, and comparing. Should be able to draw a proof picture, as well.

Example:

Joining:
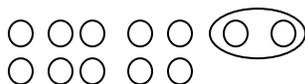Michael has 5 pencils. His mother gives him 4 more. How many does he have now?

○ ○ ○ ○ ○ | ○ ○ ○ ○

Michael has 9 pencils now.

Separating:
Christy has 8 balloons. Three of them pop. How many balloons are left?

○ ○ ○ ○ ○ Ø Ø Ø

Christy has 5 balloons left.

Comparing:
Tom has 7 cookies. Tyrell has 5 cookies. How many more cookies does Tom have?

○ ○○ ○○ ⊙ ○
○ ○○ ○○

Tom has <u>2 more cookies</u> than Tyrell.

6) Solve equations in which the unknown number appears in a variety of positions.
   Example:

   $7 + \boxed{} = 11 \qquad \boxed{} + 4 = 11 \qquad 7 + 4 = \boxed{}$

7) Can name each US coin and its value.

penny   1¢

nickel 5¢

dime   10¢

quarter 25¢

8) Can determine the value of a collection of coins in dollar and cent notation.

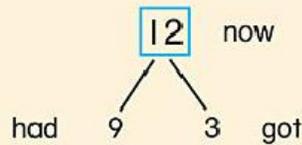   Example:

   10   15   20   21   22   **22¢**

or
$0.22

Students should know the following types of problems:

Change Plus Problem

Joe had 9 toy cars.
Then he got 3 more.
How many toy cars does he have now?

9 + 3 = [12]
had   got   now

[12] now
had   9   3   got
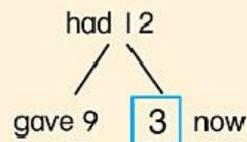
9
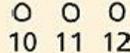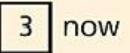9 + 3 = [12]

Change Minus Problem

Sue had 12 books.
Then she gave her friend 9 books.
How many books does Sue have now?

12 − 9 = [3]
had   gave   now

had 12
gave 9   [3] now

had 12
gave 9

o   o   o
10 11 12
[3] now

Collection Problems:

Ann had some tomato vines. She planted 8 in the front yard and 6 in the back yard. How many vines did she have?

Front 8 ooоooo

$8+2=10$ $10+4=14$ or $8+6=14$

14 vines in all

Ann had some 14 tomato vines. She planted 8 in the front yard and some in the back yard. How many vines did she plant in the backyard?

Front 8 oooooo   count on

8, 9, 10, 11, 12, 13, <u>14</u>   or $14-8=6$

6 vines in the backyard

Comparison Problems:

Sue has 5 balloons. Mike has 7 balloons. How many more does Mike have than Sue?

Mooooooоo $7-5=2$

Soooоo

Mike has 2 more balloons

Not Enough Information
Lessons 8, 12, and 13

Occasionally, children will encounter story problems that cannot be solved because they do not contain enough information. Children use Math Mountains, equations, and drawings to determine what might be wrong with the problem. Occasionally, children will be asked to supply missing information to help them solve the problem.
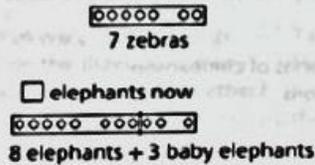
Sam has 8 pretzels. His friend Lydia has some too. How many pretzels do they have in total?

total

$8 + \square = \square$

S   L   T

8 + [ ]

Sam   Lydia

pretzels

○○○○○ ○○○

Sam 8 pretzels + pretzels Lydia
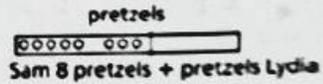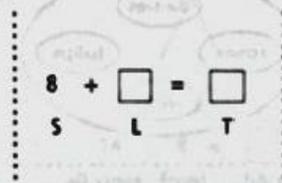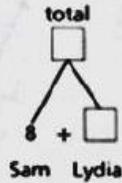
Extra Information
Lessons 8, 12, and 13

Problems with extra information have more information than is needed to solve the problem. Children may find it helpful to cross out the unnecessary information in the problem. They use drawings, equations, and Math Mountains to represent the needed information to solve.

The zoo had 8 elephants and 7 zebras. Last month 3 baby elephants were born. How many elephants are there at the zoo now?

○○○○○ ○○
7 zebras

[ ] elephants now

○○○○○ ○○○○ ○

8 elephants + 3 baby elephants

$8 + 3 = \square$

e   be   e

e

8 + 3

e   be