Examples for each lesson

Lesson 3.1

Use Doubles Facts

Use doubles facts to help you find sums.

If you know $6 + 6$, you can find $6 + 7$.

$\boxed{6 + 6 = 12}$

\[
\begin{array}{c}
\text{6} \\
\text{6}
\end{array}
\]

$7$ is $1$ more than $6$.
So $6 + 7$ is $1$ more than $6 + 6$.

$\boxed{6 + 7 = 13}$

More information on this strategy is available on Animated Math Model #11.

Lesson 3.2

Practice Addition Facts

Use what you know to find sums.

Add in any order.

$\boxed{3 + 5 = 8}$

$\begin{array}{c}
\star \star \star \\
\star \star \star \star \star 
\end{array}$

If you know $3 + 5$, then you know $5 + 3$.

$\boxed{5 + 3 = 8}$

$\begin{array}{c}
\star \star \star \\
\star \star \star
\end{array}$

Count on to add. To add $1$, $2$, or $3$ to any number, count on from that number.

$\boxed{5 + 1 = 6}$

More information on this strategy is available on Animated Math Models #12, 13, 14, and 15.
Lesson 3.3

**Algebra • Make a Ten to Add**  Add and subtract within 20.

\[ \begin{array}{c}
8 + 5 = \_ \\
\text{Step 1} \quad \text{Start with the greater addend.} \\
\quad \text{Break apart the other addend to make a ten.} \\
\hline
\begin{array}{c}
\text{8} \\
\text{8} \\
\hline
\text{5} \\
\text{5}
\end{array}
\end{array} \]

\[ \begin{array}{c}
8 + 5 = \_ \\
\text{Step 2} \quad \text{You need to add 2 to 8 to make a ten. So, break apart 5 as 2 and 3.} \\
\quad \text{8 + 2 = 10} \\
\hline
\begin{array}{c}
\text{8} \\
\text{8} \\
\hline
\text{2} \\
\text{5}
\end{array}
\end{array} \]

\[ \begin{array}{c}
\text{Step 3} \quad \text{Add on the rest to the 10.} \\
10 + 3 = 13 \\
\hline
\begin{array}{c}
\text{8} \\
\text{8} \\
\hline
\text{5} \\
\text{5}
\end{array}
\end{array} \]

\[ \begin{array}{c}
\text{Step 4} \quad \text{Write the sum.} \\
8 + 5 = 13 \\
\hline
\begin{array}{c}
\text{8} \\
\text{8} \\
\hline
\text{5} \\
\text{5}
\end{array}
\end{array} \]

More information on this strategy is available on Animated Math Model #16.

Lesson 3.4

**Algebra • Add 3 Addends**  Add and subtract within 20.

Add numbers in any order.  The sum stays the same.

\[ \begin{array}{ccc}
1 + 4 + 6 & = & 11 \\
5 + 6 & = & 11 \\
1 + 10 & = & 11 \\
7 + 4 & = & 11
\end{array} \]

More information on this strategy is available on Animated Math Model #17.

Lesson 3.5

**Algebra • Relate Addition and Subtraction**  Add and subtract within 20.

Use addition facts to help you subtract.  Think of 8 + 7 = 15 to find the difference for a related fact: 15 - 7 =

\[ \begin{array}{c}
\begin{array}{c}
\text{8} \\
\text{8} \\
\hline
\text{7} \\
\text{7}
\end{array} \\
8 + 7 = 15 \\
\begin{array}{c}
\text{15} \\
\text{15} \\
\hline
\text{8} \\
\text{8}
\end{array} \\
15 - 7 = 8
\end{array} \]

More information on this strategy is available on Animated Math Model #18.
Lesson 3.6

Practice Subtraction Facts

Add and subtract within 20.

Here are two ways to find differences.

10 - 3 = ?

Count back 1, 2, or 3.

10 - 1 = 9

10 - 2 = 8

10 - 3 = 7

Think of a related addition fact.

3 + 7 = 10

so, 10 - 3 = 7

More information on this strategy is available on Animated Math Models # 18, 19, 20, and 21.

Lesson 3.7

Use Ten to Subtract

Add and subtract within 20.

You can get to ten to help find differences.

13 - 7 = ?

Step 1 Start with the first number.

Step 2 Subtract ones to get to 10.

13 - 3 = 10

Step 3 Subtract the rest from the 10.

Think: I had 7. I subtracted 3 to get to 10.

Now I subtract the 4 I have left.

10 - 4 = 6

Step 4 Write the difference.

13 - 7 = 6
Lesson 3.8

Algebra • Use Drawings to Represent Problems

You can use bar models to show problems.

There are 5 girls and 11 boys at the park.
How many more boys than girls are at the park?

How many boys?

11

How many girls?

5

6

Write a number sentence. 11 - 5 = 6
There are 6 more boys than girls.

More information on this strategy is available on Animated Math Model #22.

Lesson 3.9

Algebra • Use Equations to Represent Problems

Some red fish and 9 green fish are in a tank.
The tank has 14 fish. How many red fish are there?

9

14

Write a number sentence.
Use a [ ] for the missing number.

14 - 9 = [ ]

5 red fish in the tank.

More information on this strategy is available on Animated Math Model #23.
Lesson 3.10

Problem Solving • Equal Groups
Clarence puts grapes in 4 rows. He puts 5 grapes in each row. How many grapes does Clarence have?

Unlock the Problem

<table>
<thead>
<tr>
<th>What do I need to find?</th>
<th>What information do I need to use?</th>
</tr>
</thead>
<tbody>
<tr>
<td>how many grapes</td>
<td>Clarence has 4 rows of grapes.</td>
</tr>
<tr>
<td></td>
<td>He puts ___ grapes in each row.</td>
</tr>
</tbody>
</table>

Show how to solve the problem.

Clarence has 20 grapes.

Lesson 3.11

Algebra • Repeated Addition

Find the total number of cats.

- Circle each row.
- Count how many rows.
  \[ \frac{3}{4} \] equal rows
- Count how many in one row.
  \[ \frac{4}{4} \] cats in one row
- Write an addition sentence. Add the number of cats in each row.

\[ 4 + 4 + 4 = 12 \]

Vocabulary

Sums – the answers to addition problems

Addends – any of the numbers that are added

Differences – the answers to subtraction problems