Sample Apologia Mathematics level 2

COMPLETE SUPPLY LIST

- Base ten blocks
- Linking cubes
- 3D shape solids
- Pattern blocks
- Addition flashcards (up to 20)
- Subtraction flashcards (up to 20)
- LEGO® bricks
- Dominoes
- Dice
- A timer
- Colored pencils
- Tape or glue
- Scissors
- Small objects (such as pennies, beans, etc.)
- Ruler with inches and centimeters
- A paper clip
- Masking tape
- Numbered cards such as Uno® cards
- Notecards
- Oreo® cookies
- M&M's®
- Two Styrofoam® cups
- Five slips of paper or Post-it Notes®
- One manila folder
- Two large sheets of chart paper or poster board
- Markers
- Coins
- Two brown paper bags
- A dollar bill (real or fake)

- Three paper plates
- A brass fastener
- Flyers and magazines
- A stapler
- Inch squares
- Playdough®
- Construction paper
- Googly eyes, feathers, glitter, etc. (optional)
- A tape measure
- Yarn or twine
- A plate
- Dot stickers
- A balloon
- An empty plastic bottle
- 1 cup white vinegar
- 3 tsp. baking soda
- A funnel
- Bean seeds
- Potting mix
- Four small pots or cups
- A tray
- Pretzels and small marshmallows
- Pizza dough
- Cornmeal
- Pizza sauce
- Shredded mozzarella cheese
- Assorted pizza toppings
- A rolling pin
- Baking sheets

PLACE VALUE EXPLORATION

You Will Need:
- ☐ Paper
- ☐ Pencil
- ☐ Timer
- ☐ Colored pencils (to be used later)
- ☐ Lesson 1 Activity Sheet (to be used later)

You Will Do:
1. Have your parent or a friend set the timer for one minute. Draw as many stars as you can on the piece of paper.
2. When the minute is up count up your stars.
3. Switch and have your parent or friend try while you time them. Who can draw the most? Record the winner in the space below.
4. Reflect. How did you count up the stars? Did you group them to help you keep track? Talk with your parent about what you did.
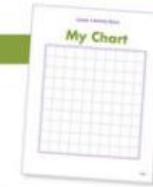
Minute to Win It Stars Champion:

_____

_____ drew _____ stars in one minute.

Practice

My Chart

Carefully tear out the Lesson 1 Activity Sheet from the back of the answer key.

1. Look at the grid. How many total squares do you think there are?

   I guess there are _____ squares.

2. Start numbering the squares in order from left to right starting in the top row. Fill in the numbers 1 to 23.

3. Take another guess about how many squares are on the grid.

   I guess there are _____ squares.

4. Fill in the rest of the squares to check your answer. Have your parent look over your chart to make sure you numbered it correctly.

   There are _____ squares.

5. Now take out your colored pencils. We are going to color in certain parts of the chart to see if we notice any patterns. Color every number on the grid that ends with a zero green. Do you notice a pattern?

6. Color all the numbers that have a 4 at the end red. Do you notice a pattern? Talk with your parent about this.

Challenge!

Color each number whose digits add to ten blue. What pattern do you notice?

TENS AND ONES

You will Need:

☐ Base ten blocks

☐ Hundreds chart (in the back of answer key)

You Will Do:

1. Carefully tear out the hundreds chart from the answer key.

2. Use your base ten blocks to model the number 34 on your hundreds chart. First, cover the top three rows with ten rods. Now use 4 unit cubes to cover up 31, 32, 33, and 34.

3. Fill in the blanks below.

34 = _____ tens and _____ ones

4. Model each of the following numbers below by laying the base ten pieces on the hundreds chart.

5. Write in how many tens and ones are in each number.

Number	Place Value
23	_____ tens and _____ ones
84	_____ tens and _____ ones
31	_____ tens and _____ ones

Place Value with Base Ten Blocks

Our numbering system uses groups of tens to help us keep track of large numbers. When we write numbers down we use symbols called digits. In the unit opening you saw some of the picture or letter symbols that other cultures used. In our system we can write any number using these ten different digits.

$$0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7 \ 8 \ 9$$

We use digits and place value to record numbers. Isn't it cool that we can write all numbers using just these ten digits? Place value just means that where you write a digit determines its value. Two-digit numbers have a tens place and ones place.

42

4 tens   2 ones

If you switch the places of the digits you get a different number.

24

2 tens   4 ones

Digit: A symbol we use to write numbers.

Place value: A system of writing numbers where the location of a digit affects its value.

Place value allows us to write large numbers using only a few digits.

Practice

Use place value to write the numbers modeled with the base ten blocks. Count the ten rods first and write that number in the tens place. Then count the unit cubes and write that number in the ones place. Lastly, write the number using place value. The first one is done for you.

tens = 1   ones = 4

14

tens = ___   ones = ___

___

tens = ___   ones = ___

___

tens = ___   ones = ___

___

tens = ___   ones = ___

___

tens = ___   ones = ___

___

Challenge!

Challenge: Make the first letter of your name using base ten blocks. If the first letter of your name has a curve use the single cubes to make the curve as best you can. When you are done add up all the base ten blocks. What is the value of the letter?

My letter equals _____ **base ten blocks.**

RIGHT DIGIT, RIGHT PLACE

You Will Need:
- ☐ Paper
- ☐ Pencil

0 1 2 3 4 5 6 7 8 9		
Guess	Digit	Place
73	1	0
25	0	0
43	1	1
47	2	2

You Will Do:

1. Have your parent pick a secret two-digit number. Your job is to guess their number.
2. Write your first guess in the left column.
3. Now your parent looks at your guess. They write down how many digits are correct and then how many of them are in the correct place. The sample game board above demonstrates this.
4. Continue guessing. If you realize a certain digit definitely isn't in the number then cross it off at the top. In the example, the student knew that neither 2 nor 5 was in the answer.

0 1 2 3 4 5 6 7 8 9		
Guess	Digit	Place

Expanded Form

Expanded form: A way of writing numbers that shows the value of each digit.

In the last lesson, you practiced using place value to write numbers that were represented with base ten blocks. Another way to write numbers is in expanded form. Expanded form shows the value of each digit. Look at the example below.

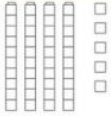| Standard Form	Expanded Form
47	40 + 7

Practice

Practice writing numbers in different forms by completing the table below. You can use lines and dots to draw the base ten blocks.

Number	Expanded Form	Base ten blocks
68	☐ + ☐	
	20 + 1	
	☐ + ☐	
53	☐ + ☐	
	70 + 8	

Number	Expanded Form	Base ten blocks
45	☐ + ☐	
	60 + 6	
92	☐ + ☐	

Circle the value of the red digit.

|		
3**2** 2 20	**2**9 2 20	3**4** 3 30
5**1** 1 10	7**2** 2 20	**8**3 8 80

NUMBER MATCHING CARDS

You Will Need:
☐ Lesson 4 Activity Sheets (in the back of the answer key)
☐ Scissors

You Will Do:
1. Carefully tear out the activity sheets from answer key.
2. Cut out the different puzzle pieces or have a parent help you.
3. Match the pieces together. There are four different pieces for each number.
4. When you have matched 4 pieces, check your answer with your parent.
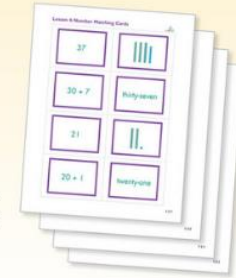
Number Word Names

Sometimes we need to write out a number using words instead of digits. Practice reading the numbers in this chart out loud.

1	one	6	six
2	two	7	seven
3	three	8	eight
4	four	9	nine
5	five	10	ten