**Early Childhood Lesson Plan Format**

**Name:** Breanna Wisnor **Grade:** 3rd

**Topic:** Place Value: Adding to the Ten Thousands

**1. OHIO ACADEMIC CONTENT STANDARD(S)**

[CCSS.Math.Content.3.NBT.A.2](http://www.corestandards.org/Math/Content/3/NBT/A/2) Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

**2. OBJECTIVES**

* Students will be able to name each digit’s place in the place value system up to the ten thousands.
* Students will be able to represent five-digit numbers using manipulatives.

***3. LESSON SUMMARY***

* On day one of this unit, I will provide spaces for students to inquire about mathematical ideas in several ways. First, I will read aloud a few pages from the book “Count to a Million”. During the read aloud, I will help students inquire about mathematical ideas by asking questions.I will then introduce the lesson by modeling a think aloud demonstrating the concept of representing 5-digit numbers using cups (labeled with each place value) and straws (representing numbers). I will ask students to help me solve the problem to encourage mathematical inquiry. I will then briefly describe what students will be doing at each station. I will quickly model how to do each activity by doing a sample problem with the students. I will mainly focus on the “name that number” and SmartBoard activities since I will be working closely with students during the m&m activity. After modeling, I will provide proper motivation by having students rotate in small groups to different centers. Students are grouped by ability based on AIMS web test scores and my pre-assessment results. This was done to help me differentiate instruction. Each center will include a game or interactive activity. The manipulatives at each center will serve as an excellent educational resource to stimulate learning. Proper challenges will be provided because students will be broken into ability groups. We will conclude the lesson with a final discussion of what we learned. Students will also inquire about mathematical ideas by working an addition problem to the ten thousands. This skill will be addressed the following day.

**4. RESOURCES**

* Book “Count to a Million”
* 5 place-value labeled cups
* Pack of straws
* m&m’s (mini and regular sized)
* m&m math worksheets (place value placemats)
* dry erase boards and markers (for each student + teacher)
* pencils (student provided)
* deck of playing cards (with only numbers 2-9)
* “Name that Number” worksheet

\*SmartBoard with base ten blocks and slides with numbers to represent (increased difficulty as slides progress)

* Base ten blocks
* Half sheet of paper (Mystery box answer)
* Mystery box

**5. PROCEDURES**

* READINESS
  + To spark interest in the lesson, I will read a few pages from “Count to a Million”. I will ask questions while reading to connect to previous lessons and activate prior knowledge.
* *Who knows how to count to a million? (I know how to count to a thousand)*
* *The book we are going to look at today tells you just how big the number one million is! We are only going to focus on counting to ten thousand today but I will leave the book out this week if you want to learn how to count all the way up to a million.*
* I will then begin reading.
* *What place value is the 8 in?(ones)*
* *What place is the 2 in in the number 21?(tens)*
* *What place is the 5 in in 543? (hundreds)*
* *This is one group of … (ten)*
* *One hundred is ten groups of… (ten)*
* *…700, 800, 900…(1,000)*
* *What place is the 1 in in the number 1,000? (thousands)*
* *What’s the next column in the place value system? (ten thousands)*
* *Try to remember some of the things we just discovered while we look more closely at place value.* 
  + To introduce the lesson, I will model with a think aloud by naming each place value and representing 5-digit numbers with cups and straws. I will encourage student participation.
    - Put cups in the correct order.
    - *I have five cups with five different place values written on them. What comes first? The hundreds cup? (no, the first cup is the ones cup)*
    - *What comes after the ones cup? (the tens cup)*
    - *What comes after that? (the hundreds cup)*
    - *And then? (the thousands)*
    - *So the ten thousands cup comes last? (yes)*
    - *Why does the ten thousands cup come after the thousands cup? (because tens come after ones)*
    - Ask students to come up with a five-digit number.
    - *When I point to you, give me a number 0-9.*
    - *(The five students I point to will each give one of the digits for our 5-digit number)*
    - *I will write down this number on the dry erase board*
    - Put x amount of straws in correct cup to represent number (i.e. 12,345 = 1 straw in the ten thousands cup to represent 10,000; 2 straws in the thousands cup to represent 2,000; 3 straws in the hundreds cup to represent 300; 4 straws in the tens cup to represent 40; 5 straws in the ones cup to represent 5).
    - *Let’s say this big number out loud together (i.e twelve thousand three hundred AND forty-five)*
    - *That was a good shot! Let’s say it one more time but this time I’m going to challenge you. This time, say the number without saying the word “and”. (twelve thousand three hundred forty-five)*
    - *Nice job! We want to leave that “and” out because when you start learning about decimals, the word “and” will mean there is a decimal point in the number.*
* I will then briefly describe what students will be doing at each center.
* *I know now that you know how to say that number out loud and we obviously know how to write the number in \*standard form but who thinks they know how to write this number in \*expanded form? When we write in expanded form, we write each individual number from left to right. To hold the place of the other numbers, we add zeros. There are addition signs to separate our place value positions and to show us that if we add each set of numbers together, it equals our original number.* I will write \_0,000+\_,000+\_00+\_0+\_ on the board. *Does someone think they can finish this problem? (choose student). Will you come up to the board and show us how to write this number in expanded form? (10,000+2,000+300+40+5)*
* *Do you guys notice how s/he kept each number in the correct place value and then added zeros to replace the remaining numbers? (yes)*
* *Raise your hand if you think you know what 10,000+2,000+300+40+5 equals? What would we get if we added all those numbers up? (call on one student: 12,345)*
* *WOW! How cool is that?!*
* *The last way I want to see you represent these numbers is in written form. Who thinks they could write this number using words? (twelve thousand three hundred forty-five).*
* *Nice job! How did you know what to write? (You just write it how you say it)*
* *Does everyone understand what s/he is saying? (yes)*
* *So if we know how to say it, we know how to write it!*
* *In a few minutes, you are going to be practicing this skill. At the “name that number” center, you will be flipping over five cards. You will lay them out to represent a five-digit number. In each of these boxes, you will be writing the number. Then you will follow this worksheet to do exactly what we just did by writing the number in several different ways.*
* I will then get out the base ten blocks.
* *Raise your hand if you have used these before.*
* *This little one is called a unit and represents what number (one)*
* *This one is called a long and represents ten.*
* *Who knows how many longs are in a flat? (10)*
* *How did you know that? (Because they build on each other. Each one is made of ten smaller ones)*
* *Really? So 10 units equals I long? 10 longs equals a flat? 10 flats equals a cube? (YES)*
* *Remember that for tomorrow.*
* *So this one is called a flat and represents 100, right? (yes)*
* *What number does the cube represent? ((1,000)*
* *Okay, so if we wanted to show 2, 345 using base ten blocks, how would we do that?(2 cubes, three flats, 4 longs and 5 units)*
* *Does everyone agree with this? (yes)*
* *This is exactly what you will be doing at the SmartBoard center. There will be a number for you to represent using the base ten blocks. ONE person will use the base ten blocks on the SmartBoard to show the answer while everyone else uses the actual blocks. Once everyone agrees on how many units, longs, flats and cubes there should be, you will move on to the next slide and someone else will get a turn at the SmartBoard.*
* *Questions about this?(answer any questions)*
* *I am going to set a timer so we know when to switch groups. When you hear the timer go off, quickly clean up and rotate to the next center. I will direct you where to go once the timer goes off.*
* *I will be working with the m&m group. I will be walking around every so often to answer questions. Try solving problems together with your group members. If you are still having trouble, stay at your center and raise your hand and I will be over to help as soon as possible.*
* I will call out students’ names to put them in groups and direct them where to go.
* FOCUS OF LESSON
* M&M Math
* I will pass out the place value chart and m&ms to each student.
* *In front of you, you see a place value chart.*
* *Everyone put your finger in the thousands place…in the tens place… in the ten thousands place… in the ones place…in the hundreds place.*
* I will observe to make sure all students point to the right box and help those who aren’t sure.
* *The highlighted spot in the bottom of each box shows you were the number would go if you wrote the number out using numerals instead of words.*
* *Using your m&m’s, show me the number 34,241. Use your own mega math mind to figure it out!* (Write this number on a dry erase board for students to see)
* (After each student is done…)
* *Now, talk to your shoulder partner and compare answers. Talk about the answers you got and how you got that.*
* *So now let’s share with each other. How did you come up with your answer? (I see there were 3 in the 10,000s, 4 in 1,000s, 2 in the 100s, 4 in the 10s and 1 in the 1s)*
* *But with the base ten blocks, the bigger blocks represented bigger numbers. How did you know to put only 3 in the 10,000s place. (Because you can’t count 10,000 m&ms)*
* *Okay, so each m&m represents a different number depending on which box we put it in. Interesting!*
* Name that Number
* Students will be grouped by ability based on AIMS Web scores
* In small groups, students will flip over 5 cards
* Using the worksheet provided, students will write down the number on each card in the boxes on their worksheet
* They will then say the number out loud (the worksheet prompts them on how to do this)
* Students will then write the 5-digit number following the worksheet prompt
* Using the guide on the worksheet, students will write the number in expanded notation
* Students will then write this number using words by following the guide on the worksheet
* If students finish early, they will check their answers with other group members and discuss any differences.
* Once everyone agrees on the answers, students will take a new blank sheet and begin again.
* Although I will be mainly facilitating the m&m math center, I will walk around and make sure students understand the directions and are staying on task.
* Base Ten Blocks
* One at a time, students will take turns using the interactive SmartBoard manipulatives. Those who are not at the board will be solving the problem using typical base ten blocks.
* There will be a number on the slide for the students to represent using the base ten blocks. Once everyone in the group has solved the problem and the group agrees on one final answer, they can move on to the next slide.
* Students will need to apply their understanding of place value in order to complete this assignment.
* This center is similar to m&m math because it challenges the student to begin thinking abstractly about math. Like m&m math, it also uses shapes/objects to represent numbers.
* The slides get progressively harder as the students advance.
* Although I will be mainly facilitating the m&m math center, I will walk around and make sure students understand the directions and are staying on task.
* CLOSURE
* To wrap up the lesson and reinforce the learning, we will have a discussion at the community center about we learned. Students will share something new they learned, something they discovered or something they found interesting.
* *What was something new you learned today or something you found interesting? (you can write numbers in different ways. I learned how to write in expanded notation. I learned if you add up all the numbers in expanded notation, it equals the number you started with).*
* *These are all great ideas! Using the half sheet of paper you have in front of you, I want you to write down and solve the problem I have written on the whiteboard (11,324 + 20, 253=?)*
* I will give students time to do this. Once they have their answer written down, they will fold their paper in half and place it in the mystery box.
* *Nice work today! Tomorrow we will be working more closely with addition problems like the one we just solved.*
* *Once you have turned your paper into the mystery box, go ahead and head back to your seats for NNI. Great work today, everyone!*
* ASSESSMENT

\*See attached assessment sheet in Excel

* I will determine what students have learned by collecting evidence to document student progress. I will have a checklist for each day of teaching. While students work in centers, I will move from group to group and document student progress.
* I will use this information to direct my instruction. I will have flexible groups during this unit. If students need additional support, I will move them down one level. I will move students up a level if they need more of a challenge. This will also determine how deeply I must go into detail when reviewing the next day.
* **ENRICHMENT**
* To extend or enrich their learning, students could take a math walk and practice saying 5 digit house numbers using the correct place value language.
* I have further enriched learning throughout this unit by having printed definitions of the vocabulary words used throughout the week up on the math wall. I also have a place value chart hanging with removable number cards to switch out each day so students can practice saying 5 digit numbers out loud. There is also a place for students to “tweet about math”. The tweet of the week was “What is the biggest number you can read?”. Students then write their answers under my “tweet”. I also included a paragraph in the parent letter about what we would be covering throughout the week and ways to practice at home.

1. **DIFFERENTIATION**

* This lesson is differentiated by ability groups. Because the problems at each center get progressively harder as the slides, questions or problems advance, my advanced students will be able to be challenged by solving more difficult problems while my lower students will be able to work at slower pace with more basic problems.
* I also know that I will need to read the directions aloud to one of my students because it is a requirement on her IEP. I will also read aloud to my ESL student as his English skills are still emerging.

1. **TECHNOLOGY**

\*Technology is integrated through the use of the SmartBoard during the base ten block center activity. During this, students will represent 5-digit numbers by manipulating the virtual base ten blocks.

**REFLECTION**

The read aloud went well. The students were actively engaged and participated by answering questions and saying the numbers out loud with me. The book was an excellent learning tool, especially for visual and auditory learners.

The cups and straws activity went well. The students found it amusing when I would ask questions such as “the hundreds come comes before the thousands cup, right?”. When all the cups were lined up, one student even said, “Good job, Miss Wisnor”. This activity helped students recognize place value and what each digit represents.

Writing the numbers in different forms helped students see that numbers can be written several ways but still mean the same thing. It was also beneficial to model activities before allowing students to work independently. By doing this, I was able to have more meaningful work occurring at each center with limited questions or misunderstandings.

The first round of centers went really well. I worked with the lowest group on the m&m math activity and every other group seemed to be doing well working independently. As soon as we switched groups, however, it was a little more chaotic. Suddenly I realized why my CMT had warned me about the challenges of doing centers. Once the students switched, it was as if I was teaching a whole different lesson. One of my biggest challenges was having the students clean up to prepare for the next group. I improved this the next day by giving a two minute warning and having students clean up with about one minute left.

In working closely with students at the same center, I noticed something rather interesting about each ability group. The activities always went best with the lowest group. They were the most interested, the most on task and the most excited. They were by far the best listeners and the most engaged group. I believe this is because my lowest group works best by having more individual attention and interaction with the teacher. They enjoy this time because it best fits their learning needs. Also, they are humble and realize that they will need to follow instructions in order to understand the activity. My highest level group was constantly trying to work ahead. They saw every activity as a competition and were too focused on “winning” to listen to what to do. This wasted time because they were unsure what to do and they were working ahead; I had to continually repeat myself. I had to remind them that they were confused because they were choosing to work ahead instead of following directions. It was almost as if they figured they already knew what to do and, therefore, did not need to listen to me. At the end of the lesson, I had my lowest group members “clip up” on the behavior chart and explained to the class that this group of students listened well to directions and worked well as a group. I did this to encourage positive behavior from all students for the following day.

For the closure, students solved a 5-digit addition problem. I called this activity “mystery math”. Once students wrote their answer down, they folded it in half and put it in a sparkly box I called the “mystery box”. This was very motivating for students. My gifted student was particularly motivated by this. He was dying to know the answer!

At the end of the day, my CMT was impressed with how well the lesson went. She offered me tips on how to better manage group activities. She also suggested that the SmartBoard activity have labeled place value blocks to help students organize the blocks. I thought this was a great idea. She also showed me features such as “lock in place” to keep blocks from disappearing. This was an issue when I prepared for the next group at the SmartBoard because I cleared the page to clear their answers and the blocks also disappeared. I made sure to lock *everything* in advanced throughout the rest of the week.

The students were able to name each digit’s place in the place value system up to the ten thousands by the end of the lesson. This was reinforced by writing the number in several ways, saying the numbers out loud and practicing this skill using manipulatives at each center to meet objective two of the day.

**Early Childhood Lesson Plan Format**

**Name:** Breanna Wisnor **Grade:** 3rd

**Topic:** Place Value: Adding to the Ten Thousands

**1. OHIO ACADEMIC CONTENT STANDARD(S)**

[CCSS.Math.Content.3.NBT.A.2](http://www.corestandards.org/Math/Content/3/NBT/A/2) Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

**2. OBJECTIVES**

* Students will be able to add numbers to the ten thousands using strategies and algorithms based on place value, properties of operations and the relationship between addition and subtraction.

***3. LESSON SUMMARY***

* On day two of this unit, I will provide spaces for students to inquire about mathematical ideas in several ways. First, we will do a quick review of the previous day’s lesson by playing the game “I have…Who has…”.I will then introduce the lesson by modeling a think aloud demonstrating the concept of adding 5-digit numbers using cups (labeled with each place value) and straws (representing numbers). When students need to regroup, they will bundle groups of ten to represent one group in the next column. I will ask students to help me solve the problem to encourage mathematical inquiry. Next, I will provide proper motivation by having students rotate in small groups to different centers. Each center will include a game or interactive activity to provide motivation. The manipulatives at each center will serve as an excellent educational resource to stimulate learning. Proper challenges will be provided because students will be broken into ability groups based on AIMS Web test scores. This will allow me to differentiate instruction to differing ability levels.We will conclude the lesson with a final discussion of what we learned. Students will also inquire about mathematical ideas by working a subtraction problem to the ten thousands. This skill will be addressed the following day.

**4. RESOURCES**

* Card game “I have…Who has…”
* 15 place-value labeled cups (add two 5-digit numbers to get the sum)
* Pack of straws
* m&m’s (mini and regular sized)
* m&m math worksheets (place value placemats)
* dry erase boards and markers (for each student + teacher)
* pencils (student provided)
* deck of playing cards (with only numbers 2-9)
* “Add that Number” worksheet

\*SmartBoard with base ten blocks and slides with numbers to add (increased difficulty as slides progress)

* Base ten blocks
* Half sheet of paper (mystery box answer)
* Mystery box

**5. PROCEDURES**

* READINESS
  + To spark interest in the lesson, we will play the card game “I have…Who has…”. In this game, each student will be given two cards. I will have the master card. I will read the first card. The student who has the answer to the question on my card will then ask the question on his/her card and the student with the answer on his/her card will read the next question. We will play for about 10 minutes or until everyone’s cards are gone. The questions and answers on the cards require students to recognize place value.
  + To introduce the lesson, I will model with a think aloud by adding 5-digit numbers with cups and straws. I will encourage student participation.
    - Put cups in the correct order (review from previous day)
    - Make up two 5-digit numbers that require regrouping.
    - Put x amount of straws in correct cup to represent number (i.e. 12,345 = 1 straw in the ten thousands cup to represent 10,000; 2 straws in the thousands cup to represent 2,000; 3 straws in the hundreds cup to represent 300; 4 straws in the tens cup to represent 40; 5 straws in the ones cup to represent 5).
    - Collect straws in ones cup, row 1 and ones cup, row 2 and put in the ones cup, row 3. Do this for each column. If there are ten straws in one cup, bundle them and carry to the next column to represent one group of ten/hundred/thousand.
* I will then briefly describe what students will be doing at each center.
* I will call out students’ names to put them in groups and direct them where to go.
* FOCUS OF LESSON
* M&M Math
* *Can anyone guess, based on our straw and cups activity, what we might be doing with our m&m’s today? (adding them) Yes, we will be adding!*
* *Just like before, whatever number I write down, I want you to represent on your chart using your M&M’s. The first number I tell you will go in this first row (*point to the first row on each child’s chart)
* *Show me 10, 324*
* *In the second row right beneath it, show me 23,114.*
* *Now, to find the total, slide each column down into the last row of boxes like this (model).*
* *Everyone say aloud your number in the last row. (Everyone should say 33,438. If some gives a different response, discuss this).*
* *Do any of the boxes have 10 in them? (no) So do we need to do any regrouping? (no)*
* *So now, in our next problem, we may need to regroup. For each place value, we will use one big M&M to represent 10 mini ones. Does that make sense to everyone?*
* *The first number is 23,462 (*allow students time to represent this with their M&Ms)
* *The second number is 44, 825* (allow students time to represent this)
* *Now, slide each column down to add. Remember you may need to regroup. When you have your answer, give me a thumbs up. (*wait until all students are finished)
* *Check your answer with your shoulder partner’s. Talk about how you got your answer. If you got different answers, see if you can agree on one.*
* After students have had time to share with their partners, we will discuss as a whole group.
* To pair one: *What number did you guys have in the hundreds place (200)*
* *Did everyone else have this? (*If agreed, move on)
* *How did you get that? Isn’t 400+800=1200?*
* *(Yes, but you have to regroup the one into the thousands place)*
* To pair two: *What did you have in the ones place? (7)*
* *Does everyone agree there should be a seven in the ones place?*
* To pair three: *What number did you have in the ten thousands place? (60,000)*
* I will write out the number with blank spaces for numbers that have not yet been said.
* *So we have 6\_,2\_7. Who thinks they know what number might go in the thousands place? (8,000)*
* *8,000? But isn’t 3,000+4,000=7,000? (Yes, but we had one hundred extra from when we regrouped the hundreds column),*
* *So now we have 68,2\_7. Does everyone agree so far? (yes)*
* *Who thinks they know what number might go in the tens place. (80)*
* *So your final answer is 68,287. Did anyone get anything different?*
* We will then discuss different answers and how we came to our conclusions.

\*See “Add that Number” word doc file

* Students will be grouped by ability based on AIMS Web scores.
* In small groups, students will flip over 5 cards.
* Using the worksheet provided, students will write down the number on each card in the top row of boxes on their worksheet to represent the first addend.
* Students will flip over 5 more cards and write down this number in the second row of boxes to represent the second addend.
* Students will then add the two addends together and record their sum.
* If students finish early, they will check their answers with other group members and discuss any differences.
* Once everyone agrees on the answers, students will take a new blank sheet and begin again.
* Although I will be mainly facilitating the m&m math center, I will walk around and make sure students understand the directions and are staying on task.
* Base Ten Blocks

**-**Students will take turns using the interactive SmartBoard manipulatives.

**-**Those who are not at the board will be solving the problem using typical base ten blocks.

**-**There will be a problem on the slide for the students to solve. Once everyone in the group has solved the problem and the group agrees on one final answer, they can move on to the next slide.

**-**Students will need to apply their understanding of place value and regrouping in order to complete this assignment.

**-**This center is similar to m&m math because it challenges the student to begin thinking abstractly about math. It also involves shapes representing numbers. In both, the student must physically break down and regroup numbers to find a solution.

-The slides get progressively harder as the students advance.

\*See “Adding Numbers Using Base Ten Blocks” SmartBoard file

* One at a time, students will take turns using the interactive SmartBoardmanipulatives. Those who are not at the board will be solving the problem using typical base ten blocks.
* There will be an addition problem on the slide for the students to represent using the base ten blocks. Once everyone in the group has solved the problem and the group agrees on one final answer, they can move on to the next slide.
* Students will need to apply their understanding of place value and regrouping in order to complete this assignment.
* This center is similar to m&m math because it challenges the student to begin thinking abstractly about math. Like m&m math, it also uses shapes/objects to represent numbers and regrouping.
* The slides get progressively harder as the students advance.
* Although I will be mainly facilitating the m&m math center, I will walk around and make sure students understand the directions and are staying on task.
* CLOSURE
* To wrap up the lesson and reinforce the learning, we will have a discussion at the community center about we learned. Students will share something new they learned, something they discovered or something they found interesting.
* On a half sheet of paper, students will then solve a 5-digit subtraction problem that involves regrouping.
* They will put their answer in the mystery box.
* We will discover how to solve these types of problems tomorrow.
* ASSESSMENT
* I will determine what students have learned by collecting evidence to document student progress. I will have a checklist for each day of teaching. While students work in centers, I will move from group to group and document student progress.
* \*See attached assessment sheet
* I will use this information to direct my instruction. I will have flexible groups during this unit. If students need additional support, I will move them down one level. I will move students up a level if they need more of a challenge. This will also determine how deeply I must go into detail when reviewing the next day.

1. **ENRICHMENT**

* What can students do to extend or enrich their learning?
* I have further enriched learning throughout this unit by having printed definitions of the vocabulary words used throughout the week up on the math wall. I also have a place value chart hanging with removable number cards to switch out each day so students can practice saying 5 digit numbers out loud. There is also a place for students to “tweet about math”. The tweet of the week was “What is the biggest number you can read?”. Students then write their answers under my “tweet”. I also included a paragraph in the parent letter about what we would be covering throughout the week and ways to practice at home.

1. **DIFFERENTIATION**

* This lesson is differentiated by ability groups. Because the problems at each center get progressively harder as the slides, questions or problems advance, my advanced students will be able to be challenged by solving more difficult problems while my lower students will be able to work at slower pace with more basic problems.
* I also know that I will need to read the directions aloud to one of my students because it is a requirement on her IEP. I will also read aloud to my ESL student as his English skills are still emerging.

1. **TECHNOLOGY**

\* Technology is integrated through the use of the SmartBoard during the base ten block center activity. During this, students will add 5-digit numbers by manipulating the virtual base ten blocks.

**REFLECTION**

We did not have time to play “I have…who has”. I knew this because we had gone over the day before. To keep a routine schedule, I chose to omit this game from the day’s lesson.

To engage students, we solved the mystery math problem from the previous day. The students were very excited to see the answer revealed! We solved the problem together by doing a think aloud.

The cups and straws activity was a hit again today. This activity helped students recognize place value and what each digit represents. For some students, it was difficult for them to recognize that if they were adding 712+321, for example, that they were not adding 1+2 but rather 10+20 because we were working in the tens place. The students in my third grade classroom use the standard algorithm to solve addition and subtraction problems. I required students to use this language when thinking aloud and I also modeled by using place value language when I spoke. I tried to explain this concept by writing the answer in written and expanded form as well.

Writing the numbers in different forms helped students see that numbers can be written several ways but still mean the same thing. It was also beneficial to model activities before allowing students to work independently. By doing this, I was able to have more meaningful work occurring at each center with limited questions or misunderstandings.

I was better organized for group work on this day. By providing time for clean-up, I was better able to organize activities and centers.

There was a small issue with the SmartBoard activity. Originally, I was going to have students use the SmartBoard “Everyday Math” base ten blocks. This presented an issue, however, because they could not be infinitely copied. To fix this problem, I used shapes from the previous day and had addition problems included on each SmartBoard notebook page. The problem arose, however, that when adding large numbers, they ran out of room and their problems became an organized, jumbled mess. To fix this problem, my CMT suggested using columns like what is on the m&m math charts. I created a place value table to help students organize the addends and sums. Once students dragged a block into the table, however, it was enlarged and no other shapes could fit in that cell. We then created a blank chart using lines to avoid this problem. Once there was an organized format, the students did much better representing numbers and solving problems.

I recognized the same pattern of behavior in students today. My lowest group was the most successful because they worked well together and listened to instructions. They took the activities seriously and did their best to persevere at solving problems.

For the closure, students solved a 5-digit subtraction problem for the “mystery math” box. They students were very excited to see the box being used again.

The students were able to add numbers to the ten thousands using strategies and algorithms based on place value, properties of operations and the relationship between addition and subtraction. This concept was reinforced through a modeled think aloud, solving the problem using several different manipulatives and through the exploration of different strategies and algorithms the students discovered while working in small groups.

**Early Childhood Lesson Plan Format**

**Name:** Breanna Wisnor  **Grade:** 3rd

**Topic:** Place Value: Adding to the Ten Thousands

**1. OHIO ACADEMIC CONTENT STANDARD(S)**

[CCSS.Math.Content.3.NBT.A.2](http://www.corestandards.org/Math/Content/3/NBT/A/2) Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

**2. OBJECTIVES**

* Students will be able to subtract numbers to the ten thousands using strategies and algorithms based on place value, properties of operations and the relationship between addition and subtraction.

***3. LESSON SUMMARY***

* On day three of this unit, I will provide spaces for students to inquire about mathematical ideas in several ways. First, we will do a quick review of the previous day’s lesson by playing the game “Bubble Gum, Bubble Gum in a dish”. I will then introduce the lesson by modeling a think aloud demonstrating the concept of subtracting 5-digit numbers using cups (labeled with each place value) and straws (representing numbers). When we need to regroup, I will cut the borrowed straw into ten to show that the one (hundred/thousand) represents ten groups of the previous column. I will ask students to help me solve the problem to encourage mathematical inquiry. Next, I will provide proper motivation by having students rotate in small groups to different centers. Each center will include a game or interactive activity to provide motivation. The manipulatives at each center will serve as an excellent educational resource to stimulate learning. Proper challenges will be provided because students will be broken into ability groups based on AIMS Web test scores. This will allow me to differentiate instruction to differing ability levels.We will conclude the lesson with a final discussion of what we learned. Students will also inquire about mathematical ideas by playing another round of “Bubble Gum…”. In this final round, students will be challenged to apply their knowledge to solve a six-digit subtraction problem. Students will then write a paragraph (4-5 sentences in their math journal) about “How much is a million?” Some questions they may address include the following: How many digits are in the number one million? How far away is ten thousand from one million? Is there a number bigger than one million? How long would it take to count to one million? What is something that there are a million of?

**4. RESOURCES**

* Game pieces for ”Bubble gum, bubble gum”
* 15 place-value labeled cups (subtract two 5-digit numbers to get the difference)
* Pack of straws
* Scissors
* m&m’s (mini and regular sized)
* m&m math worksheets (place value placemats)
* dry erase boards and markers (for each student + teacher)
* pencils (student provided)
* deck of playing cards (with only numbers 2-9)
* “Subtract that Number” worksheet

\*SmartBoard with base ten blocks and slides with numbers to subtract (increased difficulty as slides progress)

* Base ten blocks
* Half sheets of paper (mystery box answer)
* Mystery box

**5. PROCEDURES**

* READINESS
  + To spark interest in the lesson, we will play the card “Bubble Gum, Bubble Gum”. In this game, 5 students will pull out a piece a gumball card from the gumball machine box. There is a number on each piece of gum. The first number pulled will represent the number in the ones place. We will continue to pull nine more gum cards. We will then add the two 5-digits numbers to get our sum. Students will solve the problem independently in their math journals. A few students will then show the class how they found the sum.
  + To introduce the lesson, I will model with a think aloud by subtracting 5-digit numbers with cups and straws. I will encourage student participation.
    - Put cups in the correct order (review from day 1)
    - Make up two 5-digit numbers that require regrouping.
    - Put x amount of straws in correct cup to represent number (i.e. 12,345 = 1 straw in the ten thousands cup to represent 10,000; 2 straws in the thousands cup to represent 2,000; 3 straws in the hundreds cup to represent 300; 4 straws in the tens cup to represent 40; 5 straws in the ones cup to represent 5).
    - Match the number of straws in the top and bottom cups. Whatever cannot match up is the difference (i.e. 3 – 2 = match two straws from row one with the straws in row 2. The leftover straw moves down to cup row 3.
    - If the number on the top is bigger, we must regroup. To do this, borrow one straw from the top row of the next column to the left (i.e. If subtracting 22,345-11,425, there would be 0 straws in the row 3 ones cup to represent 0 and 2 straws in the row 3 tens cup to represent 20. Because we cannot take away 400 from 300, we have to borrow one thousand, or ten hundreds, from the next column. We now have 1,300-400=900. To demonstrate this, I will cut the borrowed straw into ten pieces. Since each piece represents 100, the 3 whole straws will cancel and we will have one whole straw and 10 pieces each representing 100. One of the pieces will match with the one 100 straw and will cancel leaving nine pieces or 900 in the hundreds cup. Then, the two 1,000 straws in rows 1 and 2 will cancel leaving zero in the thousands cup. Next, the two 10,000s will cancel leaving one straw representing 10,000 in the ten thousands cup.
* I will then briefly describe what students will be doing at each center.
* I will call out students’ names to put them in groups and direct them where to go.
* FOCUS OF LESSON
  + M&M Math
* *Now we are going to subtract using our M&M’s. Just like before, whatever number I write down, I want you to represent on your chart using your M&M’s. The first number I tell you will go in this first row (*point to the first row on each child’s chart)
* *Show me 23,134.*
* *In the second row right beneath it, show me 10,112.*
* *Now, to find the difference, we will need to subtract the second row from the first row. One way we might do this is by canceling out the numbers that are the same in the first and second rows.*
* *I have a question for you, though. How do you think we can get rid of the m&m’s we don’t need? (Can we eat them?) What do you guys think? Do you want to eat the ones you don’t need? (Yes!) Just make sure you are careful not to eat more than what you need to get rid of.*
* After everyone is finished, *Everyone say aloud your number in the last row. (Everyone should say 13,022. If someone gives a different response, discuss this).*
* *In the problem we just did, did we need to do any regrouping? (no)*
* We will now use regular sized m&m’s and mini to regroup.
* *So now, in our next problem, we may need to regroup. For each place value, we will use ten mini m&m’s will be equal to one regular m&m. Does that make sense to everyone?*
* *The first number is 20,214 (*allow students time to represent this with their M&Ms)
* *The second number is 10,131*(allow students time to represent this)
* *Now, check to make sure the number on top is bigger than the number on bottom. If it is, cancel what is the same and slide down what is left over. If it is not, borrow from the next column. Remember, you will need to exchange one big for 10 little m&m’s. When you have your answer, give me a thumbs up. (*wait until all students are finished)
* *Check your answer with your shoulder partner’s. Talk about how you got your answer. If you got different answers, see if you can agree on one.*
* After students have had time to share with their partners, we will discuss as a whole group.
* To pair one: *What number did you guys have in the hundreds place (0)*
* *Did everyone else have this? (*If agreed, move on)
* *How did you get that?*
* To pair two: *What did you have in the ones place? (3)*
* *Does everyone agree there should be a three in the ones place?*
* To pair three: *What number did you have in the ten thousands place? (10,000)*
* I will write out the number with blank spaces for numbers that have not yet been said.
* *So we have 1\_,0\_3. Who thinks they know what number might go in the thousands place? (0)*
* *So now we have 10,0\_3. Does everyone agree so far? (yes)*
* *Who thinks they know what number might go in the tens place. (80)*
* *So your final answer is 10,083. Did anyone get anything different?*
* We will then discuss different answers and how we came to our conclusions.

\*See “Subtract that Number” word doc file

* Students will be grouped by ability based on AIMS Web scores.
* In small groups, students will flip over 5 cards.
* Using the worksheet provided, students will write down the number on each card in the top row of boxes on their worksheet to represent the minuend.
* Students will flip over 5 more cards and write down this number in the second row of boxes to represent the subtrahend.
* Students will then subtract to determine the difference.
* If students finish early, they will check their answers with other group members and discuss any differences.
* Once everyone agrees on the answers, students will take a new blank sheet and begin again.
* Although I will be mainly facilitating the m&m math center, I will walk around and make sure students understand the directions and are staying on task.

\*See “Subtracting Numbers Using Base Ten Blocks” SmartBoard file

* One at a time, students will take turns using the interactive SmartBoard manipulatives. Those who are not at the board will be solving the problem using typical base ten blocks.
* There will be a subtraction problem on the slide for the students to represent using the base ten blocks. Once everyone in the group has solved the problem and the group agrees on one final answer, they can move on to the next slide.
* Students will need to apply their understanding of place value and regrouping in order to complete this assignment.
* This center is similar to m&m math because it challenges the student to begin thinking abstractly about math. Like m&m math, it also uses shapes/objects to represent numbers and regrouping.
* The slides get progressively harder as the students advance.
* Although I will be mainly facilitating the m&m math center, I will walk around and make sure students understand the directions and are staying on task.
* CLOSURE
  + To wrap up the lesson and reinforce learning, we will play the “bubblegum” game we played at the beginning of the class. In this round, however, we will subtract to the hundred thousands place. Twelve students will pull out a gumball card from the gumball machine box. There is a number on each piece of gum. The first number pulled will represent the number in the ones place. We will continue to pull eleven more gum cards. We will then subtract the two 5-digits numbers to get our sum. Students will solve the problem in their math journals at their desks. A few students will then show the class how they found the difference.
* Students will then write a paragraph (4-5 sentences in their math journal) about “How much is a million?” Some questions they may address include the following: How many digits are in the number one million? How far away is ten thousand from one million? Is there a number bigger than one million? How long would it take to count to one million? What is something that there are a million of?
* ASSESSMENT
* I will determine what students have learned by collecting evidence to document student progress. I will have a checklist for each day of teaching. While students work in centers, I will move from group to group and document student progress.
* \*See attached assessment sheet
* I will use this information to direct my instruction. I will have flexible groups during this unit. If students need additional support, I will move them down one level. I will move students up a level if they need more of a challenge. This will also determine how deeply I must go into detail when reviewing for the final assessment.

1. **ENRICHMENT**

* What can students do to extend or enrich their learning?
* I have further enriched learning throughout this unit by having printed definitions of the vocabulary words used throughout the week up on the math wall. I also have a place value chart hanging with removable number cards to switch out each day so students can practice saying 5 digit numbers out loud. There is also a place for students to “tweet about math”. The tweet of the week was “What is the biggest number you can read?”. Students then write their answers under my “tweet”. I also included a paragraph in the parent letter about what we would be covering throughout the week and ways to practice at home.

1. **DIFFERENTIATION**

* This lesson is differentiated by ability groups. Because the problems at each center get progressively harder as the slides, questions or problems advance, my advanced students will be able to be challenged by solving more difficult problems while my lower students will be able to work at slower pace with more basic problems.
* I also know that I will need to read the directions aloud to one of my students because it is a requirement on her IEP. I will also read aloud to my ESL student as his English skills are still emerging.

1. **TECHNOLOGY**

\* Technology is integrated through the use of the SmartBoard during the base ten block center activity. During this, students will subtract 5-digit numbers by manipulating the virtual base ten blocks.

**REFLECTION**

We did not have time to play “Bubble gum, bubble gum…” at the beginning or end of the lesson. We have been short on time all week so I chose to omit this due to time constraints.

To engage students, we solved the mystery math problem from the previous day. The students were very excited to see the answer revealed! We solved the problem together by doing a think aloud.

The cups and straws activity was a hit again today. This activity helped students recognize place value and what each digit represents. For each activity, including cups and straws, I presented the information differently than what I had planned in my lesson. In speaking with a few other math teachers, I decided to represent only the minuend using manipulatives (cups, straws, base ten blocks, m&m’s). To find the difference, we took away the subtrahend. Instead of cutting straws, we bundled in groups of ten as we did in addition. For example, if subtracting 31, 465-20, 284, we would put five straws in the ones cup, six straws in the tens cup, four straws in the hundreds cup, one straw in the thousands cup and three straws in the ten thousands cup. We would then take 4 straws out of the ones cup. When moving to the tens, we would realize that we can’t take out 8 straws out because we only have four. We then take one 100 straw out of the hundreds cup and grab a bundle to replace it. We would put the bundle in the tens cup to represent 10 groups of 10 (100). Our problem is now 160-80. We would then take 8 straws out of the cup. If we need to take straws out of the bundle, we remove the rubber band. Next, we would take 2 straws out of the hundreds cup, leave the one 1,000s straw in the cup because we are taking away zero and take away two 10,000 straws. We now have 1 straw in the ten thousands, `1 straw in the thousands, 1 straw in the hundreds cup, 8 straws in the tens cup and 1 straw in the ones cup. Our difference then is 11,181.

We also did this in m&m math. We represented the minuend using mini m&m’s and subtracted the subtrahend to find the difference. If we needed a bundle, we used a regular sized m&m.

At the SmartBoard, students represented the minuend and then subtracted the subtrahend to find the difference using base ten blocks.

Subtract that number was played using the original rules so that students had practice using the paper and pencil method.

Today was the best run in terms of organization. Because the centers built on each other, the students were familiar with what to do at each center. Questions were limited and students were able to accomplish more meaningful work because they understood what to do and were able to work independently.

I recognized the same pattern of behavior in students today. My lowest group was the most successful because they worked well together and listened to instructions. They took the activities seriously and did their best to persevere at solving problems.

For the closure, students wrote about “How much is a million”. They followed the questions posed in the lesson plan. Each student wrote about 4-5 sentences. Instead of having students complete this in their math journals, I had them write on loose leaf paper and submit to the mystery math box. For the next class session, I made a book of their responses. We read “How much is million?”. This book answered many of the questions asked in the prompt. The students loved seeing their work published! They also really enjoyed the book. There were many “wow’s” and “gasps” as they learned how much a million really is!

The students were able to subtract numbers to the ten thousands using strategies and algorithms based on place value, properties of operations and the relationship between addition and subtraction. . This concept was reinforced through a modeled think aloud, solving the problem using several different manipulatives and through the exploration of different strategies and algorithms the students discovered while working in small groups.