Teachers' Guide

part 1

Education Development Center
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Welcome educators!

Thank you for participating in the Ready to Learn study and using the Math Curriculum Supplement. This curriculum supplement builds on research showing that repeated and varied experiences with math concepts can help prepare preschoolers for school success. When used in combination with other effective learning experiences, such as read-alouds and hands-on activities, this practice can provide powerful supports for the early math learning of young children by giving them a variety of ways to explore and practice concepts in different ways.

- As part of the Math Curriculum Supplement, we will supply you with all of the necessary materials to implement the classroom activities, including hands-on objects such as counting bears, unifix cubes, and crayons, as well as printed materials to facilitate large and small group activities (number lines, pattern signs, etc.).

- In this guide, you will find scripts, instructions, and reminders to help you integrate the activities into your classroom. Before you begin the supplement, here are some tips for preparing yourself and your classroom to get the most out of the materials as tools for learning.

  - Familiarize yourself with the activities and materials ahead of time. The more you know about the content of an activity or game, the easier it will be for you to actively support children's learning and interact with the children while they watch you demonstrate and play on their own.

  - As you prepare for implementing the Math Curriculum Supplement, identify a location to set up the materials where all children can see and hear. Ensuring that the chart paper is where all children can see comfortably will best allow them to engage with the content you are displaying.

  - Do a periodic review of materials. The Math Curriculum Supplement uses many cards, number lines, and dominoes, which may get lost, or experience wear and tear throughout the weeks. If materials are lost, or experience excessive wear, please let your coach or study staff know and we will replace them immediately.

Overview of Preschool Math Skills

In this curriculum, we focus on four major areas of mathematics teaching and learning: Counting, Recognizing Number and Subiziting, Recognizing and Composing Shapes, and Patterning.

Counting

During the preschool years, counting is comprised of Numbers and Operations. By age 5, children are usually able to develop an understanding of whole numbers, including the concepts of counting, correspondence, cardinality, and comparison.

- **Counting:** Children develop an understanding of the meanings of whole numbers (1, 2, 3, etc.) and recognize the number of objects in small groups by counting them.

- **Correspondence:** Children develop an understanding that number words refer to quantity. They understand one-to-one correspondence when they can count one object at a time, counting up for each new object and assigning it the correct number as they go. For example, when they are counting 2 toys, they point to the first, say "One," and then point to the second and say, "Two."

- **Cardinality:** Children develop an understanding that the last number they reach when counting aloud answers the question, "How many altogether?" For example, after counting 5 objects, if you ask a child how many objects there are altogether, the child can correctly respond, "Five." Cardinality is an important math skill that is not assessed just by counting correctly.

- **Comparison:** Children develop an understanding they can count to determine number amounts and compare quantities using language like "more than" and "less than." For example, when counting pictures of two dogs and three cats, a child can state that there are more cats than dogs.

Recognizing Number and Subiziting

During the preschool years, children develop an understanding that whole numbers represent quantities, begin to read the numerals, and are able to recognize the number of objects in small groups without counting.

Subitizing is a way of recognizing an amount just by looking at it (as opposed to counting objects to figure out the amount)—for example, children can recognize the number of dots on a die without having to count them.

Overview of Preschool Math Skills

Recognizing and Composing Shapes

Children can learn about shapes in several ways. Some of the ways in which children learn about shapes are the following:

- **Comparing:** Matching shapes that are the same size and have the same orientation. For example recognizing shapes of the same size.
- **Classifying:** Recognizing and naming shapes, as well as sorting them by their parts. For instance, recognizing a triangle because it has three sides.
- **Recognizing Parts:** Children can name, describe, and count the components of shapes, such as sides and corners (angles).
- **Representing:** Children can correctly build or draw shapes.

Patterning

A pattern is an arrangement of repeated parts. Patterning is the search for mathematical regularities and structures. Children's understanding of patterns develops gradually during the early childhood years. Preschoolers can learn to copy simple patterns and, at least by kindergarten, children can learn to extend and create patterns.

Children benefit from learning to identify core units of patterns (e.g. AB) that either repeats (ABAB) or grows (ABAABAAAB), and then using it to generate both of these types of patterns.

Recognizing, duplicating, or extending patterns can be done in many spontaneous ways, such as lining up students in a boy-girl-boy-girl pattern for outside time, or replicating or extending patterns with blocks (red, blue, red, blue).

Weekly Activities

In the following sections, you will find scripts and activity descriptions for each of the 10 weeks of the supplement. The activities are designed to be simple and repetitive because children need to practice the same math skills many times and in many different situations to learn them. The content changes from week to week, but many of the activities remain the same or are very similar, so you and the children will have a familiar routine to follow. Below is an overview of the activities you and your class will do each week.

Activity	Setting	Description
Introductory Activity with Visuals (25 minutes)	Circle Time	Each week you'll introduce a concept using various visual representations of key math content for preschoolers. We've created natural pause points within the activities to allow you to explain tricky math concepts, ask questions, and open up discussion. Topics introduce new math concepts and review math topics the children already know..
Guided Challenge Game Play (25 minutes)	Circle Time	Each week, you'll model playing a challenging hands-on game for the children. As you model, you'll point out key math content as well as explain the game or activity's goals. Then each child can take a turn playing while the class cheers that child on. The game reinforces key math concepts and presents them in different ways than the introductory activity with visuals..
Weekly Math Circle Routine with Guided Reading (25 minutes)	Circle Time	Once a week, you'll read aloud a math storybook to your class. To get them ready to think about the math presented in the book, we have a quick set of fast-paced review activities which you will guide them through first..
Math Detective Journal and Easy Game Play (15 minutes per small group)	Small group table	Every child will receive a Math Detective Journal to use during the 10 weeks. Each week's journal activity will give you a chance to review math ideas with small groups of children. Then you can wrap up the group with a quick demonstration of the easy hands-on game of the week.
Hands-On Activities Center 1 (10 minutes per child)	Pairs or small groups of children	Pairs or small groups of children play different variations of common math game every week. The games increase in difficulty over time and enable children to stretch their understanding of key math content.
Hands-On Activities Center 2 (10 minutes per child)	Pairs or small groups of children	Pairs or small groups of children explore an activity that specifically reviews math content from prior weeks. This repetition of math content over time helps foster learning.
Hands-On Activities Center 3 (10 minutes per child)	Pairs or small groups of children	Pairs or small groups of children can review games played during the Guided Challenge Game Play or Easy Game Play (as part of the Math Detective Journal time) from previous weeks. This repetition of math content over time helps foster learning.

Study Schedule

In addition to using the Math Curriculum Supplement, your participation in the *Ready to Learn* study includes a few other steps:

- **Child Pre-Testing** (Three-week window, Prep Weeks 1–3): Researchers will need to assess the early math skills of at least 8 children in your class. Testing will be scheduled in advance and will take a few days. Typically, we'll assess one child at a time. Our schedule includes a three-week window for pre-testing.
- **Teacher Training** (Four-week window, Prep Weeks 2and 3–Intervention Week 2): Your instructional coach will contact you to schedule several training sessions spread out over four weeks, including the first two weeks you use the supplement with your class (Weeks 1 and 2 of Implementation). After those four weeks, your coach may visit you less often, but will contact you by phone to offer consistent help.
- **Implementation** (Ten-week window, Intervention Weeks 1–10): You will use the supplement for ten weeks, including the last two weeks of training. During those two "ramp-up" weeks, your coach will provide in-class modeling and support and you will offer only some of the supplement's weekly activities to your class. Full implementation (using all media, arrangements, and activities) will last for eight weeks. During implementation, researchers will visit your class to observe and see how the supplement is going. These visits are so we can adjust and improve the supplement for next year; you will not be evaluated during the *Ready to Learn* study. We also will ask you to send home parent surveys during implementation, complete weekly logs to keep track of supplement activities you're able to complete with your class, and complete a survey.
- **Child Post-Testing** (Three-week window, Post-Intervention Weeks 11–13): After your class has completed implementation, researchers will return to post-test the children who were pre-tested. Post-testing should take about the same amount of time as pre-testing; we plan to finish post-testing within three weeks after you have finished implementation.
- **Post-Implementation** (app. one-week window, Post-Intervention Week 11+): After your class has completed implementation, your coach will verify you have completed your logs, survey, and payment information. We will mail you a check for $300 to thank you for your participation in the project, as well as a check for $200 to thank your center. We will also deliver two laptops to your classroom for your use after the intervention has concluded.

Study Schedule

Step	Window	Weeks
Child Pre-Testing	3 weeks	Prep Weeks 1–3
Teacher Training	4 weeks	Prep Week 2–Intervention Week 2
Implementation	10 weeks	Intervention Weeks 1–10
Child Post-Testing	3 weeks	Post-Intervention Weeks 11–13
Post-Implementation	1+ weeks	Post-Intervention Weeks 11+

Sample Schedules

We realize you have many things to teach and that you'll need to fit the Math Curriculum Supplement into an already busy schedule. Keep in mind, the supplement will be most effective if you use a consistent schedule from week to week. Your coach will help you figure out how to schedule the activities into your week, as well as support you when holidays and other school closures occur. We recommend doing a little bit each day and include a recommended schedule below that spreads the activities over 4 days. We also include two alternate schedules below to help you and your coach plan for implementation.

Recommended Schedule

Monday	Tuesday	Wednesday	Thursday	Friday
Introductory Activity with Visuals (25 minutes)	Guided Challenge Game Play (25 minutes)	Math Detective Journal with Easy Game Play (15 minutes per group)	Weekly Math Circle Routine with Guided Reading (25 minutes)	
Centers (10+ minutes)	Centers (10+ minutes)	Centers (10+ minutes)	Centers (10+ minutes)	

Alternate A

Monday	Tuesday	Wednesday	Thursday	Friday
Introductory Activity with Visuals (25 minutes)	Guided Challenge Game Play (25 minutes)		Weekly Math Circle Routine with Guided Reading (25 minutes)	
Centers (10+ minutes)	Math Detective Journal with Easy Game Play (15 minutes per group)		Centers (10+ minutes)	
	Centers (10+ minutes)			

Alternate B

Monday	Tuesday	Wednesday	Thursday	Friday
Introductory Activity with Visuals (25 minutes)	Guided Challenge Game Play (25 minutes)	Math Detective Journal with Easy Game Play (15 minutes per group)	Weekly Math Circle Routine with Guided Reading (25 minutes)	
		Centers (10+ minutes)	Centers (10+ minutes)	Centers (10+ minutes)

Using this guide

We have divided this guide into weekly units (10), each of which provides one or two activities for you to undertake each day of the week. Each activity is titled with some or all of the following information.

Activity Group
Activity Name (if applicable)
(minutes / approach)

Materials Required

Introductory Activity with Visuals

What is a Detective?

(25 minutes/ Whole Class)

Materials:

Chart paper
Marker
Small teacher 0-10 number line
Math Detective Journal

or

Activity Group

Math Detective Journal with Easy Game Play

(15 minutes/ Small Group)

Materials:

Math Detective Journals
Teacher Journal pages 2.1- 2.2
Dry erase board
Dry erase markers
Crayons

Math Detective Journal ← Activity name

Short scripts are provided to help you lead students through the activities.

- **What you say** to the class is displayed in large type and marked with “.
- **What you do** is displayed by smaller text to the right.
- **How students might respond** is italicized to the right.

What you say	What you do
“ We're going to be detectives? Do you know what a detective does?	Wait for students to respond yes. Encourage by nodding your head yes.
“ We are going to be math detectives, and we are going to be looking for information about math—what kinds of things do you think we'll find?	Point to each shape on the screen and encourage (or help) all children to name each one.
“ What shape is that? Do you think there is a number that has that same shape? What is it?	*Zero, "o," circle.*

Finally, background information on activities and computer games are provided in callout boxes.

Callout Boxes

Game Description:

NUMBO (2–5)

Partners take turns in this alternate version of the game BINGO. One child will select a number from the bag and say the number chosen out loud to their partner. The other child will find this number on their NUMBO card and will cover it with a cover card. When the entire board is covered with cards, the game is won. The partners then switch roles and play again.

Week 1 Blue Week

Partial Implementation Week

Objectives

Counting	• Children will learn to count objects to 5 • Children will learn about cardinality to 5 • Children will be introduced to the 0-10 number line • Children will learn what the concept "altogether" means
Shape	• Children will learn to identify a circle, triangle, hexagon and square
Number Recognition	• Children will learn to identify numbers to 5.
Pattern	• This skill is not addressed this week.

Day 1

Introductory Activity with Visuals

What is a Detective?

(25 minutes/ Whole Class)

Materials:

Chart paper
Marker
Small teacher 0-10 number line
Math Detective Journal

“ We're going to be detectives? Do you know what a detective does?	Allow a moment for children to respond. Then guide the discussion by telling the group that a detective is someone who looks for information in order to answer a question or solve a problem.
“ We are going to be math detectives, and we are going to be looking for information about math – what kinds of things do you think we'll find?	Children may suggest a range of possibilities: Numbers, counting, adding, and taking away – all these answers are right.
“ First let's figure out what math is. When I say math what do I mean? I mean numbers like 5, 1, and 6. Do you know any other numbers?	Give children a chance to respond. If no one offers a response ask about additional numbers (i.e. What about 7, 3, and 5?)

Day 1

“ Math can also mean counting like 1…2…3…4. It is also shapes like circles, triangles and squares and patterns like clap, clap, snap, clap, clap, snap.

“ There are other things that are part of math but we will focus on counting, numbers, shapes, and patterns.

Select 2 boys and 2 girls to be the day's math detectives

After you select 2 boys and 2 girls, have the group count:

1. The number of boy detectives and sky write the number 2
2. The number of girl detectives and sky writes the number 2
3. The people in the math detective group and sky write the number 4

Be sure to refer to the number line to compare which is more, the number of boys or the number of people. Remind children that they can tell 4 is more than 2 because it's farther from 0 on the number line.

Next, have the group count:

1. The lead teacher and sky write the number 1
2. The number of boy detectives and sky write the number 2
3. The number of girl detectives and sky writes the number 2
4. All of the people and sky write the number 5

Be sure to refer to the number line to compare which is less, the number of people or the number of lead teachers. Remind children that 1 is less than 2 or 5 because it's closer to 0 on the number line.

Remind children about the word “detective” and how we're going to be math detectives with Math Detective Journals (show sample journal).

“ The last thing we are going to do as detectives is name some shapes! Who can help me identify these shapes?

Draw the four shapes show in the teacher graphic below on a piece of chart paper: 

Ask children to name and sky draw each shape: circle, triangle, hexagon, square as they point to them.

Hands-On Center Activities

There are no hands-on center activities this week.

Day 2

Guided Challenge Game Play

There is no guided challenge game play this week.

Hands-On Center Activities

There are no hands-on center activities this week.

Day 3

Math Detective Journal with Easy Game Play

(15 minutes/ Small Group)

Materials:

NUMBO boards (2–5 versions)
NUMBO calling cards (2–5)
NUMBO cover cards
Unifix cubes
Cloth bag or Ziploc

There are no Math Detective Journal activities this week; only easy game play activities.

Game Description:

NUMBO (2–5)

Partners take turns in this alternate version of the game BINGO. One child will select a number from the bag and say the number chosen out loud to their partner. The other child will find this number on their NUMBO card and will cover it with a cover card. When the entire board is covered with cards, the game is won. The partners then switch roles and play again.

“ In the next few weeks, we’re going to be exploring math in different ways. Today we’re going to play a board game. Later you will play this same game with a partner during center time. Have any of you played a board game?	Allow a moment for children to respond.
“ This game is called “NUMBO.” It is about naming numbers and counting. As I show you how the game is played, please watch carefully so you’ll know what to do when you play with a partner during center time. Some of you will have a chance to try out the game with a partner now. “ What I am holding up for you to see is a NUMBO playing board. As you can see, it has some numbers written on it. I am going to read out loud all of the numbers on the NUMBO board.	Read the numbers out loud to the children while pointing to each number.
“ Now I’m going to point to each number and see if you can name it out loud for me!	Point to the numbers on the NUMBO board and have the children name the numbers out loud.

Day 3

“ Who wants to see if they can count out the number of unifix cubes when I say a number out loud?	Allow at least two rounds where you say a number from the NUMBO board and a child counts out the corresponding number of unifix cubes. Once children seem familiar with the board, select two volunteers to demonstrate how the game is played for the rest of the group.
“ For this game, one of you will pick a number from this bag and read the number on the card out loud to your partner. Then your partner will cover the number you just read on her board. Once your partner has that number covered, pick another number from the bag.	Demonstrate reaching into the bag, picking out a number and saying it out loud. Then in an exaggerated manner, look at the number card and point to the number that was selected on the NUMBO board. Next take a cover card and place it on the board over that number—a process similar to standard ‘BINGO’.
“ When your whole board is covered you can yell out ‘NUMBO!!!!’ “ Then you and your partner switch and the other person will pick the cards out of the bag. “ When you play during center time, you’ll be working with a partner. You and your partner will need to remember to count out loud to help play the game. As you play the game, I will be walking around to see if you need help.	

Hands-On Center Activities

There are no hands-on center activities this week.

Day 4

Weekly Math Circle Routine With Guided Reading

There is no weekly math circle routine with guided reading this week.

Hands-On Center Activities

There are no hands-on center activities this week.

Partial Implementation Week

Objectives

Counting	• Children will learn to count objects from 2–9 • Children will learn about number cardinality from 2–9 • Children will learn about one-to-one correspondence when counting • Children will learn what the concept "altogether" means
Shape	• Children will learn to identify a circle, triangle, hexagon, and square
Number Recognition	• Children will learn to make tally marks 1-4
Pattern	This skill is not addressed this week.

Day 1

Introductory Activity with Visuals

There is no introductory activity with visuals this week.

Hands-On Center Activities

There are no hands-on center activities this week.

Review games that can be available during this time.

Numbo (2-5)

Day 2

Guided Challenge Game Play

(25 minutes/ Whole Class)

Materials:

Go Fish cards
Cloth bag or Ziploc
Equivalence sign
Small teacher 0-10 number line

Game Description:

Go Fish (2-9)

Partners take turns "fishing" in a bag filled with various cards that have numbers represented in three different ways - with dots, with tally marks and as written numbers. If children are able to correctly state the number they "caught," they get to keep their card. Whoever has the most cards at the end of the game wins.

- " Today we are going to play a new math game. Similar to the last time, I will show you how to play the game and then you will have the chance to play this same game, with a partner, during center time.
- " Today's math game is called "GO FISH." It is a game about counting and recognizing numbers when you see them. How many of you have gone fishing?

Allow a moment for children to respond.

- " Well, today we will all have a chance to go fishing for numbers that are swimming in a bag! Now the tricky part is that the numbers are written on cards in different ways and you will have to be the great math detectives that I know you are to figure out what the number is.
- " Sometimes you will catch a "Number".

Show the number 6 and name it out loud. Ask the children to say it out loud with you. Then, have a child point out the number on the number line.

Day 2

“ And other times you might catch a card that has small lines or tally marks on it. You may recognize the number of tally marks without counting or you may need to count up all the marks.

Show the 6 tally marks card. See if anyone knows how many tally marks there are without counting. Then, count each tally mark out loud. Ask the children to count out loud and say the amount out loud with you.

“ Whichever kind of card you catch, you are going to say the number out loud for your partner. If your partner thinks that you have the right answer, you get to hold on to your card. If your answer is not right, you will have to throw it back into the bag. The partner with the most cards at the end of the game wins.

“ As I show you how the game is played, please watch carefully so you'll know what to do when you play with a partner during center time. Some of you will have a chance to try out the game with a partner now.

Demonstrating the game: As you demonstrate the game, be careful to:

1. Take a brief moment to talk about the different cards included in the cloth bag
2. Introduce the chart of equivalences with the children and the number line and let them know they can refer to the chart and/or the number line if they get stuck or need to figure out the value of a particular card.
3. Select two children to play Go Fish, reminding them that they will take turns “fishing” in the bag to catch a card and then saying what they catch out loud for their partner to hear.
4. Make sure that at least two pairs of children have a chance to try out the game together at this time.

“ When you play during center time, you'll be working with a partner. Remember to say, out loud, the numbers you pick. As you play the game, I will be walking around to see if you need help.

Hands-On Center Activities

There are no hands-on center activities this week.

Review Games that can be available during this time.

Numbo (2-5)

Day 3

Math Detective Journal with Easy Game Play

(15 minutes/ Small Group)

Materials:

Math Detective Journals
Teacher Journal pages 2.1- 2.2
Dry erase board
Dry erase markers
Crayons

There are no easy game play activities this week; there are only Math Detective Journal activities.

Math Detective Journal

“ Who remembers when we talked about being detectives? What is a detective?	Allow a moment for children to respond.
“ That’s right, a detective looks for information in order to answer a question or solve a problem. “ Does anyone remember what kind of detectives we were?	Allow a moment for children to respond.
“ Yes, we were Math Detectives, and today we are going to be Math Detectives again. We are going to be looking for information about math. What kinds of things do you think we’ll look for?	Allow a moment for children to respond.
“ Numbers like 5, 1, and 6. Do you know any other numbers? Who can name another number?	Allow a moment for children to respond.

Day 3

- “ What about 7, 3, and 5? Counting like 1, 2, and 3? Shapes like circles, triangles and squares and patterns like clap, clap, snap, clap, clap, snap?
- “ There are other things that are a part of math but we will focus on counting, numbers, shapes, and patterns.
- “ As math detectives, you will need a special book to hold the things you detect, collect, and learn about.
- “ I have a Math Detective Journal for each of you. Each will have your name on it and we will use it for the next few weeks. It will always be in the classroom, ready to use.
- “ Today we will be detecting certain shapes.

Demonstrating the task: As you demonstrate the task, be sure to show the children the shape graphic (Teacher Journal, p. 21): 

Have the group:

1. Name each shape
2. Sky draw each shape as they name it
3. After they sky draw all the shapes, give them enough time to draw an example of each shape in their Math Detective Journal. They can use a single page to draw all four shapes, or draw an example of each on a single page

Once each child has an example of each shape drawn in their Math Detective Journal, have the group:

1. Count the shapes in their journal. They should end up with a count of 4
2. Then ask them to look up and count again as you model making tally marks on the appropriate Teacher Journal page [2.2] as they count. Make them aware that you are making a single tally mark for each shape – one shape, one tally mark: 
3. The children then count their own shapes again and make their own tally marks in their journals. Remind them (and help them if necessary) to make only one mark for each shape counted.

Children count up (4) and write the number of shapes (4) and the number of tally marks (4) in their journals.

Hands-On Center Activities

There are no hands-on center activities this week.

Review Games that can be available during this time.

Numbo (2-5)

Day 4

Weekly Math Circle Routine With Guided Reading

There is no weekly math circle routine with guided reading this week.

Hands-On Center Activities

There are no hands-on center activities this week.

Review Games that can be available during this time.

Numbo (2-5)

Full Implementation Week

Objectives

Counting	• Children will learn to count objects to 10 in forward and reverse order • Children will learn about the concept of one-to-one correspondence • Children will learn how to make tally marks to 5 when counting • Children will learn about cardinality to 6 • Children will learn to count numbers on a number line • Children will learn to compare sets of numbers
Shape	• Children will identify a circle and compare it to the number zero • Children will identify a triangle, hexagon, square, rectangle, and pentagon • Children will learn about what corners (angles) and curves are when identifying different shapes
Number Recognition	• Children will learn to identify numbers 0–10, with a focus on 1, 2, 5, 7, 9
Pattern	• Children will understand what a pattern is • Children will learn about simple AB, AABB, and ABB patterns

Day 1

Introductory Activity with Visuals

(25 minutes/ Whole Class)

Materials:

Chart paper
Markers (at least 2 colors)
Small teacher 0-10 number line

“ Who remembers what a Math Detective does?	Allow a moment for children to respond. Then guide the discussion by telling the group that a detective is someone who looks for information in order to answer a question or solve a problem.
“ Today as Math Detectives we will be learning about patterns. “ Did you know that learning about patterns is part of learning about math? What is a pattern? A pattern is an arrangement of repeated parts. The arrangement is predictable, meaning that once you read the pattern you can tell what is going to come next. Can you see any patterns here?	Draw and define an example AB pattern on the chart paper by drawing a large flag and coloring in stripes (4 total) with alternating colors, mimicking an AB pattern…red stripe, blue stripe, red stripe, blue stripe. After you finish your pattern: 1. Have the children count the stripes on the flag (4) and find the number 4 on the number line. 2. Continue the pattern on the remainder of the flag with help from children, reinforcing the AB pattern concept. 3. Draw a large circle (for example, at the bottom of the flagpole) and asks the children what was just drawn. 4. When the correct answer is given (circle), ask the children to sky write it and then ask what number has a similar shape (zero).
“ Good job, the number is zero. The shape is a large circle, or O. Can you make a giant zero? Good job Math Detectives!	

Day 1

Hands-On Center Activities

Simple Shape Concentration

(10 minutes/Pairs of children)

Materials:

Simple shape concentration cards (2 sets)

" It's time to play a fun game called Shape Concentration! This game will help you remember the names of shapes and how they look.	Show children the shape cards and name each of the shapes as you show them.
" We will play this game in groups of two. When you and your partner get your cards, put them on the table with the shape picture facing down. When it is your turn, turn over any two cards so that the shape is facing up and say the name of the shape out loud to your partner. Then think about if the shapes on your two cards match.	Model putting the cards face down on the table and then turn over two cards.
" If you turn over two cards that match, you can pick up these cards and keep them in a pile in front of you. If you turn over two cards that don't match, turn them back over so that the shape is face down, but try and remember where that shape is for your next turn. Now it is your partner's turn.	Model finding a match and finding a set that doesn't match.

Hands-On Center Activities

Number Act Out

(10 minutes/Pairs of children)

Materials:

Small student 0 – 10 number line (2)
0 – 6 number cards (2 sets)

Day 1

“ For this game, we will all need to use our imaginations because we are going to act out numbers!	
“ This game is called Number Act Out, and you'll get to play it with a partner. You and your partner will get a bunch of cards that have numbers written on them. To play the game, you will take turns picking up a card and then acting out the number on the card.	Select the number 3 card from the deck.
“ If I want to act out the number 3 for my partner, does anyone know what I could do? Maybe I could clap three times, or I could stamp my foot three times, or I could jump three times.	Listen to student responses and select one to act out.
“ After you act out your number, your partner then gets to guess what number is on your card—so you need to keep the number on the card to yourself while you think of something to do. If your partner guesses the right number, they can find the number on the number line.	Model locating the number 3 on the number line.
“ Then it's your partner's turn to pick a card and act out the number on it.	

Review Games that can also be available during this time.

Go Fish (2-9) | Numbo (2-5)

Day 2

Guided Challenge Game Play

(25 minutes/ Whole Class)

Materials:

Square sign
Trapezoid sign
Pentagon sign
AB pattern signs
Shape Zap boards (3 versions)
Shape Zap cover cards
Shape calling cards
Pattern Match boards (4 versions)
Pattern Match cover cards
Pattern calling cards
Chart paper
Markers (at least 3 different colors)

Game Description:

Shape Zap

Shape Zap is a 3 x 3 grid board game that children play in pairs. One child calls out the shapes picking each from a face down pile of shape cards. The other player fills out the ZAP board matching the shape called out to its equivalent on the board. A set of "cover shapes" are included as part of the game along with 3 different boards. When the entire board is covered with cards, the game is won.

- " Today we are going to play two new math games. Similar to the last time, I will show you how to play the games. Later, you will have the chance to play these same games, with a partner, during center time.
- " Today's new math games are board games about shapes and patterns and are called "Shape Zap" and "Pattern Match". As I show you how the games are played, please watch carefully so you'll know what to do when you play with a partner during center time. Some of you will have a chance to try out the games now with a partner.
- " What I am holding up for you is a Shape Zap playing board. As you can see, it has different shapes on it. I am going to say each out loud and I want you to say each one out loud too.

Say the name of each shape out loud to the children while pointing to each shape on the Shape Zap board.

Day 2

“ Now I am going to point to the shapes and see if you can name them out loud to me on your own!	Point to the shapes and have the children name the shapes out loud. To help distinguish the shapes, make different gestures for each like stand up, clap, or hop.
“ Next, let’s talk about the sides and corners (or angles) of the shapes on this board.	Draw a trapezoid on the chart paper, using it as an example to talk about the sides and corners (angles) of a shape.
“ Does anyone know what the side of a shape is?	Pause to hear some responses.
“ A side is a straight line that helps us know what a shape is.	Color the sides of the trapezoid in a different color.
“ Does anyone know what a corner (angle) of a shape is?”	Pause to hear some responses.
“ A corner (angle) is where two lines come together or meet on a shape.	Circle the corners (angles) of the trapezoid with a different color. Then draw each of the shapes that appear on the Shape Zap playing board and have the children identify the sides and corners of each, similar to the above.
	Demonstrating the game: As you demonstrate the game, be sure to: 1. Contrast squares and trapezoids, describing trapezoids as having 4 sides but two of them lean outwards away from each other 2. Remind the children to say the names of the shapes out loud and to pay attention to the sides and corners (angles) of the shapes Pick two children to help demonstrate how the game is played.
“ For this game, one of you will pick shapes from a stack of shape cards and say the name of the shape that you see on the card out-loud to your partner. Your partner will cover the shape you said on her board.	Demonstrate taking a card from the stack, looking at it and saying the name of the shape on the card out loud. Then, in an exaggerated manner, look at the Shape Zap board and point to the shape that was said. Next take a cover card and place it over the shape on the board – Similar to standard ‘BINGO’.

Day 2

- “ When your whole board is covered you can yell out “Shape Zap!!!!
- “ Then you and your partner switch and the other person will pick the cards from the stack.

Demonstrate at least 2 rounds of the game in front of the class.

Game Description:

Pattern Match

Pattern Match AB is a board game that children play in pairs. One child calls out the pattern by naming the included parts, picking each from a face down pile. The other player fills out the Pattern Match board matching the pattern called out to its equivalent on the board. A set of “cover cards” are included as part of the game along with 4 different boards. When the entire board is covered with cards, the game is won and the pairs switch roles.

- “ This next game is very similar to the game we just played, except instead of picking up cards with shapes on them, you will be picking up cards with patterns on them.
- “ Does anyone know what a pattern is? Did you know that learning about patterns is part of learning about math?

Allow a moment for students to respond.

- “ A pattern is an arrangement of repeated parts. The arrangement is predictable, meaning that once you read the pattern you can tell what is going to come next.
- “ Once you pick a pattern card, you will read the pattern by naming each of the parts that you see on the card. Your partner will cover the matching pattern on her board when she hears the pattern read.
- “ If you have any trouble matching the pattern on the card to a pattern on your game board, ask your partner or a teacher to help you.

Demonstrate picking a card and reading the pattern out loud. Then ask the children to repeat the pattern out loud. Repeat this again before demonstrating how to play the game.

Demonstrating the game: As you demonstrate the game, be sure to:

3. Identify AB patterns that are on some of the game boards.
4. Remind children to take turns calling out the patterns and finding the patterns on their playing board.
5. Take a card from the stack, look at it and read the pattern on the card out loud. Then in an exaggerated manner, look at the pattern board and point to the pattern that was chosen. Take a cover card and place it over the pattern on the board.

Day 2

- When your whole board is covered you can yell out "Pattern Match"!!!!
- Then you and your partner switch and the other person will pick the cards from the stack.

Play at least 2 rounds of the game in front of the class.

- When you play during center time, you'll be working with a partner. Remember to say, out loud, the names of the shapes you identify and name the patterns that are part of the game. As you play the game, I will be walking around to see if you need help.

Hands-On Center Activities

Simple Shape Concentration

(10 minutes/Pairs of children)

Materials:

Simple shape concentration cards (2 sets)

Repeat Week 3, Day 1 hands-on center activity.

Hands-On Center Activities

Number Act Out

(10 minutes/Pairs of children)

Materials:

Small student 0 -10 number line (2)
0 – 6 number cards (2 sets)

Repeat Week 3, Day 1 hands-on center activity.

Review Games that can also be available during this time.

Go Fish (2-9) | Numbo (2-5)

Day 3

Math Detective Journal with Easy Game Play

(15 minutes/Small Group)

Materials:

Math Detective Journals
Teacher Journal pages 3.1 – 3.3
Dry erase board
Dry erase markers
Crayons

Math Detective Journal

" Remember last week we drew and counted shapes in our Math Detective Journals? You did such a terrific job that today we are going to add to our shape collection. Today we are going to draw a new shape and then count all the shapes we have in our Math Detective Journals. Once we've counted all the shapes, we are going to make a tally mark for each, and write the number of shapes and the number of tally marks we've counted. Let's get started.

Demonstrating the task: As you demonstrate the task, be careful to:

Revisit the previous week's shapes (Teacher Journal, p. 3.1). As children revisit the shapes in their journals, have them:

1. Name each shape.
2. Sky draw each shape as they name it, draw an example of each shape in their Math Detective Journal (if, for some reason, they didn't get to do that before), or trace over the previous journal drawing with their finger (if they already have a drawing in their journal).

Once each child has an example of each shape drawn in their Math Detective Journal, have the group:

1. Count the shapes up to 4 and back down to 0.

Show the group the new shape—a rectangle (Teacher Journal, p. 3.2).

1. Name the shape.
2. Sky draw a rectangle as they name it.
3. Have them draw an example of the rectangle in their Math Detective Journals.
4. Then ask them to look up and count all the shapes drawn in their journals.
5. As they count, model making tally marks on the appropriate Teacher Journal page (3.3). Focus their attention on how you represent "5" using tally marks: 

Day 3

“ Now, instead of loose marks, we have a bundle that means *five*. We can tell at a glance that it is 5 once we get used to doing and seeing it.

6. The children then count their own shapes again and make their own tally marks in their journals. Remind them (and help them, if necessary) to make only one mark for each shape counted and that when they get to the fifth mark they make a bundle: 
7. Then count up to 5, and back down to 0.

Children write the number of shapes (5) and the number of tally marks (5) in their journals.

Game Description:

Which Has More (0-10)?

To answer the question “Which Has More?” players alternate tossing pompoms into the game’s Number /Shape Tray (an ice cube tray fitted with numbers or shapes attached to the inside floor of each cube holder; some numbers or shapes may repeat depending on the focus of the game that day). For today’s game the focus numbers include 0-10 as well as various shapes (triangle, hexagon, square, circle, and rectangle). Each player tosses a pompom aiming towards the number/shape ice cube tray. The player looks to see where the pompom landed, identifying the number and saying it out loud. If the player lands on a shape instead of a number, she instead will need to count the corners of the shape. Then the second player will take her turn. Once both players have tossed and announced their numbers, together they will decide who has a bigger number. The player with the biggest number gets to start the next round.

“ Now we are going to play a new math game. Similar to the last time, I will show you how to play the game. Later, you will have the chance to play this same game, with a partner, during center time.

“ Today’s new math game is called “Which Has More?” It is a game that includes both numbers and shapes. As I show you how the game is played, please watch carefully so you’ll know what to do when you play with a partner during center time.

“ First let’s count from 1-10.

“ Great job counting, Math Detectives! Now let’s count down from 10-0?

“ Now we’re going to pretend we’re the number line!

Call children up to represent the “0” on the number line, the “1” etc. creating a human number line beginning with 0 and ending with 10. Then guide the children to identify who is in the “0” space (the child at the left most of the line) and which child is in the “10” space (the child at the right most of the line).

“ For the last part, we’ll review the corners (angles) of our shapes!

Use Teacher Journal page 3.1 to count corners on the shapes. Then help children locate the number of corners on the number line.

Day 3

“ Now it’s time to play “Which has More?”	
“ Here is an ice cube tray which some of you might recognize from home. Instead of ice though, these ice cube trays have a number or a shape written on a piece of paper inside each opening.	
“ To start the game, you and your partner will each get a bunch of pompoms.	Call two children up to demonstrate, handing them 5 pompoms each.
“ When it is your turn, you will need to lightly toss one pompom into the tray and then call out the number that the pompom landed on top of. If your pompom lands on a shape instead of landing on a number though, you will need to count the number of corners that your shape has. Then you and your partner will work together to find the number on the number line.	Let one of the children toss a pompom into the ice cube tray.
“ Then it will be your partner’s turn to do the same.	Allow the second child to toss a pompom into the ice cube tray.
“ Who has the bigger number? How do we know? Should we look at our number line?	Help children identify who landed on the bigger number (or the shape with a higher number of corners) using the number line as a guide.
“ When you play during center time, you’ll be working with a partner. Remember to say, out loud, the numbers you land on or the number of corners of the shape you land on. As you play the game, I will be walking around to see if you need help.	

Hands-On Center Activities

Simple Shape Concentration

(10 minutes/Pairs of children)

Materials:

Simple shape concentration cards (2 sets)

Repeat Week 3, Day 1 hands-on center activity.

Day 3

Hands-On Center Activities

Number Act Out

(10 minutes/Pairs of children)

Materials:

Student 0–10 number line (2)
0–6 number cards (2 sets)

Repeat Week 3, Day 1 hands-on center activity.

Review Games that can also be available during this time.

Go Fish (2-9) | Numbo (2-5)

Day 4

Weekly Math Circle Routine with Guided Reading

(25 minutes/Whole Class)

Materials:

Small teacher 0–10 number line
Small piece of paper or Post-it note to cover a number on the number line
Dry erase board
Dry erase markers
10 Little Numbers song lyrics
Large dice (2)
Busy Bugs book
AB pattern signs
ABB pattern signs
AABB pattern signs

Optional: Use web link (http://www.youtube.com/watch?v=dk9Yt1PqQiw) to stream audio/video of *10 Little Numbers* on any Web-enabled device.

Number Line Time

“ Today we are going to work with numbers on a number line. Does anyone know what a number line is?	Hold up the number line and give children a chance to respond.
“ Numbers on a number line always go in order. The 1 comes after the zero, the 2 comes after the 1. Who can tell us what comes after the 2? After the 3? After the 4?	Point to the numbers on the number line.
“ First, we are going to work together to find the number 1 and the number 5 on the number line that I am holding up. Who thinks they can come up and point to these numbers? “ Now who thinks they can find a number that is MORE than the number 7? Does anyone want to come and try? “ How do we know that the number (child's name) is pointing to on the number line is more than 7?	*Because it is further away from zero; because it is closer to 10; because it is bigger than 7; because is further along the number line.*
“ Next, I am going to hide a number on our number line. Can anyone tell us what number is missing?	Place a small card or Post-it note over the number 2.

Day 4

“ That was really great. For this next part of our activity, we are going to count out loud together. We'll start with the number zero and go up until the number 5, and then start at the number 5 and go back down to zero while we look at our number line. I am going to keep track of how many numbers we say by making tally marks on the dry erase board.

“ The last thing we're going to do with our number line right now is try to point to a number that comes BEFORE the number 9. Who wants to try to do this?

“ How do we know that the number (child's name) is pointing to on the number line comes before 9?

Because it is closer to the zero; because it is further away from10; because it is smaller than 9; because it is not as far along the number line.

"10 Little Numbers" Song

“ Today we are also going to sing a song called "10 Little Numbers" together. The words are very simple. I will say them first. You will repeat them after me, and then we'll be ready to sing the song together.

As you sing along with the children, encourage them to count along, using their fingers.

"10 Little Numbers" Lyrics (to the tune of "10 Little Indians")

Verse 1

One little, two little, three little numbers
Four little, five little, six little numbers
Seven little, eight little, nine little numbers
Ten little numbers

Verse 2

Ten little, nine little, eight little numbers,
Seven little, six little, five little numbers
Four little, three little, two little numbers
One little number

Number Scene

“ For this next activity, we're going to use this big die to help us recognize arrangements that numbers may have. Someone is going to have a chance to roll the big die and the rest of us will try to name the number of dots. You will have only a very short time to see the dots on the face of the die, so you'll need to pay attention. Who wants to roll the die first?

Hold up the die and choose a child. The child that you choose comes up and rolls the die. You hold on to the second die. You briefly (for 5 seconds) show all the children the side that the die landed on.

Day 4

“ Now it is important for you all to try to remember the arrangement of dots I showed you, how many dots make up the arrangement, and the number that the dots count up to. Does anyone have any ideas? I'm going to keep track of all of your number ideas!	Children rely on their memories of the dot configuration they saw, and offer matching number values on the number line. You poll children to find out how many think the configuration is a particular number. You maintain a tally record on the small dry erase board. Once you are satisfied that the polling is complete, have everyone count the dots out loud.
“ Together, let's count the dots out loud. Okay, we've counted them all now … we have _____ dots altogether. Who wants to find this number on our number line?	Choose a child to find the number on the number line. Then, while displaying the die face, describe the configuration of dots using language similar to the descriptions below: 1. a single dot in the middle of the die face 2. two dots arranged on a diagonal at opposite corners of the die face 3. three dots in a row arranged on a diagonal, with two at opposite corners of the die face 4. four dots, one at each corner of the die face 5. five dots, one at each corner of the die face with a single dot in the middle 6. two rows of three dots along opposite sides of the die face
“ Now let's look at our tally marks and see how many of you were able to match the dots on the die to the right number. Who can tell me what the tally is for each number?	Choose a child to count the tally marks for each number selected. Congratulate the children who got it right.
“ Who wants a turn at rolling the next die?	The child that you choose comes up and rolls the die. You briefly (for 5 seconds) show all the children the side that the die landed on.
“ Is what I just showed you more or less than what we saw the first time the die was rolled? How do you know this?	Allow children a moment to respond.
“ Great thinking, everyone. Let's look at the number line together to see if we're right.	Point to the numbers on the number line, explaining which number is closer to zero and therefore less, and which is closer to the 10 and therefore more.

Day 4

Book Reading ("Busy Bugs")

" Can you tell me what you see on this book cover?	Hold up the book cover so all the children can see it. Read the title.
" This is a pattern. Do you know what it means when something is called a pattern?	Point out a pattern on the book cover—small brick, large brick, small brick, large brick. Allow children a moment to respond to your question. Offer a definition, such as a pattern is an arrangement of repeated parts. The arrangement is predictable—meaning that it happens over and over again. Once you read the pattern, you can tell what is going to come next.
" Can you see another pattern on this book cover? Or can you find a pattern in the room? " Now that we have looked at the cover and talked about what we see, can we predict what this book will be about? What do you think it will be about? " Let's read and find out what happens.	
Pause at pages 12–13 " Can you find the pattern in the flowers?	Ask them to say the pattern out loud (for example, "Red, red, blue, blue, red, red …"). Act out an AABB pattern with gestures (e.g., tap head twice then tap shoulders twice). Have children act out the pattern with you and see if they can predict what will come next.
Pause at pages 16–17 " Can you find the pattern in the fireflies? What comes next in the pattern?	Tell the children that, continuing from the last firefly on page 17, the pattern is two fireflies with yellow eyes, one firefly with green eyes—this is an AAB pattern.
Pause at pages 24–25 " Let's repeat the dance pattern the ants do in the book!	Act out by standing up and repeating the ant dance pattern: hop, hop, slide. Have children stand up and repeat the ant dance with you.
At the end of the book " That was a great book! Remember that there are pattern games available during center time.	

Day 4

Hands-On Center Activities

Simple Shape Concentration

(10 minutes/Pairs of children)

Materials:

Simple shape concentration cards (2 sets)

Repeat Week 3, Day 1 hands-on center activity.

Hands-On Center Activities

Number Act Out

(10 minutes/Pairs of children)

Materials:

Student 0–10 number Line (2)
0–6 number cards (2 sets)

Repeat Week 3, Day 1 hands-on center activity.

Review Games that can also be available during this time.

Go Fish (2-9) | Numbo (2-5)

Week 4 Purple Week

Full Implementation Week

Objectives

Counting	• Children will learn to count objects to 10 in forward and reverse order • Children will learn to count numbers on a number line • Children will learn how to tally numbers greater than 5 • Children will learn about the concept of one-to-one correspondence • Children will learn about cardinality to 6 • Children will learn to compare different sets of numbers
Shape	• Children will identify a triangle, hexagon, square , rectangle and pentagon
Number Recognition	• Children will identify numbers to 9 • Children will subitize numbers to 6
Pattern	• Children will learn about simple AB, AABB and ABB patterns

Day 1

Introductory Activity with Visuals

More Pattern Recognition

(25 minutes/ Whole Class)

Materials:

Chart paper
Marker
10 sheets of construction paper (5 of one color; 5 of a second color)

“ Today Math Detectives, we are going to be working with patterns like we did last week. Before we start looking for patterns we’re going to listen for a pattern.	Clap your hands twice then snap your fingers twice. Ask children to repeat the pattern. **Demonstrating the task:** 1. Choose four children to help create an AABB pattern using sheets of colored paper. 2. The first two children stand up side by side holding a sheet of construction paper in front of them (red) and the second two children stand beside them holding a different colored sheet of paper in front of them (green). 3. The group repeats the pattern out loud together……red, red, green, green. 4. The pattern can be continued or a purposeful error can be inserted if additional reinforcement is necessary. Reclaim the four pieces of construction paper from the children composing the AABB pattern and lay them out on the floor in front of the children.
“ How many pieces of construction paper are there altogether? “ Let’s look around the room to find the number 4. Now let’s find the number 4 on the number line. “ How many different colors do we see?	Point to the construction paper in front of the children. Then write the number 2 on the chart paper.
“ What number comes before 2?	Write the number 1 on the chart paper. Work with the children to describe how the numbers look different. For example, the 1 is straight like a line but the two has a curve as well as a little line.
“ Before we finish, let’s count together from 1 to 4.	

Day 1

Hands-On Center Activities

Dominoes

(10 minutes/Pairs of children)

Materials:

Oversized dominoes (2 sets)

“ Now we’re going to play Dominoes – has anyone ever played Dominoes before?	Allow children some time to respond and then hold up a domino.
“ The most important thing when you play Dominoes is to make sure that the number of dots on one side of a domino matches the number of dots on the domino that you put down on the table next to it.	Provide a physical demonstration with two dominoes so that children can see what you are describing.
“ What if I put a side with 2 dots next to a side with 1 dot……do they match?	Demonstrate putting a domino with 2 dots next to a domino with 1 dot. Give children a moment to think about this and respond. Then discuss the correct answer.
“ Let’s try playing and see if we can match all the dominoes. To make sure we are doing this right, let’s count the number of dots on each side of the domino out loud together.	Model putting a few dominoes together with the children.

Hands-On Center Activities

What’s in the Bag?

(10 minutes/Pairs of children)

Materials:

Opaque fabric bag
Pattern blocks

“ Now we’re going to play a fun detective game. Each of you will have to use only your hands to tell us what shape something is. Has anyone ever used just their hands to tell what something is?	Allow children a moment to respond.

Day 1

“ I am going to put these shapes into a bag and then you will each have a turn to put your hand into the bag and feel a shape. Tell us what you feel. Is it round or does it have pointy edges? How many sides does it have? Hold on to the shape as you describe it and your partner tries to guess what it is. After your partner has had the chance to guess what shape you are holding, you can pull your shape out of the bag and show everyone.	Show and identify each shape as you're placing it into the bag.
“ Let's try one together!	Put your hand in the bag and describe a shape, showing the shape to children after someone guesses correctly.

Review Games that can also be available during this time.

Which Has More? (0-10) | Shape Zap | Pattern Match AB

Go Fish (2-9) | Numbo (2-5)

Day 2

Guided Challenge Game Play

(25 minutes/ Whole Class)

Materials:

AB pattern signs
ABB pattern signs
Pattern Match boards (4 versions)
Pattern Match cover cards
Pattern calling cards

Game Description:

Pattern Match AB and ABB

Pattern Match is a board game that children play in pairs. One child calls out the pattern by naming the parts of the pattern on the card they chose from a pile. The other player fills out the Pattern Match board, matching the pattern called out to its equivalent on the board. A set of "cover patterns" are included as part of the game along with 4 different boards. When the entire board is covered with cards, the game is won and the pairs switch roles.

- " Today we are going to play a math game. Similar to the last time, I will show you how to play the game. Later, you will have the chance to play this same game, with a partner, during center time.
- " Today's math game is called "Pattern Match." We played a version of this game last week. It is a game about patterns. As I show you how the game is played, please watch carefully so you'll know what to do when you play with a partner during center time. Some of you will have a chance to try out the game now with a partner.

Pick two children to help demonstrate how the game is played.

- " For this game, one of you will pick patterns from a stack of pattern cards and read the pattern by naming each of the parts. Your partner will cover the matching pattern on her board when she sees the pattern you read. If you have any trouble matching the pattern on the card to a pattern on your game board, ask your partner or a teacher to help you.
- " Let's play one round together.

Demonstrate the game by drawing the "circle, triangle, circle, triangle" pattern card and reading it out loud in an exaggerated manner.

Day 2

“ So let’s see what is on this card. It looks like a circle, then a triangle, then another circle and another triangle.	Have the children repeat this pattern description after you. Repeat the pattern again if necessary.
“ I see this pattern here on my Pattern Match board. I’m going to place a cover card over it.	Also, in an exaggerated manner, look at the pattern board and point to the pattern that was chosen. Take a cover card and place it over the pattern on the board. **Demonstrating the game:** As you demonstrate the game, be sure to: 1. Identify AB and ABB patterns that are on some of the game boards. 2. Remind children to take turns calling out the patterns and finding the patterns on their playing board.
“ When your whole board is covered you can yell out “Pattern Match!!!!” “ Then you and your partner switch and the other person will pick the cards from the stack. “ When you play during center time, you’ll be working with a partner. Remember to say out loud the patterns that you see, take turns and help each other as you play the game. As you play the game, I will be walking around to see if you need help.	

Day 2

Hands-On Center Activities

Dominoes

(10 minutes/Pairs of children)

Materials:

Oversized dominoes (2 sets)

Repeat Week 4, Day 1 hands-on center activity.

Hands-On Center Activities

What's in the Bag?

(10 minutes/Pairs of children)

Materials:

Opaque fabric bag
Pattern blocks

Repeat Week 4, Day 1 hands-on center activity.

Review Games that can also be available during this time.

Which Has More? (0-10) | Shape Zap | Pattern Match AB

Go Fish (2-9) | Numbo (2-5)

Day 3

Math Detective Journal with Easy Game Play

(15 minutes/ Small Group)

Materials:

Math Detective Journals
Dry erase board
Dry erase markers
Crayons
AB pattern signs
ABB pattern signs
AABB pattern signs
NUMBO boards (1-20) (4 versions)
NUMBO cover cards (two sets)
NUMBO calling cards (1-20)
Small teacher 0 – 20 number line
Fabric bag (or Ziploc)
Unifix cubes

Math Detective Journal

“ Math Detectives, today we are going to hunt for patterns. But before we hunt, let’s remember what a pattern is. I have a few examples of patterns that we can look at.	Pick an example from the pattern cards you have and hold it up for all the children to see.
“ Who can tell me something about the pattern you see?	Allow a moment for children to respond. Then provide more information.
“ There are different kinds of patterns. We can make patterns from all kinds of “stuff.” “ We can make color patterns, and number patterns and shape patterns and sound patterns. “ Patterns repeat and are predictable, meaning we can tell what the next part of the pattern will be based on what we see and read.	Read the pattern out loud.
“ Can someone read this pattern for us?	Show a second pattern sign example and select a child to read the pattern.

Day 3

“ Who knows what’s next in the pattern?

“ Well, you have done a really great job of talking about patterns. Now we’re going to look for some. We will hunt around the classroom and see what we can find. As you find one, try to read it to us and I will write it down on the board so we can count them later.

“ I want you to look around the room and see how many patterns you can find. I am going to start us off with…

Look for patterns on children’s clothes: a striped shirt, an alternating sequence of buttons on a child’s sweater, etc. Be sure to “read” and record the pattern you’ve found e.g., blue stripe, red stripe, blue stripe.

Give children time to identify the patterns in their classroom. Once a child has found one, ask them to point it out “read” it and then you will record it.

Once you have at least 6 different patterns, have the group count how many there are altogether. As they count have one of the children make a tally mark for each pattern counted: 

Remind the child to make only one tally mark for each pattern counted; how to use the “five bundle”; and decide what to do for the sixth tally.

“ Now you can make patterns in your Math Detective Journals.

Demonstrating the task: As you demonstrate the task, be careful to:

Quickly remind them of the shapes that they made in their journals earlier by having them name them (circle, triangle, square, hexagon, and rectangle)

Explain that they will draw their own patterns in their detective notebooks using a combination of shapes.

1. Have them draw a simple AB pattern first and if there is time they can make examples of the other pattern types (AABB, ABB).

2. As you review what children are making have them “read” their patterns by naming the shapes that are included.

Day 3

Game Description:

NUMBO (1-20)

Partners take turns in this alternate version of the game BINGO. One child will select a number from a bag and say the number chosen out loud to their partner. The other child will find this number on their NUMBO card and will cover it with a cover card. When the entire board is covered with cards, the game is won. The partners then switch roles and play again.

" Today we are going to revisit a math game we played before. Similar to the last time, I will show you how to play the game. Later, you will have the chance to play this same game, with a partner, during center time.	
" Remember, this math game is called "NUMBO" and it is a game about counting and naming numbers. I will remind you how the game is played - please watch carefully so you'll know what to do when you play with a partner during center time. Some of you will have a chance to try out the game with a partner now.	
" Remember from last time, this is a NUMBO playing board. As you can see, this one has a lot of numbers written on it – more numbers than the last time we played NUMBO. I will read out loud all of the numbers on the NUMBO board.	Name and point to each number on the NUMBO board.
" Like last time, I will now point to the numbers and I want you to say the name of the number out loud to me!	Point to the numbers and have the children name the numbers out loud.
" Who wants to see if they can count out the number of unifix cubes when I say a number out loud?	Allow at least two rounds where you say a number from the NUMBO board and a child counts out the corresponding number of unifix cubes. Once children seem familiar with the board, select two volunteers to demonstrate how the game is played for the rest of the group.

Day 3

- Remember in this game, one of you will pick numbers from this bag and read the number on the card out loud to your partner. Then your partner will cover the number you just read on her board.

Demonstrate reaching into the bag, picking out a number and saying it out loud. Then in an exaggerated manner, look at the NUMBO card and point to the number that was selected. Next take a cover card and place it on the board over that number - a process similar to standard 'BINGO'.

- When your whole board is covered you can yell out 'NUMBO!!!!'
- Then you and your partner switch and the other person will pick the cards out of the bag.
- When you play during center time, you'll be working with a partner. You and your partner will need to remember to count out loud. As you play the game, I will be walking around to see if you need help.

Hands-On Center Activities

Dominoes

(10 minutes/Pairs of children)

Materials:

Oversized dominoes (2 sets)

Repeat Week 4, Day 1 hands-on center activity.

Day 3

Hands-On Center Activities

What's in the Bag?

(10 minutes/Pairs of children)

Materials:

Opaque fabric bag
Pattern blocks

Repeat Week 4, Day 1 hands-on center activity.

Review Games that can also be available during this time.

Which Has More? (0-10) | Shape Zap | Pattern Match AB

Go Fish (2-9) | Numbo (2-5)

Day 4

Weekly Math Circle Routine With Guided Reading

(25 minutes/Whole Class)

Materials:

Small 0–10 teacher number line
Small piece of paper or Post-it note to cover a number on the number line
Dry erase board
Dry erase markers
"Head, Shoulders, Knees, and Toes" lyrics
Large dice
I Spy Numbers book

Optional: Use web link http://www.myvoxsongs.com/heads-shoulders-knees-and-toes.html of Head, Shoulders, Knees, and Toes to stream audio/video any web-enabled device.

Number Line Time

" Today we are going to work with numbers on our number line again. Does anyone remember what a number line is?	Hold up the number line and give children a chance to respond.
" Remember that numbers on a number line always go in order. The 1 comes after the zero, the 2 comes after the 1. Who can tell us what comes after the 2? After the 3? After the 4?	Point to the numbers on the number line.
" On the number line, the numbers get bigger in this direction. The smallest number on this number line is 0 and the biggest is 10. The number 10 is the farthest away from the 0.	Slide your finger under the line, moving to the right.
" First, we are going to work together to find the number 3 and the number 8 on the number line that I am holding up. Who thinks they can come up and point to these numbers?	
" Now who thinks they can find a number that is LESS than the number 4? Does anyone want to come and try?	
" How do we know that the number (child's name) is pointing to on the number line is less than 4?	*Because it is closer to the zero; because it is farther from the ten; because it is smaller than 4; because it is not as far along on the number line.*

Day 4

“ Next, I am going to hide a number on our number line. Can anyone tell us what number is missing?	Place a small card or Post-it note over the number 0.
“ That was really great. For this next part of our activity, we are going to count out loud together. We’ll start with the number zero and go up until the number 8 and then start at the number 8 and go back down to zero while we look at our number line. I am going to keep track of how many numbers we say by making tally marks on the dry erase board.	
“ The last thing we’re going to do with our number line right now is try and point to a number that comes AFTER the number 6. Does anyone want to try and do this? “ How do we know that the number (child’s name) is pointing to on the number line comes after 6?	*Because it is further from the zero; because it is closer to the ten; because it is bigger than 6; because it is farther along on the number line.*

“Head, Shoulders, Knees and Toes” Song

“ Today we are going to sing a song called “Head, Shoulders, Knees and Toes” together.	Review song lyrics with children and then sing together.
“ Now let’s count the body parts named in the song. How many heads do you have? How many shoulders? How many knees? And how many toes?	

“Head, Shoulders, Knees, and Toes” Lyrics

Head, shoulders, knees and toes, knees and toes

Head, shoulders, knees and toes, knees and toes

Eyes and ears and mouth and nose

Head, shoulders, knees and toes, knees and toes

(Repeat, getting faster each time)

Day 4

Number Scene

“ Next, we're going to play with our large dice again! We're going to use this big die to help us recognize arrangements that numbers may have. Remember that someone is going to have a chance to roll the big die and the rest of us will try to name the number of dots. You will only have a very short time to see the dots on the face of the die so you'll need to pay attention. Who wants to roll the die first?

Choose a child to come up and roll the die. You hold on to the second die. You briefly (for 5 seconds) show all the children the side that the die landed on.

“ Now it is important for you all to try and remember the arrangement of dots I showed you, how many dots make up the arrangement, and the number that the dots count up to. Does anyone have any ideas? I'm going to keep track of all of your number ideas!

Children rely on their memories of the dot configuration they saw and offer matching number values on the number line. You poll children to find out how many think the configuration is a particular number. You maintain a tally record on the small dry erase board. Once you are satisfied that the polling is complete, have everyone count the dots out loud.

“ Together let's count the dots out loud. Ok, we've counted them all now…we have _____ dots altogether. Who wants to find this number on our number line?

Choose a child to find the number on the number line. Then, while displaying the die face, describe the configuration of dots using language similar to the descriptions below:

1. a single dot in the middle of the die face
2. two dots arranged on a diagonal at opposite corners of the die face
3. three dots in a row arranged on a diagonal at opposite corners of the die face
4. four dots one at each corner of the die face
5. five dots one at each corner of the die face with a single dot in the middle
6. two rows of three dots along opposite sides of the die face

“ Now let's look at the tally and see how many of you were able to match the dots on the die to the right number. Who can tell me what the tally is for each number?

Choose a child to count the tally marks for each number selected. Congratulate the children who got it right.

Day 4

“ Who wants a turn at rolling the next die?	A child that you choose comes up and rolls the die. You briefly (for 5 seconds) show all the children the side that the die landed on.
“ Is what I just showed you more or less than what we saw the first time the die was rolled? How do you know this?	Allow a moment for children to provide responses.
“ Great thinking, everyone. Let’s look at the number line together to see if we’re right.	Then point to the numbers on the number line, explaining which number is closer to zero and therefore less and which is closer to the ten and therefore more.

Book Reading (“I Spy Numbers”)

“ Can you tell me what you see here? Can you name any of the numbers you see?	Hold the book cover up so all of the children can see it.
“ What do you think this book will be about? Can you tell based on what you see on the cover? “ Let’s see what happens in this book.	Point to each number on the page right before you read it and ask children to repeat the number after you. Pause to allow the children to call out the number.

Pause at page 5 (the “3” page)

“ How many pigs can you count? Are there 3? Let’s do it together.

Pause at page 17 (the “9” page)

“ Let’s count some of the objects on this page. For example, dots on the die……are there 9?….let’s check. And steps on the ladder …..are there 9?....let’s count together.

At the end of the book

“ Do you think we can count all the way up to 9? Let’s try to do it together. 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. Great job, now let’s try to count back down starting from 9: 9, 8, 7, 6, 5, 4, 3, 2, 1, 0. That was very good counting.

“ Just a reminder that we have number games available during center time.

Day 4

Hands-On Center Activities

Dominoes

(10 minutes/Pairs of children)

Materials:

Oversized dominoes (2 sets)

Repeat Week 4, Day 1 hands-on center activity.

Hands-On Center Activities

What's in the Bag?

(10 minutes/Pairs of children)

Materials:

Opaque fabric bag
Pattern blocks

Repeat Week 4, Day 1 hands-on center activity.

Review Games that can also be available during this time.

Which Has More? (0-10) | Shape Zap | Pattern Match AB

Go Fish (2-9) | Numbo (2-5)

Week 5 Yellow Week

Full Implementation Week

Objectives

Counting	• Children will learn to count to 20 in forward and reverse order • Children will learn to count numbers on a number line • Children will learn how to tally numbers greater than 5 • Children will learn to compare sets of numbers
Shape	• Children will identify a triangle, rectangle and square • Children will learn about what corners (angles) and curves are when identifying different shapes
Number Recognition	• Children will identify numbers to 10
Pattern	• Children will learn to create their own simple AB, AABB and ABB patterns

Day 1

Introductory Activity with Visuals

Counting Backwards

(25 minutes/ Whole Class)

Materials:

Chart paper
Marker
Scotch tape
Triangle shape cards (2)
Rectangle shape cards (3)
Square shape cards (3)
Circle shape cards (2)

“ For today’s activity as Math Detectives we’re going to go shape picking. Have any of you ever gone apple picking?	Allow a few moments for children to respond.
“ It is going to be similar to that, except instead of picking apples off of a tree, we’re going to pick shapes! We are also going to do some counting, but not only counting forwards…. counting backwards too! “ Let’s do some forward counting first, starting with the number zero: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. Now let’s do some backwards counting together and count down from 10: 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0. Great job! “ Now we’re going to use a shape tree to do some counting!	Draw the body of a tree with ten branches coming out of the top on the chart paper. Then attach one shape to each branch using scotch tape:  After you attach all of the shapes to the chart paper: 1. Count the shapes on the tree (1-10) with the children. 2. One by one, call children up to pick a shape off of the shape tree. 3. Have each child identify the shape and place it on the floor in front of the other children. 4. Count backwards from ten for each removed shape. For example, the first shape removed leaves 9 shapes on the tree. The second shape removed leaves 8 shapes on the tree.
“ Now let’s use our shapes to play a guessing game.	With the shapes still on the floor in front of the children, have a shape in mind and gives clues and hints to the children about what shape it is, for example a circle.
“ I’m thinking of a shape. It is completely round and it looks just like the letter O. What shape is it?	Allow a moment for children to respond. Draw their attention to the shapes on the floor if they are struggling.
“ Yes, the shape I’m thinking of is a circle!	Draw a circle on the chart paper and say the name of the shape out loud.

Day 1

- “ What shape is this? That's right, a circle. Let's draw a circle in the air.
- “ Now, I'm thinking of a number that looks almost exactly like a circle. What number am I thinking of? That's right the number I'm thinking of is zero.

Draw a zero on the chart paper and say the number out loud.

- “ Let's write a zero in the air and say it out loud.
- “ Before we finish, let's count forward from 0-10.
- “ Now let's count backwards from 10 to 0!

Hands-On Center Activities

Dot Concentration

(10 minutes/Pairs of children)

Materials:

Dot Concentration cards (2 sets)

- “ Have you heard the word “concentration” before? Do you think you know what that word means?

Allow children a moment to respond.

- “ When you concentrate, it means that your brain is working really hard on one thing. We've played a concentration game before—do you remember when we played the game where we had to match two of the same shapes? One of the things we had to do when we played that game was to pay attention to what was on the cards as we turned them over to see if they matched, or to remember where a card that we turned over was.
- “ We're going to try a Dot Concentration game today. When it is your turn, turn over any two cards so that the dots are facing up, and think about if the number of dots on your two cards is the same. If they have the same number of dots, you can keep the cards with you until the end of the game. If you turn over two cards that don't have the same number of dots, turn them back around so that the dot-side is face down, but try to remember where those card are for your next turn. Then it is your partner's turn.

Model putting the cards face down on the table and then turn over two cards. Model finding a match and finding a set that doesn't match.

Day 1

Hands-On Center Activities

Pattern Play

(10 minutes/Pairs of children)

Materials:

Clear plastic bin
Plastic fruit
Counting bears
Unifix cubes
AB pattern signs
ABB pattern signs
AABB pattern signs

“ Do you remember what a pattern is? Let's see if there is a pattern somewhere in this room.

Help direct children to a pattern in the room—alternating stripes on a child or a teacher's shirt, a pattern on a poster or book jacket.

“ Now we're going to make our own patterns. We're going to use some of these things to make patterns on the table. I'm going to make a pattern to show you how it works: one piece of fruit, one counting bear, another piece of fruit, and another counting bear. This is called an AB pattern. Let's see if you can make a pattern too.

“ I'll leave these pattern signs here to remind you about the different patterns we've talked about.

Review Games that can also be available during this time.

Numbo (1-20) | Pattern Match AB and ABB

Which Has More? (0-10) | Shape Zap

Pattern Match AB | Go Fish (2-9)

Day 2

Guided Challenge Game Play

(25 minutes/ Whole Class)

Materials:

Large dice (2)
Pointer
Small teacher 0 - 20 number line

Game Description:

Next?

Next? is a game that gives children practice counting and counting on. Using a number line containing numbers from 0-20, children practice counting out loud, by ones beginning with number 1. Once comfortable with counting from 1 the player rolls a die to determine a start number and then counts on from that number using the number line as support. After starting from different numbers counting on, the player throws a die to name a number and tells what comes after that number in the counting sequence.

" Today math detectives, we are going to play a new math game. Similar to the last time, I will show you how to play the game. Later, you will have the chance to play this same game, with a partner, during center time.	
" Today's new math game is called "Next?" It is a game about counting and numbers. As I show you how the game is played please watch carefully so you'll know what to do when you play with a partner during center time. Some of you will have a chance to try out the game now with a partner.	
" Who remembers what this is?	Hold up a 0-20 number line.
" That's right, this is a number line. Who can tell me what the first number is on this number line?	Give children a chance to respond.
" What about the last number? Who thinks they know the number that is in the middle of the number line?	

Day 2

“ Today we will all have a chance to practice our counting from the first number on the number line to the last. I’m going to ask one child to point to each number as we count. “ Let’s count out loud together from 0 to 20.	Select a child to come up and point to each number as the whole group counts out loud from 0-20.
“ Now let’s count from 0-10 out loud altogether. We’ll need another Math Detective to point to each number as we count from 0-10.	Select a child to come up and point to each number as the whole group counts out loud from 0-10.
“ Now we are going to practice our counting starting at other numbers. To do that, we are going to roll the die to see where we will start counting.	Roll the die and announce the number that appears on the top of the die. Have the children say the number out loud after you.
“ So now we are going to start counting the number selected by the roll of the die. Who is going to help us count from ____?	Select a child to come up and point to each number as the whole group counts out loud from the number rolled on the die to 20. Repeat this a few times.
“ Next we are going to roll the die, say the number that it lands on out loud and then think about what number comes next. Let’s try this out.	**Demonstrating the game:** As you demonstrate the game, be careful to: 1. Think of the number line as a playing board for this activity—rolling a die to see how many “spaces” you move. 2. Select a child to come up and roll the die. 3. Have the child say out loud what number came up on the die (Example—5) and then say what number comes next (6). 4. Have the child find the number that comes next on the number line (6) 5. Make sure that at least 2 children are responsible for remembering the number that was next on the number line (6). 6. Select another child to roll the die again. Tell the group what number came up. (Example—3). 7. Count up from 6 by 3 spots (to 9). 8. Repeat at least three rounds of ‘counting up’ using the die. All of the following examples assume the first child rolled a 5 and the second child rolled a 3.

Day 2

- “ (Child’s name) rolled a 5, what number comes after 5? Who can come up to the number line to show us?
- “ Who’s going to remember where we are on the number line?

Select 2 children to remember where you are – at the number 6.

- “ Ok, who wants to roll the next die?
- “ (Child’s name) rolled a 3. Ok, where are the children that were going to remember where we are on the number line?
- “ Great, thank you for helping us remember. We are going to count up 3 from 6. The die that (child’s name) just rolled is telling us to count up three numbers from 6. When we count up 3 from 6 what number do we land on?

Demonstrate by counting up by three numbers on the number line.

Repeat this portion of the activity until children get more comfortable with remembering a previous number and counting on to the next number based on a roll of the die.

- “ When you play during center time, you’ll be working with a partner. Remember to count out loud when you land on a number, take turns playing the game, and help each other count. As you play the game, I will be walking around to see if you need help.

Hands-On Center Activities

Dot Concentration

(10 minutes/Pairs of children)

Materials:

Dot Concentration cards (2 sets)

Repeat Week 5, Day 1 hands-on center activity.

Day 2

Hands-On Center Activities

Pattern Play

(10 minutes/Pairs of children)

Materials:

Clear plastic bin
Plastic fruit
Counting bears
Unifix cubes
AB Pattern signs
ABB Pattern signs
AABB pattern signs

Repeat Week 5, Day 1 hands-on center activity.

Review Games that can also be available during this time.

Numbo (1-20) | Pattern Match AB and ABB

Which Has More? (0-10) | Shape Zap

Pattern Match AB | Go Fish (2-9) | Numbo (2-5)

Day 3

Math Detective Journal with Easy Game Play

(15 minutes/ Small Group)

Materials:

Math Detective Journals
Teacher Journal pages 5.1–5.4
Dry erase board
Dry erase marker
Crayons
Small student 0–20 number line (2)

Math Detective Journal

" It's time to be Math Detectives. Today we are going to be counting and looking at numbers on the number line. Let's look at the number line and see what we know about it. Who can tell me what you see?	Allow a moment for children to respond.
" That's right! There are numbers on the number line. The numbers are in order. The biggest number is all the way at the right end of the line. The smallest is all the way at the left end of the line.	Use your finger to slide across the number line.

Day 3

“ Let’s begin by counting backwards from 10.

Demonstrating the task: As you demonstrate the task, be careful to:

Let children know that they will be counting out loud as you point to each number on the number line.

Have children count out loud backwards from 10. As they call out each number help them focus on the numeral on the number line.

1. Have children count backwards from 10 to 0
2. Have children count backwards from 10 to 7; then count forwards from 0 to 7
3. Have children count backwards from 10 to 6; then count forwards from 0 to 6
4. Ask children to tell you which number is bigger, 7 or 6?
5. Ask them how do they know? If they need help be sure to tell them about the location of the largest numbers on the number line (as you go up from 0 the numbers are getting bigger) and the location of the smallest numbers on the number line (as you count backwards the numbers are getting smaller)
6. Ask again which number is bigger, 7 or 6?
7. Have them sky write number 6, then have them sky write number 7
8. Call children up to locate 6, then 7, then 0, then 10 on the number line

“ Now it’s time for us to use our Math Detective Journals again.

Make sure each child has his/her Math Detective Journal

1. In their journals, have them turn to the next empty page
2. Tell them that they will be Math Detectives for numbers 6 and 7
3. Have a child point to number 6 then number 7 on the number line
4. On the first empty page, have each child write the number 6
5. On the next empty page, have each child write the number 7
6. Explain to them that they will be making their own page of “6.” That means that they are going to make 6 dots (like on the die), 6 tally marks (similar to what they’ve done counting shapes), and 6 of anything else they would like to draw using shapes, figures. or anything else they can think of. *Demonstrate using Teacher Journal page 5.1.*
7. Once they have finished their page of 6, they will be making their own page of “7” by making 7 dots, 7 tally marks (similar to what they’ve done counting shapes), and 7 of anything else they would like to draw using shapes, figures or anything else they can think of. *Demonstrate using Teacher Journal page 5.2.*

   Using Teacher Journal pages 5.3 and 5.4, have children compare a set of 6 to a set of 7 and identify which is larger and smaller; talk about how they know which is larger and which is smaller.

Day 3

Game Description:

The Number Tree

Children practice counting backwards from 10 out loud as they eliminate the corresponding number leaf on the number tree, covering each number leaf as they count down the numbers to zero and all the number leaves are covered.

“ Today’s math game is called “The Number Tree” and it is similar to what we did when we counted backwards during circle time. It is a game about counting backwards from 10. As I show you how the game is played please watch carefully so you’ll know what to do when you play with a partner during center time. “ You and your partner will take turns playing this game, and you will read the countdown numbers out loud together. “ Let’s take a look at the Number Tree board.	Show children the Number Tree board. Ask them to tell you what they see. For example, a tree with branches and numbers 1-10 hanging from the branches. **Demonstrating the game:** As you demonstrate the game, be sure to: 1. Model playing, counting backwards aloud as you play 2. Use the number covers to hide the number leaves as you count backwards and the numbers disappear from the tree. 3. Draw the children’s attention to the number line on the side of the board with a finger count next to each miniature number leaf on the number line. Explain that it will help them, if they need to keep track of the numbers as they count backwards.
“ Now let’s try together. Can I have two volunteers?	Call two children to the front to model playing the game.

Day 3

- “ You want to hide each of the numbers on the Number Tree as you count backwards. First, you will need to find the number 10. Since you and your partner will be counting backwards, you will start from 10. Who can find the 10 on this Number Tree?
- “ Good! Now say it out loud so we all can hear. Once you have found 10 cover it up. It is now your partner's turn to find the next number counting backwards. Who knows what that number is?
- “ Good! Say it out loud and cover it up with a blank card.

Continue demonstrating the game until there are no more numbered leaves to cover and zero is the result.

Pair up at least 4 more children to try out playing the game.

- “ When you play during center time, you'll be working with a partner. Remember to count down out loud, take turns playing the game, and help each other with the count downs. As you play the game, I will be walking around to see if you need help.

Day 3

Hands-On Center Activities

Dot Concentration

(10 minutes/Pairs of children)

Materials:

Dot Concentration cards (2 sets)

Repeat Week 5, Day 1 hands-on center activity.

Hands-On Center Activities

Pattern Play

(10 minutes/Pairs of children)

Materials:

Clear plastic bin
Plastic fruit
Counting bears
Unifix cubes
AB pattern signs
ABB pattern signs
AABB pattern signs

Repeat Week 5, Day 1 hands-on center activity.

Review Games that can also be available during this time.

Numbo (1-20) | Pattern Match AB and ABB

Which Has More? (0-10) | Shape Zap

Pattern Match AB | Go Fish (2-9) | Numbo (2-5)

Day 4

Weekly Math Circle Routine With Guided Reading

(25 minutes/ Whole Class)

Materials:

Small teacher 0–20 number line
Small piece of paper or Post-it note to cover a number on the number line
Dry erase board
Dry erase markers
"10 Little Numbers" lyrics
Large dice
Circle sign
Square sign
Rectangle sign
Round is Mooncake book

Optional: Use web link http://www.youtube.com/watch?v=dk9Yt1PqQiw to stream audio/video of 10 Little Numbers using any web-enabled device

Number Line Time

" Today we are going to work with numbers on a number line again. Does anyone remember what a number line is?	Hold up the number line and give children a chance to respond.
" Numbers on a number line always go in order. The 1 comes after the zero, the 2 comes after the 1. Who can tell us what comes after the 2? After the 3? After the 4?	Point to the numbers on the number line.
" On the number line, the numbers get bigger in this direction. The smallest number on this number line is 0 and the biggest is 20. The number 20 is the farthest away from the 0.	Slide your finger under the line, moving to the right.
" First, we are going to work together to find the number 2 and the number 10 on the number line that I am holding up. Who thinks they can come up and point to these numbers? " Now who thinks they can find a number that is MORE than the number 3? Does anyone want to come and try? " How do we know that the number (child's name) is pointing to on the number line is more than 3?	*Because it is further away from the zero; because it is closer to the ten; because it is bigger than 3; because it is further along on the number line.*
" Next I am going to hide a number on our number line. Can anyone tell us what number is missing?	Place a small card or Post-it note over the number 8.

Day 4

“ That was really great. For this next part of our activity, we are going to count out loud together. We'll start with the number zero and go up until the number 10 and then start at the number 10 and go back down to zero while we look at our number line. I am going to keep track of how many numbers we say by making tally marks on the dry erase board.

“ The last thing we're going to do with our number line right now is try and point to a number that comes BEFORE the number 7. Does anyone want to try and do this?

“ How do we know that the number (child's name) is pointing to on the number line comes before 7?

Because it is closer to the zero; because it is further from the ten; because it is smaller than the 7; because it is not as far along on the number line.

10 Little Numbers Song

“ Now we are going to sing our “10 Little Numbers” song together. Remember, I will say the words first. You will repeat them after me and then we'll be ready to sing the song together.

As you sing along with the children encourage them to count along using their fingers.

10 Little Numbers (to the tune of 10 Little Indians)

Verse 1

One little, two little, three little numbers
Four little, five little, six little numbers
Seven little, eight little, nine little numbers
Ten little numbers

Verse 2

Ten little, nine little, eight little numbers,
Seven little, six little, five little numbers
Four little, three little, two little numbers
One little number

Number Scene

“ Now it's time to play our dice game! Does everyone remember how to play?

Choose a child. The child that you choose comes up and rolls the die. You hold on to the second die. You briefly (for 4 seconds) show all the children the side that the die landed on.

“ Now it is important for you all to try to remember the arrangement of dots I showed you, how many dots make up the arrangement, and the number that the dots count up to. Does anyone have any ideas? I'm going to keep track of all of your number ideas.

Children rely on their memories of the dot configuration they saw and offer matching number values on the number line. You poll children to find out how many think the configuration is a particular number. You maintain a tally record on the small dry erase board. Once you are satisfied that the polling is complete, have everyone count the dots out loud.

Day 4

“ Together let’s count the dots out loud. Ok, we’ve counted them all now … we have _____ dots altogether. Who wants to find this number on our number line?	Choose a child to find the number on the number line. Then, while displaying the die face, describe the configuration of dots using language similar to the descriptions below: 1. a single dot in the middle of the die face 2. two dots arranged on a diagonal at opposite corners of the die face 3. three dots in a row arranged on a diagonal at opposite corners of the die face 4. four dots one at each corner of the die face 5. five dots one at each corner of the die face with a single dot in the middle 6. two rows of three dots along opposite sides of the die face
“ Now let’s look at the tally marks and see how many of you were able to match the dots on the die to the right number. Who can tell me what the tally is for each number?	Choose a child to count the tally marks for each number selected. Congratulate the children who got it right.
“ Who wants a turn at rolling the next die?	A child that you choose comes up and rolls the die. You briefly (for 4 seconds) show all the children the side that the die landed on.
“ Is what I just showed you more or less than what we saw the first time the die was rolled? How do you know this? “ Great thinking everyone. Let’s look at the number line together to see if we’re right.	Point to the numbers on the number line, explaining which number is closer to zero and therefore less and which is closer to the ten and therefore more.

Book Reading (“Round is Mooncake”)

“ Can you tell me about what you see on this book cover? Do you see any shapes? What are they? Do you think this cover can tell us something about what this story is about?	Hold the book cover up so all the children can see it. Read the title out loud.
“ Let’s find out what this story is about.	As you read the book to the children have the shapes signs available and be sure to hold up the shape that matches the shape mentioned in the book.

Day 4

Pause at Page 10

“ Do you know what shape is round like the moon, the lanterns and the rest of the objects we just read about?	Hold up the circle sign.
“ Do you know another word for a line that is shaped like this? The word is curve – this is a curved line and circles have curved lines, not straight edges.	Point to the curved line of the circle shape and the straight edge of the book.

Pause at Page 20

“ Can you see any curves on this shape?	Hold up the square sign.
“ This shape is a square and has only straight lines and angles. It does not have curves like the circle. Let’s count the sides of a square together: 1, 2, 3, 4. That was great counting!	Point to each side as you count.

At the end of the book, turn to page 17

“ Now can everyone count the number of kittens in the box?	
“ There are 3 kittens inside the box. How many kittens are outside of the box?	
“ There is one kitten outside the box. Which number is bigger, 3 or 1? How do we figure that out?	Give children a chance to respond.
“ There are a lot of ways to figure this out, you can look at the picture and point to the kittens that are inside and outside the box and see which number is bigger or you can count on your fingers, or you can use blocks or unifix cubes to help you count.	
“ Can you look at these two shapes and tell me what you see that is the same and what is different?	Hold up a rectangle sign and a square sign.
“ They both have 4 sides and 4 corners (angles) but are all the sides the same length? Which shape has longer sides? A rectangle always has two sides that are shorter and two that are longer. Which of these is the rectangle?	Point to sides and corners (angles).
“ A square has sides that are all the same size. Which is the square?	

Day 4

Hands-On Center Activities

Dot Concentration

(10 minutes/Pairs of children)

Materials:

Dot Concentration cards (2 sets)

Repeat Week 5, Day 1 hands-on center activity.

Hands-On Center Activities

Pattern Play

(10 minutes/Pairs of children)

Materials:

Clear plastic bin
Plastic fruit
Counting bears
Unifix cubes
AB pattern signs
ABB pattern signs
AABB pattern signs

Repeat Week 5, Day 1 hands-on center activity.

Review Games that can also be available during this time.

Numbo (1-20) | Pattern Match AB and ABB

Which Has More? (0-10) | Shape Zap

Pattern Match AB | Go Fish (2-9) | Numbo (2-5)