UNIT 1

Starfall Kindergarten MATHEMATICS

Let's Get Started

Starfall Education Foundation
P.O. Box 359, Boulder, CO 80306

Starfall Education Foundation P.O. Box 359, Boulder, CO 80306 U.S.A.

Email: helpdesk@starfall.com **Phone:** 1-888-857-8990 or 303-417-6414 **Fax:** 1-800-943-6666 or 303-417-6434

UNIT 1

Let's Get Started

Unit 1 • Overview

Week 1

Week 2

Frequently Asked Questions

What is the primary focus of the Starfall math curriculum?

Number sense is the primary focus of the Starfall Math curriculum. Number sense is the foundation for children's later mathematical achievement. Many preschool children can mechanically count, or even add and subtract as a result of practice and drill, yet they hardly understand the meaning of numbers or their relationships. In other words, children "do" math without understanding numbers. The Starfall Math curriculum focuses on number sense, involving the understanding of whole numbers, number operations, and number relations. In order to navigate formal mathematics, children must be able to link their basic understanding of numbers to symbolic representations. Early number competencies influence future success in mathematics. As number sense is being developed, geometry, algebraic reasoning, and measurement are integrated and spiraled throughout the curriculum.

Why is the Daily Morning Routine so important?

The Daily Morning Routine includes the following five components, which demonstrate the use of numbers in everyday life and provide daily exposure to cardinality.

1. ***Calendar Routine*** — The Calendar Routine provides practice in ordering numbers, reading a graph, adding "one more," creating equivalent sets, ordinal numbers, coin values, and the list goes on!
2. ***Weather Routine*** — The Weather Routine provides experience with a different way to graph numbers through the use of tally marks. Children learn and practice predicting, estimating, greater than, less than, equal, and probability as they chart the daily weather.
3. ***Number Line Routine*** — The Number Line Routine establishes, at an early age, that numbers do not begin at zero but are infinite in both directions (positive and negative). The premise is that children will use the number line as one way to chart how many days they have been in school. Its uses are unlimited: counting forward from a given number; counting backward from a given number; skip counting by 2s, 5s, 10s, 25s, 50s; ordering numbers; and adding one more.
4. ***Place Value Routine*** — The Place Value Routine is linked to the Number Line Routine, and is probably the single most important routine in which children learn from a very young age that our number system contains only the digits 0 through 9 and that regrouping is necessary to form additional numbers. Children "bundle" every ten days, which helps to set the stage for understanding place value.
5. ***Hundreds Chart*** — The Hundreds Chart also reinforces number order and intuitively creates a visual that demonstrates how numbers are organized by groups. It provides another experience in charting numbers.

Unit 1 Research

As young children learn to describe and represent quantities, shapes, space, and patterns, they gain insights and ideas for understanding the world. Evidence shows that learning mathematics is vital for children's early years and for later success in mathematics, as well as increased overall academic success in such areas as literacy, science, and technology.[1] Starfall Math is designed to help children see relationships and interconnections in mathematics. Each unit is a building block for future units.

In 2006, NCTM (National Council of Teachers of Mathematics) released Curriculum Focal Points for pre-kindergarten through grade 8 mathematics. At the kindergarten level, the three focal points include numbers and operations, geometry, and measurement.[2] It is crucial that sufficient time is devoted to mathematics instruction in kindergarten so that children develop the foundational mathematical skills and understanding described here. Time must be allocated not only for the more formal parts of mathematics instruction and discussions that occur in the whole group or small groups, but also for children to elaborate and extend their mathematical thinking by exploring, creating, playing in learning centers, and completing computer activities.[3] Effective whole group interactions include brief demonstrations and discussions, problem solving in which children partner to talk and work together, and physically active activities such as marching around the room while counting, acting out nursery rhymes that include counting, and acting out patterns and graphs.

Children in a Starfall Math classroom learn that with the combination of only 10 numerals (0 through 9), they can write any number, no matter how large. They begin to understand that the meaning of a numeral in a written number depends in a very specific way on its placement. They actively participate in creating larger and larger units of numbers by bundling them together to create groups of 10.

Research reveals that the use of open-ended questions increases math talk in the classroom. Effective teachers ask children "Why"? and "How do you know?" [4] Starfall's Magic Math Moment and math lessons provide experiences that allow children to share strategies, explain their thinking, work together, and listen to each other to solve problems.

Morning math routines, in which students gather together on a rug or carpet to interact, help enhance math instruction.[5] The activities are designed to build number sense in students, therefore it is important that students are in control and have the opportunity to demonstrate their understanding and proficiency in number operations. Posting the date on the calendar, adding a craft stick to count school days, predicting the day's weather, and other similar activities help children develop real-life math skills and reinforce the base ten number system throughout the 180 days of the school year.

(1) Duncan, G.J., Dowsett, C.J., Claessens, A., Magnuson, K., Huston, A.C., et al, (2007). "School Readiness and Later Achievement," *Developmental Psychology*, 43(6), 1428-1446.

(2) National Council of Teachers of Mathematics (2006). *Curriculum Focal Points for Pre-Kindergarten through Grade 8 Mathematics: A Quest for Coherence*. Reston, VA.

(3) Committee on Early Childhood Mathematics (2009). *Mathematics Learning in Early Childhood: Paths toward Excellence and Equity.* Washington, D.C.: National Academies Press.

(4) Clements, D.H., and Sarama, J. (2007). Early childhood mathematics learning. In F.K. Lester, Jr. (Ed.), *Second Handbook of Research on Mathematics Teaching and Learning* (pp. 461-555). New York, NY: Information Age.

(5) McCoy, A., Barnett, J., and Combs, E., (2013). *High-Yield Routines for Grades K-8*. National Council of Teachers of Mathematics.

Unit 1 Summary

Time Frame: 10 days

The children will become acquainted with the Gathering Routine, which incorporates the monthly calendar, weather prediction, number line, place value, and hundreds day chart. The Gathering Routine is a key component of the Starfall Math Program and will be used daily. This routine must begin on the first day of school. In Week 2, the children will become better acquainted with the Gathering Routine. They will learn about creating and extending simple patterns and continue their study of geometric shapes and their attributes.

Essential Questions

(K.CC.B.5) How can counting objects help me know how many there are?

(K.OA.A.2) What strategies can we use to solve word problems?

(K.MD.A.2) How can we use measurement to describe and compare objects?

(K.G.B.4) How can we compare shapes?

Enduring Understandings

Numbers have names and we can use them to count.

Almost everything can be counted. Number names tell us how many objects are in groups and allow us to count in order and compare groups of objects.

Objects can be similar to others in one way and different in other ways.

Subtracting is taking groups apart and making less.

When measuring, you start at the beginning of the object and finish measuring at the end of the object.

When comparing two lengths, one end of each length must match.

Vocabulary

The children will be introduced to these vocabulary words. Mastery is not expected at this time.

Angle	Hexagon	Partners	Square
Calendar	Hundreds chart	Pattern	Straight line
Circle	Negative number	Pentagon	Tally mark
Curved line	Number	Rectangle	Triangle
Ellipse	Number line	Rhombus	Two-dimensional
Graph	Octagon	Rule	Zero

Recommended Literature

Chicka Chicka 123 by Bill Martin, Jr. and Michael Sampson

Counting Crocodiles by Judy Sierra and Will Hillenbrand

Five Little Monkeys Jumping on the Bed by Eileen Christelow

Mouse Shapes by Ellen Stoll Walsh

Round Is a Tortilla: A Book of Shapes by Roseanne Greenfield Thong and John Parra

Standards & Benchmarks

Progress on the following standards and benchmarks will be made through the course of this unit. For your convenience, applicable learning outcomes are listed alongside each lesson in summary form.

Starfall Standards

Counting & Cardinality	
CC.3	Count backward from a given number.

Operations & Algebraic Thinking	
OA.1	Identify, describe, or extend simple patterns.

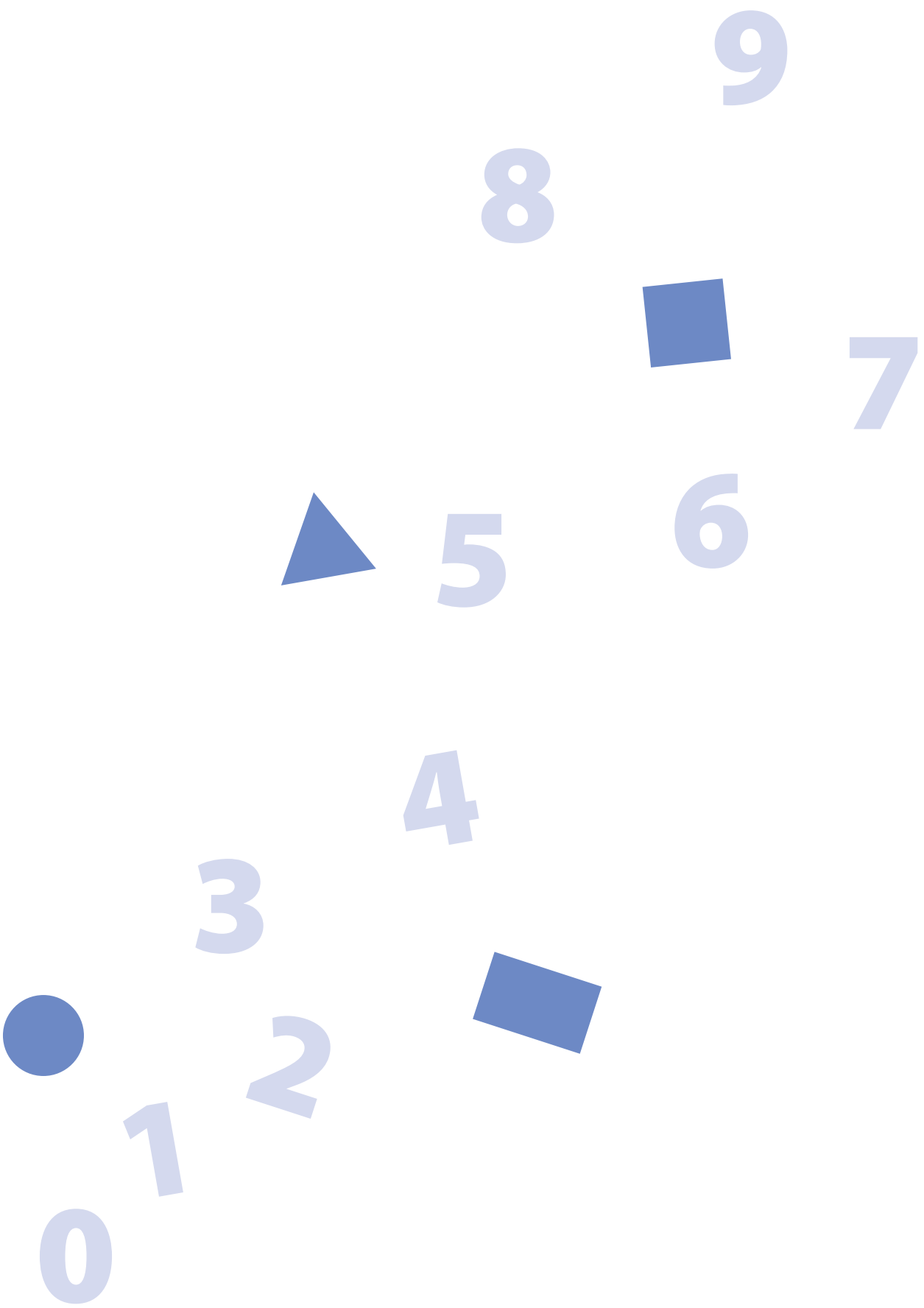
Common Core Standards

Counting & Cardinality		*Inline Summary Form*
A.2	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	*Count forward from a given number.*
B.4	Understand the relationship between numbers and quantities; connect counting to cardinality.	*Understand the relationship between numbers and quantities.*
B.4a	When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.	*Say number names in order, pairing each object with one number.*
B.4b	Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.	*The last number counted tells the total number of objects.*
B.4c	Understand that each successive number name refers to a quantity that is one larger.	*Each successive number refers to one more.*

Operations & Algebraic Thinking		*Inline Summary Form*
A.1	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.	*Represent addition and subtraction in a variety of ways.*

Measurement & Data		*Inline Summary Form*
A.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	*Describe measurable attributes of objects.*
A.2	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.	*Compare two objects with a common measurable attribute.*

Geometry		*Inline Summary Form*
A.2	Correctly name shapes regardless of their orientations or overall size.	*Correctly name shapes.*
A.3	Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").	*Identify shapes as two- or three-dimensional.*
B.4	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).	*Analyze and compare two- and three-dimensional shapes.*


9
8
7
6
5
4
3
2
1
0

Week 1 Summary

The children will become acquainted with the Gathering Routine, which incorporates the monthly calendar, weather prediction, number line, place value, and hundreds day chart. The Gathering Routine is a key component of the Starfall Math Program and will be used daily. This routine must begin on the first day of school. The children will also:

- Learn how to observe, predict, and chart the weather
- Be introduced to the concept of place value
- Practice counting using the number line
- Explore negative numbers and number concepts
- Learn about basic shapes and their attributes
- Measure using rectangular lengths
- Become familiar with cooperative learning activities

Classroom Preparation

Prepare a blank classroom calendar for the month and have the name of the month and days and the numerals 1 to 31 available. Do not assemble the calendar. The children will do this together.

Display the Weather Picture Cards attached to chart paper or on a whiteboard, arranged to allow a space to draw tally marks under each.

Mount the -5 to 180 Classroom Number Line around the classroom where it is easily observable. Cover each number above zero with a sticky note.

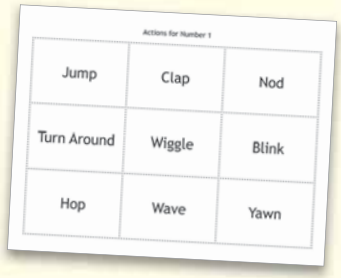
Prepare a hundreds day chart by placing numbered cards from 1 to 100 face down in the chart. The children will turn a card each day to gradually reveal all 100 numbers in sequence.

Have rubber bands and a container of sticks, stirrers, craft sticks, or straws available. Label three containers to create a ones container, a tens container, and a hundreds container.

Be prepared to introduce Backpack Bear to the children. He will be a member of the class for the year.

Please refer to the Math *Read Me First* for further information regarding classroom setup.

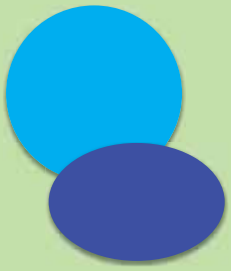
DAY 1



Actions for the Number One

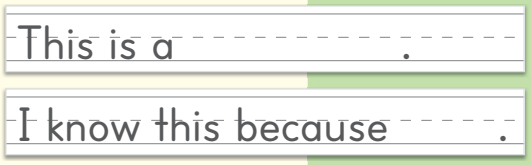
Duplicate a copy of the "Actions for the Number One" blackline. Cut the actions apart and place them in a paper bag.

DAY 2



Have a ruler and a large construction paper circle and ellipse available. You will use the circle throughout the week.

Prepare the two sentence strips pictured at right. You will use them on Day 2 and again on Day 3.



Familiarize yourself with the partner sharing strategy on page 19 of the lesson plans. You will use this strategy today and throughout the school year.

The children will listen to *Math Melodies* CD Track 3, "Circle Song."

DAY 3

Prepare a large construction paper triangle. You will use it throughout the week.

Distribute a math bag to each child. Each child will also need a circle and a triangle attribute block. When the lesson is finished, the children will place the attribute blocks in their math bags.

Familiarize yourself with the "Rocket Cheer." The children place both hands together near their waists with palms together and fingers pointed up. They wiggle their hands upward like a rocket taking off. When the children's hands reach over their heads, they separate them in a big circular movement, like bursting fireworks, while saying, "Ah!"

DAY 4

Prepare a large construction paper rectangle and square. You will use them with the circle, ellipse, and triangle prepared earlier in the week.

You will also need a square and a rectangle attribute block for each child. The children will add them to their math bags when the lesson is finished.

DAY 5

Prepare sets of six construction paper rectangles in varying lengths (all the same color). The six lengths should consist of three pairs of the same length to be used in a matching activity. Laminate them for future use. You will need one rectangle for each child.

You will need a large construction paper square, rectangle, rhombus, and pentagon for demonstration purposes.

UNIT 1

WEEK 1

	DAY 1	DAY 2
Daily Routines	***Introduce*** Calendar Weather Number Line	Calendar Weather Number Line
Math Concepts	Build a Calendar ***Introduce*** Tally marks Negative numbers Place value Hundreds Day Chart Preview the number one 	The number one  ***Introduce***  The circle, the ellipse, and their properties Preview the number two 
Formative / Summative Assessment	Actions corresponding to numbers 1-5	***Introduce*** Partner sharing
Workbooks & Media		*Math Melodies* CD Track 3, "Circle Song"

DAY 3	DAY 4	DAY 5
Calendar Weather Number Line Place Value Hundreds Chart	Calendar Weather Number Line Place Value Hundreds Chart	Calendar Weather Number Line Place Value Hundreds Chart
Preview the number three 3 ***Introduce***  The triangle and its properties	Preview the number four 4 ***Introduce*** The rectangle, the square, and their properties 	Preview the number five Review rectangle/ square 5 ***Introduce***  The pentagon, the rhombus, and their properties Measuring length using rectangles Measuring (Matching Game)
Review circle and triangle Partners	Review shapes	Discuss measuring activity
Introduce The Rocket Cheer		

Daily Routines

Calendar

Materials
- ☐ Computer navigated to *Starfall.com*: Calendar
- ☐ Classroom Calendar
- ☐ Name of month and days, numbers 1-31

Ask: **Why do people use calendars?** Volunteers respond. **Yes, people use calendars for many reasons. Why might we use a calendar in our classroom?** Volunteers respond.

Say: **Let's build our own calendar.** Indicate the blank classroom calendar. **Who knows what's missing?**

On a classroom computer, access *Starfall.com:* Calendar. View the month (first screen) and the days of the week (second screen). Lead the children to notice these are missing from the classroom calendar, and then add them.

Ask: **What else is missing? Right, the numbers!**

Distribute numbers 1–31 (depending on the current month) to the children. The children place their numbers on the classroom calendar. Say: **(**current month**) has (**number of days**) days. Today is (**month, date**).**

Continue: **Let's turn over all of the number cards for the days in (**current month**) ahead. Now our calendar tells us today's date: (**day, month, date**).**

Counting & Cardinality

B.4 – Understand the relationship between numbers and quantities.

B.4a – Say number names in order, pairing each object with one number.

B.4b – The last number counted tells the total number of objects.

B.4c – Each successive number refers to one more.

Weather

Materials
- ☐ Weather Picture Cards (displayed)

- Indicate the Weather Picture Cards and help the children identify them.
- Introduce tally marks as a way to keep track of the number of objects.
- Demonstrate how to make a tally mark under "Today's Weather."

Number Line

Materials

- ☐ Whiteboard, marker
- ☐ Number line (mounted)
- ☐ Pointer

Review the numbers on the calendar. Call the children by name and direct them to form a "human number line" by standing shoulder-to-shoulder. Touch each child's head as you count them. Say: **We just made a number line!**

Indicate the Classroom Number Line on the wall. Say: **This is our number line. What do you notice?** (Some numbers are covered.) **Yesterday we were not in school. We had been in school *negative one* days.**

Indicate the negative numbers. Say: **Look at these numbers. These are negative numbers. That means these numbers come before zero. Yesterday was** (day of the week)**. We were not in school. We had been in school *negative one* days. The day before that was** (name the day)**. We were in school *negative two* days. The day before that we were in school *negative three* days.**

Say: **Let's look at zero again. What number comes after zero?** Remove the sticky note to reveal the number one. Continue: **Zero is a placeholder between the negative numbers and the positive numbers. Each day we are in school we will reveal a new positive number.**

The children are not expected to understand negative numbers at this time, but it is important for children to understand that our number system does not begin with zero. It is **infinite**. Briefly introducing negative numbers helps children begin to see this.

Introduce Daily Routines and Preview *One*

Materials

- ☐ Prepared "Actions for the Number One" strips in a paper bag
- ☐ Prepared Hundreds Chart
- ☐ Three containers (labeled 1s, 10s, 100s)
- ☐ Whiteboard, marker
- ☐ Container of craft sticks

1 Introduce Place Value Routine

Indicate the container of craft sticks and the *ones*, *tens*, and *hundreds* containers. Explain: **Each day we are in school we will place a stick in one of these containers.**

Indicate the *ones* container. Say: **This container is for individual sticks, but it can only hold nine sticks. On our tenth day of school we will bundle the ten sticks and place them in the next container.**

Indicate the Classroom Number Line and point to zero. Say: **Yesterday we had been in school *negative one* days. Look at this number.** Indicate negative one. **This is *negative one*. Say *negative one*.** Children repeat, *negative one*.

Counting & Cardinality

B.4 – Understand the relationship between numbers and quantities.

B.4a – Say number names in order, pairing each object with one number.

B.4b – The last number counted tells the total number of objects.

B.4c – Each successive number refers to one more.

Continue indicating negative numbers. Say: **This was the day before yesterday** (negative two)**. This was the day before that** (negative three)**.**

Ask: **Who can find the number that comes after zero?** (one) **This number tells us how many days we have been in school so far, so we will put *one* stick in the container to match the number of days we have been in school.**
A volunteer places the stick in the *ones* container.

2 Introduce the Hundreds Day Chart

Say: **Here is another way to count how many days we've been in school. It's our Hundreds Day Chart. We will turn one number each day.**
A volunteer turns the first number.

3 Preview the Number One

Write the numeral 1 on the whiteboard. Ask: **Who can find all the number *ones* in our classroom?** (calendar, number line, hundreds chart, clock, etc.)
Accept and affirm correct responses.

Say: **I can find another way to show *one*. There is *one* tally mark under today's Weather Card. Where else do you see a way to show *one*?**
(There is one stick in the ones container.)

Backpack Bear whispers that there is only ONE of him!

Actions for the Number One

See the **Read Me First** to learn about Backpack Bear and how to incorporate him as a member of your class.

Formative Assessment

Action Strips for the Number One

Indicate the paper bag containing the action strips for the number one. Choose a volunteer to draw a strip from the bag. Read the action (jump, clap, nod, turn around, wiggle, blink, smile, wink, hop, wave, yawn) and together the class performs it one time. Choose additional volunteers and repeat as time allows.

Daily Routines

Calendar

Materials
- ☐ Computer navigated to *Starfall.com*: Calendar
- ☐ Classroom Calendar
- ☐ Name of month and days, numbers 1-31

Say: **This is the calendar we built yesterday.** Indicate the month. **The name of the month is** (current month)**. Say,** (current month)**.**

Say: **Let's say the names of the days of the week together.** Indicate and name the days. **If yesterday was** (yesterday's name)**, what is the name of the day that comes after** (yesterday's name)**?**

Say: **Let's count how many days there have been in** (current month) **so far.** Point to and count from one to the present date. Explain: **Each day the calendar helper will reveal one more day.** The calendar helper turns the next number to reveal the next day. Say: **Today is** (day, month, date)**.**

Weather

Materials
- ☐ Weather Picture Cards (displayed)

Say: **Here are pictures of different kinds of weather. Yesterday was** (yesterday's weather)**. I wonder what kind of weather we will have today.**

The meteorologist goes to the window to look outside, and predicts the weather. He or she places a tally mark under the predicted weather.

Ask: **Why do you think this will be the weather today?**

Number Line

Materials
- ☐ Number line (mounted)
- ☐ Pointer

Say: **The number helper will have many jobs. First, look at the number line. Let's count from negative five to the number we revealed yesterday.** Indicate and count from negative five to one.

Say: **Today we will add one more number. Raise your hand if you know what one plus one more is.** The number helper chooses a volunteer to identify *two*. **Right, *one* plus *one* more is *two*.** Remove the sticky note to reveal the numeral 2. **We have been in school *two* days.**

Place Value

Materials
- ☐ Prepared *Ones* container
- ☐ Craft sticks

Indicate the *ones* container. Ask: **How many sticks are in the *ones* container?** (one) **Right, *one*. Today we get to add one more stick. This shows we have been in school for *two* days.**

The number helper adds a stick. Say: **Let's count how many sticks there are so far.** Count: *one, two*.

Counting & Cardinality

A.2 – Count forward from a given number.

B.4 – Understand the relationship between numbers and quantities.

B.4a – Say number names in order, pairing each object with one number.

B.4b – The last number counted tells the total number of objects.

B.4c – Each successive number refers to one more.

Hundreds Chart

Materials
- ☐ Prepared Hundreds Chart

Say: **There is one more way to count how many days we have been in school. Let's look at the hundreds chart. This chart shows that we have been in school one day. Today we will turn the next number.** The number helper turns the number.

Ask: **The hundreds chart shows that we have been in school how many days?**

Review One, Preview Two

Materials
- ☐ Prepared Sentence Strips: *This is a* _____. *I know this because* _____.
- ☐ *Backpack Bear's Math Big Book*, page 4
- ☐ *Math Melodies CD*, Track 3
- ☐ Prepared circle and ellipse
- ☐ Backpack Bear
- ☐ Ruler

Counting & Cardinality

B.4 – Understand the relationship between numbers and quantities.

B.4a – Say number names in order, pairing each object with one number.

B.4b – The last number counted tells the total number of objects.

Geometry

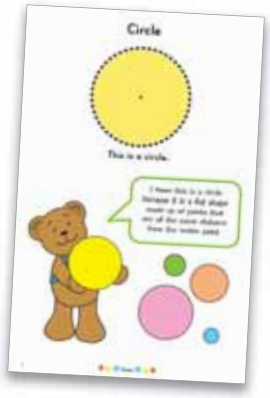
A.2 – Correctly name shapes.

1 Review 1

Write the numeral 1 on the whiteboard. Ask: **Who can find *ones* in our classroom?** (calendar, number line, hundreds chart)

Say: **I can find another way to show *one*. Let's look at the Alphabet Chart. What is the first letter of the alphabet?** (A volunteer identifies *Aa*.) **Right, *Aa* is the first letter of the alphabet. Can you find anything else in our classroom that shows *one*?**

2 Introduce Circle



Say: **Backpack Bear would like us to learn about two shapes that each have only one line.**

Indicate the prepared ellipse. Say: **This is an *ellipse*. *Ellipse* is the mathematical name for an oval. Say, *ellipse*. An ellipse is a flat shape that has one curved line around two points.**

Display *Backpack Bear's Math Big Book*, page 4.

Indicate the circle. Say: **This is a *circle*. A circle is a flat shape. It is made of points. All the points are the same distance from the center point. A circle is a special kind of ellipse. Both a circle and an ellipse have one curved line. How are they different?** Discuss.

Use a ruler to show that the center point to the curved line is the same all around the circumference of the circle.

3 Properties of a Circle

Indicate the sentence strip: *This is a* _____.

This is a _____.

Read: **This is a** (blank)**. I will put the circle shape in my sentence. Let's read the sentence together: *This is a circle.***

Indicate the sentence strip:
I know this because _____ .
Read: ***I know this because*** (blank)**. Let's read this sentence together: *I know this because.***

I know this because .

Ask: **How do we know this is a circle?** Volunteers respond. **Right, we know it is a circle because it is a flat shape made of points that are all the same distance from the center point. Let's finish our sentence.**

Remove the circle shape from the sentence.

Play *Math Melodies* Track 3. The children listen to the "Circle Song."

4 Preview 2

Write the numeral 2 on the whiteboard. Ask: **Who can find *twos* in the classroom?** (calendar, number line, hundreds chart)

Say: **I can find another way to show *two*. Let's look at the Alphabet Chart. What is the second letter of the alphabet?** Volunteers respond. **Right, *Aa* is the first letter and *Bb* is the second letter.**

Backpack Bear whispers to you, "I have 2 arms and 2 legs." Tell this to the children and ask: **What else do we all have 2 of?** (eyes, ears, hands, feet)

Formative Assessment

Introduce "Partner Sharing"

Choose two volunteers to come forward. Say: **Let's count how many children there are here.** Do this. **These two children will be partners. Say, *partners*.** Children repeat, *partners*. **We will do a lot of work this year as partners. These partners will work together to answer a question.**

Steps in partnering:

- The partners (volunteers) sit criss-cross, knee-to-knee, facing each other.
- Say: **First the partners greet each other. Let's try this. Greet each other.** (Hi, Sam; Hi, Suzy.) **Next the partners discuss the question or subject. Here's your subject: Discuss what you have two of on your bodies. Ready? Discuss.** Partners do this.
- Introduce a signal to end the discussion. Say: **Clap once if you can hear me.** The children do this. **Clap twice if you can hear me.** The children do this. Explain: **This will be the signal to end the discussion.**
- Ask: **Who can share what you have two of on your body?** Partners share with the class. (eyes, ears, arms, hands, legs, feet, etc.)
- Continue: **The next step is to compliment your partner. Partners, compliment each other. Say, *good job*** (name)**.** Partners do this.
- Say: **The last thing you do is say goodbye to your partner.**

This sample Partner Sharing activity will give you a general sense of how to use this Formative Assessment Strategy. Partner Sharing occurs throughout the year.

Daily Routines

Calendar

Materials
- ☐ Classroom Calendar

Say: **This is the calendar we built the first day of school.** Indicate the month. **The name of the month is (**current month**). Say, (**current month**).**

Say: **Let's say the names of the days of the week together.** Indicate and name the days. **If yesterday was (**yesterday's name**), what is the name of the day that comes after (**yesterday's name**)?** The calendar helper chooses a volunteer to name the day.

Say: **Let's count how many days there have been in (**current month**) so far.** Point to and count from one to the present date. Explain: **Each day the calendar helper will reveal one more day.**

The calendar helper turns the next number to reveal the next day. Say: **Today is (**day, month, date**).**

Weather

Materials
- ☐ Weather Picture Cards (displayed)

Say: **Here are pictures of different kinds of weather. Yesterday was (**yesterday's weather**). I wonder what kind of weather we will have today.**

The meteorologist goes to the window to look outside, and predicts the weather. He or she places a tally mark under the predicted weather.

Ask: **Why do you think this will be the weather today?**

Number Line

Materials
- ☐ Number line
- ☐ Pointer

Say: **Remember the number helper will have many jobs. First, look at the number line. Let's count from *negative five* to the number we revealed yesterday.** Indicate and count from negative five to two.

Say: **Today we will add one more number. Raise your hand if you know what two plus one more is.** The number helper chooses a volunteer. **Right, two plus one more is *three*.** Remove the sticky note to reveal the numeral 3. **We have been in school *three* days.**

Counting & Cardinality

A.2 – Count forward from a given number.

B.4 – Understand the relationship between numbers and quantities.

B.4a – Say number names in order, pairing each object with one number.

B.4b – The last number counted tells the total number of objects.

B.4c – Each successive number refers to one more.

100 Place Value

Materials
- ☐ *Ones* container
- ☐ Craft sticks

Indicate the *ones* container. Ask: **How many sticks are in the *ones* container?** (two) **Right, two. Today we get to add one more stick. This shows we have been in school for three days.**

The number helper adds a stick. Say: **Let's count how many sticks we have so far.** Count: *one, two, three.*

Hundreds Chart

Materials
- ☐ Hundreds Chart

Say: **There is one more way to count how many days we have been in school. Who remembers what it is? Right, let's look at the hundreds chart. This chart shows that we have been in school two days. Today we will turn the next number.** The number helper turns the number.

Ask: **The hundreds chart shows that we have been in school how many days?**

Preview Three

Materials
- ☐ Circle and triangle attribute blocks for each child
- ☐ Prepared Sentence Strips:
  This is a _____.
  I know this because _____.
- ☐ *Backpack Bear's Math Big Book*, page 5
- ☐ *Math Melodies CD*, Track 33
- ☐ Prepared construction paper triangle
- ☐ Whiteboard, marker
- ☐ Math bags

1 Preview 3

Write the numeral 3 on the whiteboard. Say: **Let's see if we can find all the threes in the classroom.** (calendar, number line, hundreds chart, clock)

2 Introduce Triangle

Indicate *Backpack Bear's Math Big Book*, page 5.

Ask: **What shape would Backpack Bear like us to learn about today? Right, this flat shape is called a *triangle*.**

The children describe what they see on the triangle page. Point out that it doesn't matter how big or in what direction the triangle is as long as it has 3 lines and 3 angles.

Say: **This shape has three straight lines. Let's count them.** Do this. **It also has three corners.** Indicate and count the corners.

Continue: **Corners are called *angles* in math. Let's call these corners *angles*. Say, *angles*.** Children repeat, *angles*.

Counting & Cardinality

B.4 – Understand the relationship between numbers and quantities.

B.4a – Say number names in order, pairing each object with one number.

B.4b – The last number counted tells the total number of objects.

B.4c – Each successive number refers to one more.

Geometry

A.2 – Correctly name shapes.

3 Properties of a Triangle

Indicate the sentence strip: *This is a* _____ . Add the triangle. Say: **Let's read the new sentence: *This is a triangle.*** Children repeat, *This is a triangle.*

Indicate and read the sentence strip: *I know this because* _____ .
Ask: **How do we know this is a triangle?** (It has three straight lines and three angles.) **Let's finish this sentence: *I know this because it has three straight lines and three angles.***

Introduce *Math Melodies* CD Track 33, "Triangle Waltz."

Formative Assessment

Review Circle and Triangle

Distribute a circle and a triangle attribute block to each child. The children place them in their math bags. Say: **Each of you has a math bag with different shapes in it. Are the shapes all the same or are they different?** Volunteers respond.

- Say: **I will describe a shape. Listen carefully, then find the shape, take it out of your math bag, and hold it up.**
- Say: **I have one curved line. What shape am I? What is the name of this shape?** Volunteers respond. **Right, *circle*. How did you know it was a *circle*?** (It has one curved line.) The children place the circle back in their math bags.
- Say: **I have three straight lines and three angles. What shape am I? What is the name of this shape?** Volunteers respond. **Right, a *triangle*. How did you know it is a *triangle*? (**It has three straight lines and three angles.**)** The children place the triangle back in their math bags.
- Say: **Now let's partner. Everyone stand. Hold your math bag in one hand and raise your other hand up high in the air. Now, find someone who has his or her hand up, walk toward that person and connect hands.** The children do this. **Now sit criss-cross, knee-to-knee, facing your partner. This is called "Stand Up, Hand Up, Partner Up." Great job! Let's do a Rocket Cheer!**

Touch one child in each partner group and tell them they are partner number one. Continue: **Partner one, please raise your hand. Take a shape out of your math bag. Your partner will say: *I know this is a (blank) because (blank).* Then partner number two will have a turn to do the same thing. Ready? Begin.**

After partners are finished, remind the children to compliment their partners and say goodbye. Gather the children back into a group.

The Rocket Cheer

The children place both hands together near their waists with palms together and fingers pointed up. They wiggle their hands upward like a rocket taking off. When the children's hands reach over their heads, they separate them in a big circular movement, like bursting fireworks, while saying, "Ah!"

Daily Routines

Calendar

Materials
- ☐ Classroom Calendar

Ask: **Who knows the name of the month? Where on the calendar does it tell us the name?** The calendar helper chooses a volunteer to indicate the month.

Say: **Let's say the names of the days of the week together.** Indicate and name the days. **If yesterday was (**yesterday's name**), what is the name of the day that comes after (**yesterday's name**)?** The calendar helper chooses a volunteer to name the day.

Say: **Let's count how many days there have been in (**current month**) so far.** Point to and count from one to the present date. Ask: **What is (**current day number**) plus one more?** The calendar helper chooses a volunteer to answer.

Say: **Today is (**day, month, date**).** Children repeat.

Weather

Materials
- ☐ Weather Picture Cards (displayed)

Say: **Here are pictures of different kinds of weather. Yesterday was (**yesterday's weather**). I wonder what kind of weather we will have today.**

The meteorologist goes to the window to look outside, and predicts the weather. He or she places a tally mark under the predicted weather.

Ask: **Why do you think this will be the weather today?**

Number Line

Materials
- ☐ Number line
- ☐ Pointer

Say: **Look at the number line. Let's count from *negative five* to the number we revealed yesterday.** Indicate and count from negative five to three.

Say: **Today we will add one more number. Raise your hand if you know what three plus one more is.** The number helper chooses a volunteer. **Right, three plus one more is *four*.** Remove the sticky note to reveal the numeral 4. **We have been in school *four* days.**

Place Value

Materials
- ☐ *Ones* container
- ☐ Craft sticks

Indicate the *ones* container. Ask: **How many sticks are in the *ones* container?** (three) **Right, three. Today we get to add one more stick. This shows we have been in school for four days.**

The number helper adds a stick. Say: **Let's count how many sticks we have so far.** Count: *one, two, three, four.*

Counting & Cardinality

A.2 – Count forward from a given number.

B.4 – Understand the relationship between numbers and quantities.

B.4a – Say number names in order, pairing each object with one number.

B.4b – The last number counted tells the total number of objects.

B.4c – Each successive number refers to one more.

Hundreds Chart

Materials
- ☐ Hundreds Chart

Say: **There is one more way to count how many days we have been in school. Who remembers what it is? Right, let's look at the hundreds chart. This chart shows how many days we have been in school. Today we will turn the next number.** The number helper turns the number.

Ask: **The hundreds chart shows that we have been in school how many days?**

Preview Four

Materials
- ☐ Prepared construction paper: circle, ellipse, triangle, rectangle, and square
- ☐ A rectangle and a square attribute block for each child
- ☐ *Backpack Bear's Math Big Book*, pages 6 and 7
- ☐ *Math Melodies* **CD**, Track 21
- ☐ Whiteboard, marker

Geometry

A.2 – Correctly name shapes.

A.3 – Identify shapes as two- or three-dimensional.

1 Preview 4

Write the numeral 4 on the whiteboard. Say: **Let's try to find all the fours in the classroom.** (calendar, number line, hundreds chart, clock)

2 Review Circle and Triangle

Indicate a circle. Say: **This is a *circle*. What do you remember about this shape?** Discuss. **A *circle* is a flat shape made of points that are all the same distance from the center point. Make a giant circle in the air with your finger.** The children do this.

Indicate a triangle. Say: **This is a *triangle*. What do you remember about this shape?** Discuss. **This shape has three straight lines. Let's count them. It also has three corners, or *angles*. Make a giant triangle in the air with your finger.** The children do this.

3 Introduce Rectangle

Display *Backpack Bear's Math Big Book*, page 6. Say: **This is a *rectangle*. Say, *rectangle*. It has four sides.** Indicate and count the sides.

Continue: **It also has four right angles.** Indicate and count the angles.

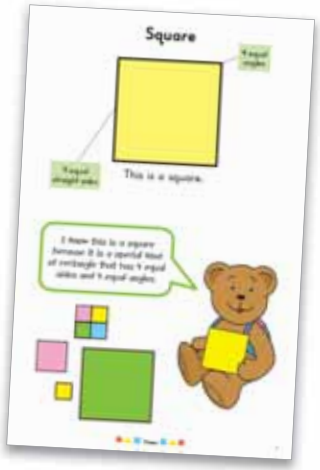
Ask: **What do you notice about the sides of this rectangle? Right, two sides are short and two sides are long.** Volunteers take turns pointing to the short and long lines.

Say: **Make a giant rectangle in the air with your finger.** The children do this.

4 Introduce Square

Turn to *Backpack Bear's Math Big Book*, page 7. Say: **This is a *square*. Say, *square*. It is a special kind of rectangle. What do you notice about a rectangle and a square that is the same?** (They each have four lines and four angles.)

Indicate pages 4 and 5. Say: **Look at this rectangle and square. What is different about them?** Volunteers respond.



5 Properties of a Square

Say: **A *square* has four equal sides and four right angles. All the sides are the same size. It doesn't matter how you turn the square. It always looks the same.**

Introduce *Math Melodies* CD Track 21, "Rectangle Boogie."

Formative Assessment

Review Shapes

Distribute a square and a rectangle attribute block to each child. The children place them in their math bags. Say: **I will describe a shape. Listen carefully and then take the shape out of your bag and hold it up.**

- Say: **I am a flat shape made of points that are all the same distance from the center point. What shape am I?** (circle) **Right, a circle.** The children place the circles back in their math bags.
- Say: **I have four straight lines and four right angles. Two of my lines are longer and two are shorter. What shape am I?** (rectangle) **Right, a rectangle.** The children place the rectangles back in their math bags.
- Say: **I am a special kind of rectangle. I have four straight lines and four right angles. My lines and angles are exactly the same. What shape am I?** (square) **Right, a square.** The children place the squares back in their math bags.
- Say: **I have three straight lines and three angles. What shape am I?** (triangle) **Right, a triangle.** The children place the triangles back in their math bags.
- Say: **I am a flat shape that is not in your math bag! I am made of one curved line around two points but my points are not the same distance from the center. What shape am I?** (ellipse)

It is not important that children understand the term "right angle" at this time. The purpose of this lesson is to prepare children to recognize shapes with angles that are not right angles and familiarize them with proper geometric terms.

Daily Routines

Calendar

Materials
- ☐ Classroom Calendar

Ask: **Who knows the name of the month? Where on the calendar does it tell us the name?** The calendar helper chooses a volunteer to indicate the month.

Say: **Let's say the names of the days of the week together.** Indicate and name the days. **If yesterday was** (yesterday's name)**, what is the name of the day that comes after** (yesterday's name)**?** The calendar helper chooses a volunteer to name the day.

Say: **Let's count how many days there have been in** (current month) **so far.** Point to and count from one to the present date.

Ask: **What is** (current day number) **plus one more?** The calendar helper chooses a volunteer to answer.

Say: **Today is** (day, month, date)**.** Children repeat.

Counting & Cardinality

A.2 – Count forward from a given number.

B.4 – Understand the relationship between numbers and quantities.

B.4a – Say number names in order, pairing each object with one number.

B.4b – The last number counted tells the total number of objects.

B.4c – Each successive number refers to one more.

Weather

Materials
- ☐ Weather Picture Cards (displayed)

Say: **Here are pictures of different kinds of weather. Yesterday was** (yesterday's weather)**. I wonder what kind of weather we will have today.**

The meteorologist goes to the window to look outside, and predicts the weather. He or she places a tally mark under the predicted weather.

Ask: **Why do you think this will be the weather today?**

Say: **Let's look at the weather graph. A *graph* is a picture that gives information. Which Weather Picture Card has the most tally marks? What does that mean?**

The children should understand that the Weather Picture Card with the most tally marks indicates the weather that has occurred most frequently.

Number Line

Materials
- ☐ Number line
- ☐ Pointer

Say: **Look at the number line. Let's count from negative five to the number we revealed yesterday.** Indicate and count from negative five to four.

Say: **Today we will add one more number. Raise your hand if you know what four plus one more is.** The number helper chooses a volunteer. **Right, four plus one more is *five*.**

Remove the sticky note to reveal the numeral 5. Say: **We have been in school *five* days.**

Place Value

Materials
- ☐ *Ones* container
- ☐ Craft sticks

Indicate the *ones* container. Ask: **How many sticks are in the *ones* container?** (four) **Right, four. Today we get to add one more stick. This shows we have been in school for five days.** The number helper adds a stick. **Let's count how many sticks we have so far.** Count: *one, two, three, four, five.*

Hundreds Chart

Materials
- ☐ Hundreds Chart

Say: **Remember, there is one more way to count how many days we have been in school. Let's look at the hundreds chart. This chart also shows how many days we have been in school. Today we will turn the next number.**

The number helper turns the number. Ask: **The hundreds chart shows that we have been in school how many days?**

Preview Five

Materials
- ☐ Prepared construction paper pentagon, rectangle, square, and rhombus
- ☐ Prepared sets of rectangular lengths

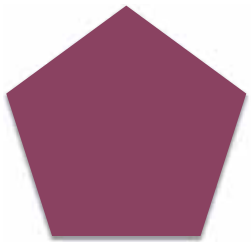
1 Preview Five, Introduce Pentagon and Rhombus

Measurement & Data

A.2 – Compare two objects with a common measurable attribute.

Write the numeral 5 on the whiteboard. Say: **Let's see if we can find fives in the classroom.** (calendar, number line, hundreds chart, clock)

Indicate the pentagon shape. Say: **This is a *pentagon*. Say, *pentagon*.** (The children repeat, *pentagon*.) **Let's count the sides on the pentagon.**



Display the shape and the children count the sides. Say: **A pentagon has five sides.**

2 Review Rectangle and Square

Indicate the rectangle. Say: **This is a rectangle. How many sides does a rectangle have? Let's count.** (Do this.) **What do you notice about the sides? Are they all the same size? How many corners or angles does a rectangle have? Let's count.**

Indicate the square. Say: **This is a square. It is a special kind of rectangle. It has four sides and four right angles that are all the same. What do you notice about the sides of the square? Right, they are all the same size, or equal.**

3 Introduce Rhombus

Indicate the rhombus. Say: **This is a *rhombus*. Say, *rhombus*. Look at the other shapes. Which shape does the rhombus look most like? Right, the square. A rhombus has four equal sides, but look at the corners!** Point out that two of the angles are wider.

Display the square and the rhombus next to each other. Indicate the square and say: **Square.** Indicate the rhombus and say: **Rhombus.**

Say: **I will touch one of these shapes. When I touch the shape you say its name. Ready?** Touch each shape randomly several times until the children are familiar with their names.

4 Introduce Measuring with Rectangles

Indicate two rectangular lengths that are the same length. Say: **Here are two rectangles. They are the same length.** Demonstrate how to compare the lengths by lining up the ends.

Indicate two rectangular lengths that are different lengths. Say: **Here are two rectangles. One is longer and one is shorter. Let's line them up end to end to check.** Do this.

Formative Assessment

Match Lengths

Say: **Today we will play a matching game. I have a rectangle for each of you.**

Distribute the rectangles. Say: **Find a partner who has a rectangle that is exactly the same length as yours. When you find a partner who has a rectangle that is the same length, sit down together and hold up your rectangles.**
The children do this.

Say: **If you don't find a partner who is still standing with a rectangle that matches yours, look at the partners who are sitting. If your rectangle matches theirs, sit with them.**

Formative Assessment

Compare Rectangles

Once all of the children are sitting in groups, the children in each group stand together in turn to display their rectangles. The class confirms whether or not the rectangles are the same length.

If time allows, collect the rectangle shapes, mix them up, redistribute them, and repeat the activity.

UNIT 1

WEEK 2

Week 2 Summary

The children will become better acquainted with the Gathering Routine. They will learn about creating and extending simple patterns and continue their study of geometric shapes and their attributes. The children will also:

- Continue their study of numbers
- Use and interpret data from a graph
- Become more familiar with place value
- Count backward
- Learn about zero

Preparation

DAY 1

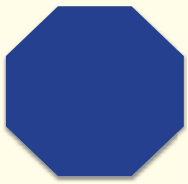
You will need Number Cards 1-7 and Shape Picture Cards: *circle, hexagon, pentagon, rectangle, square,* and *triangle*.

DAY 2

Prepare several construction paper circle and triangle shapes to demonstrate a circle/triangle pattern.

Provide containers of crayons and paper clips, enough for at least three of each per child.

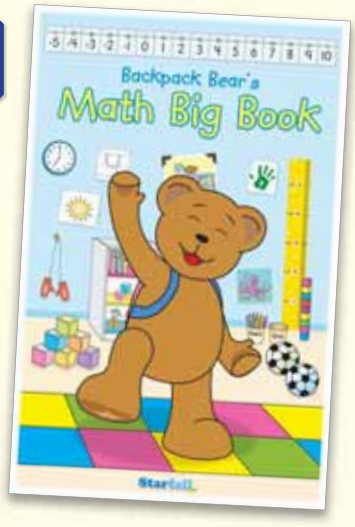
DAY 3



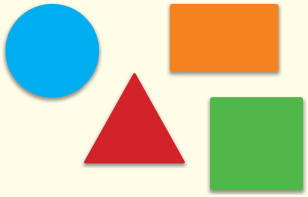
Prepare a large construction paper octagon.

You will use 1 set of Shape Picture Cards (*circle, ellipse, hexagon, octagon, pentagon, rectangle, rhombus, square,* and *triangle*) for the pocket chart and 2 or 3 additional sets, enough so each child has a shape.

You will also need *Backpack Bear's Math Big Book*.



DAY 4



Cut three of each shape (*circle, triangle, rectangle, square*) from construction paper, and place the sets in individual plastic bags for each child and one for demonstration.

DAY 5

You will need five seedless grapes or other food or manipulatives for each child.

Have a large construction paper circle and an ellipse (*oval*) available.

UNIT 1

WEEK 2

	DAY 1	DAY 2
Daily Routines	Calendar Weather Number Line Place Value Hundreds Chart	Calendar Weather Number Line Place Value Hundreds Chart
Math Concepts	Review circle, triangle, rectangle, square ***Introduce*** Hexagon 	***Introduce*** AB patterns
Formative / Summative Assessment	Matching shapes and numbers	Partner to create AB Patterns
Workbooks & Media	*Starfall.com*: Geometry & Measurement, "Patterns" (Choose 2)	

DAY 3	DAY 4	DAY 5
Calendar Weather Number Line Place Value Hundreds Chart	Calendar Weather Number Line Place Value Hundreds Chart	Calendar Weather Number Line Place Value Hundreds Chart
Introduce Octagon  Review 2-D shapes	Review AB patterns ***Introduce*** AABB Patterns	***Introduce*** The number zero  Counting backward to zero (eating activity) Review ellipse (oval)
Review shapes	Creating patterns	Shape review
	Math Melodies CD Track 2, "Bingo"	*Starfall.com*: Math Songs, "Five Little Bears" "Five Little Frogs" "The Zero Song"

Daily Routines

Calendar

Materials
- ☐ Classroom Calendar

Continue the Calendar Routine:

- A volunteer tells the name of the month.
- The children name the days of the week.
- The calendar helper turns the next number.
- Say: **Today is (**name of day and date**).**

Counting & Cardinality

A.2 - Count forward from a given number.

B.4 - Understand the relationship between numbers and quantities.

B.4a - Say number names in order, pairing each object with one number.

B.4b - The last number counted tells the total number of objects.

B.4c - Each successive number refers to one more.

Weather

Materials
- ☐ Weather Picture Cards (displayed)

Say: **Here are pictures of different kinds of weather. Yesterday was (**yesterday's weather**). I wonder what kind of weather we will have today.**

The meteorologist goes to the window to look outside, and predicts the weather. He or she places a tally mark under the predicted weather.

Ask: **Why do you think this will be the weather?**

Say: **Let's look at the weather graph. A graph is a picture that gives information. Which Weather Picture Card has the most tally marks? What does that mean?**

The children should understand that the Weather Picture Card with the most tally marks indicates the weather that has occurred most frequently.

Once a Weather Picture Card has five tally marks, demonstrate how to draw four straight tally marks and one diagonal tally mark to indicate a set of five.

Number Line

Materials
- ☐ Number line
- ☐ Pointer

Say. **Look at the number line. It tells us how many days we have been in school. Let's count them.** Point to and count the days.

Say: **Today we will add one more number. Raise your hand if you know what five plus one more is.** The number helper chooses a volunteer. **Right, five plus one more is *six*.** Remove the sticky note to reveal *six*. **We have been in school *six* days.**

Place Value

Materials
- ☐ *Ones* container
- ☐ Craft sticks

Indicate the *ones* container. Ask: **How many sticks are in the *ones* container?** (five) **Right, five. Today we get to add one more stick. This shows we have been in school for six days.** The number helper adds a stick.

Say: **Let's count how many sticks we have so far.**

Hundreds Chart

Materials
- ☐ Hundreds Chart

Say: **There is one more way to count how many days we have been in school. Let's look at the hundreds chart. This chart also shows how many days we have been in school. Today we will turn the next number.** The number helper turns the number.

Ask: **The hundreds chart shows that we have been in school how many days?**

Explore Shapes

Materials
- ☐ Shape Cards: *circle, hexagon, pentagon, rectangle, square,* and *triangle*
- ☐ Number Cards: 1-7
- ☐ Pocket chart

1 Review Shapes, Introduce Hexagon

Display the Number Cards 1-7 vertically in a pocket chart. Indicate each and the children name them with you. Ask: **Which number tells how many days we have been in school?** (six) **Right, six.**

Display the *circle, triangle, square, rectangle, pentagon,* and *hexagon* Shape Cards, but do not name the shapes.

Say: **Here are some shapes. Let's organize them by the number of sides each shape has.** Volunteers place the circle, triangle, square, and rectangle next to the numeral that represents the number of sides each has.

- Circle (1)
- Triangle (3)
- Square (4)
- Rectangle (4)

Say: **Here are two more shapes. Who can find the shape that has five sides? Do you remember from last week that this shape is called a *pentagon*? Say, *pentagon*.** (The children repeat, pentagon.) **Let's count the sides.**

Ask: **Who can place this pentagon next to the number five?** A volunteer does this.

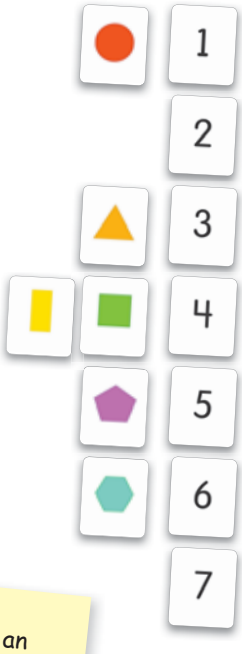
Indicate the hexagon. Say: **This is a *hexagon*. Say, *hexagon*.** (The children repeat, *hexagon*.) **How many sides does a hexagon have? Let's count. Who can place the hexagon next to the number six?** A volunteer does this.

Measurement & Data

A.1 - Describe measurable attributes of objects.

Geometry

A.2 - Correctly name shapes.



This lesson is an introduction to shapes. Children are not expected to master the names of all the different shapes at this time.

2 Review Shapes

Say: **Let's read our chart.** Encourage the children to notice the following:

- A circle has one line.
- An ellipse has one line.
- A triangle has three straight lines.
- There are two shapes that have four lines, square and rectangle.
- No shape has two lines.
- A pentagon has five sides.
- A hexagon has six sides.
- No shape on this chart has seven lines.

3 Gingerbread Man

Project *Starfall.com:* Holidays, "Gingerbread Man." The children take turns navigating to create a gingerbread man.

Formative Assessment

Match Shapes and Numbers

Remove the Shape Cards. Distribute them to volunteers who find the corresponding numbers and place their shapes next to them. Each child explains why he or she placed the shape next to the number. Repeat until all the children have a turn.

Daily Routines

Calendar

Materials
- ☐ Classroom Calendar

Continue the Calendar Routine:

- A volunteer tells the name of the month.
- The children name the days of the week.
- The calendar helper turns the next number.
- Say: **Today is (**name of day and date**).**

Weather

Materials
- ☐ Weather Picture Cards (displayed)

Say: **Here are pictures of different kinds of weather. Yesterday was (**yesterday's weather**). I wonder what kind of weather we will have today.**

The meteorologist goes to the window to look outside, predicts the weather, and places a tally mark under the predicted weather. Ask:

- **Why do you think this will be the weather today?**
- **Let's look at the weather graph. A graph is a picture that gives information. Which Weather Picture Card has the most tally marks? What does that mean?** Volunteers respond.
- **Which Weather Picture Card has the least number of tally marks? What does that mean?** Volunteers respond.
- **Do we have any Weather Picture Cards with the same or equal number of tally marks?**

Number Line

Materials
- ☐ Number line
- ☐ Pointer

Say: **The number line tells us how many days we have been in school. Let's count.** Point to and count the days.

Say: **Today we will add one more number. Raise your hand if you know what six plus one more is.** The number helper chooses a volunteer. **Right, six plus one more is seven.** Remove the sticky note to reveal *seven*. **We have been in school *seven* days.**

Place Value

Materials
- ☐ *Ones* container
- ☐ Craft sticks

Indicate the *ones* container. Ask: **How many sticks are in the *ones* container?** (six) **Right, six. Today we get to add one more stick. This shows we have been in school for seven days.**

The number helper adds a stick. Say: **Let's count how many sticks we have so far.**

Counting & Cardinality

A.2 - Count forward from a given number.

B.4 - Understand the relationship between numbers and quantities.

B.4a - Say number names in order, pairing each object with one number.

B.4b - The last number counted tells the total number of objects.

B.4c - Each successive number refers to one more.

Hundreds Chart

Materials
- ☐ Hundreds Chart

Ask: **What is one more way to count how many days we have been in school? Right, let's look at the hundreds chart. This chart also shows how many days we have been in school. Today we will turn the next number.** The number helper turns the number.

Ask: **The hundreds chart shows that we have been in school how many days?**

AB Patterns

Materials
- ☐ Prepared construction paper circle and triangle
- ☐ Containers of crayons and paper clips

1 Introduce AB Patterns

Geometry

A.2 - Correctly name shapes.

Operations & Algebraic Thinking

OA.1 - Identify, describe, or extend simple patterns.

Choose a girl and a boy to come forward and stand side-by-side. Say: **Today we will talk about *patterns*. A *pattern* is something that repeats. Here are a girl and a boy. The rule for this pattern will be girl/boy.** Choose another girl and boy to come forward.

Ask: **If the rule for the pattern is girl/boy, who should go next?** Continue adding children to the pattern with the help of the class.

Indicate a circle and a triangle. Say: **Here are a circle and a triangle. Let's make a circle/triangle pattern. The rule will be circle/triangle.**

Ask: **What is a different pattern we can create using the circle and the triangle? Right, the rule could be triangle/circle.**

2 Create an AB Pattern

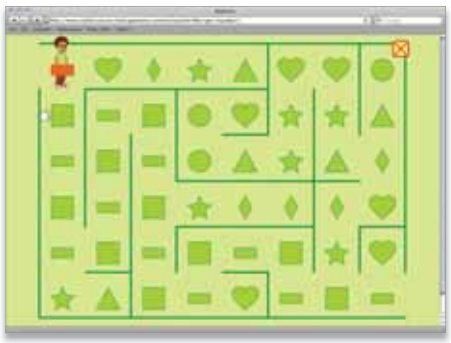
Distribute the circle and triangle shapes to the children. Ask: **Who has a circle?** The child comes forward. **Who has a triangle?** The child holding the triangle stands next to the child with the circle.

Say: **The pattern is circle/triangle. Let's extend the pattern with more shapes.** The children continue the AB pattern by coming forward and placing themselves in the correct order.

Project *Starfall.com*; Geometry & Measurement, "Patterns" (two shape; AB pattern).

Ask**: What will the rule be for the pattern? Volunteers assist in completing the maze.**

Note: Each screen will display a different pattern.



Formative Assessment

Partner to Create AB Patterns

The children each select 3 crayons and 3 paper clips from the containers.

Partner the children. Say: **Let's create a new pattern. The pattern rule is crayon/paper clip. Work together to create an AB pattern using your crayons and paper clips.**

The children return the crayons and paper clips to the containers when the assessment is finished.

Daily Routines

Calendar

Materials
- ☐ Classroom Calendar

Continue the Calendar Routine:

- A volunteer tells the name of the month.
- The children name the days of the week.
- The calendar helper turns the next number.
- Say: **Today is (**name of day and date**).**

Counting & Cardinality

A.2 - Count forward from a given number.

B.4 - Understand the relationship between numbers and quantities.

B.4a - Say number names in order, pairing each object with one number.

B.4b - The last number counted tells the total number of objects.

B.4c - Each successive number refers to one more.

Weather

Materials
- ☐ Weather Picture Cards (displayed)

Say: **Here are pictures of different kinds of weather. Yesterday was (**yesterday's weather**). I wonder what kind of weather we will have today.**

The meteorologist goes to the window to look outside, predicts the weather, and places a tally mark under the predicted weather.

Ask: **Why do you think this will be the weather today?**

Say: **Let's look at the weather graph. A graph is a picture that gives information. Which Weather Picture Card has the most tally marks? What does that mean?** Volunteers respond.

Number Line

Materials
- ☐ Number line
- ☐ Pointer

Say: **The number line tells us how many days we have been in school. Let's count.** Point to and count the days.

Say: **Today we will add one more number. Raise your hand if you know what seven plus one more is.** The number helper chooses a volunteer. **Right, seven plus one more is *eight*.** Remove the sticky note to reveal *eight*. **We have been in school eight days.**

Place Value

Materials
- ☐ *Ones* container
- ☐ Craft sticks

Indicate the *ones* container. Ask: **How many sticks are in the *ones* container?** (seven) **Right, seven. Today we get to add one more stick. This shows we have been in school for eight days.**

The number helper adds a stick. Say: **Let's count how many sticks we have so far.**

Hundreds Chart

Materials

- ☐ Hundreds Chart

Ask: **What's one more way to count how many days we have been in school? Right, let's look at the hundreds chart. This chart also shows how many days we have been in school. Today we will turn the next number.** The number helper turns the number.

Ask: **The hundreds chart shows that we have been in school how many days?**

Introduce *Octagon* and Review 2-D Shapes

Materials

- ☐ One set of Shape Cards: *circle, ellipse, hexagon, octagon, pentagon, rectangle, rhombus, square,* and *triangle*
- ☐ Two or three sets of two-dimensional Shape Cards in a paper bag (There should be at least 2 of each shape. Add additional shapes so each child has a shape.)
- ☐ *Backpack Bear's Math Big Book*, page 8
- ☐ Prepared construction paper octagon
- ☐ Pocket chart

Geometry

A.3 - Identify shapes as two- or three-dimensional.

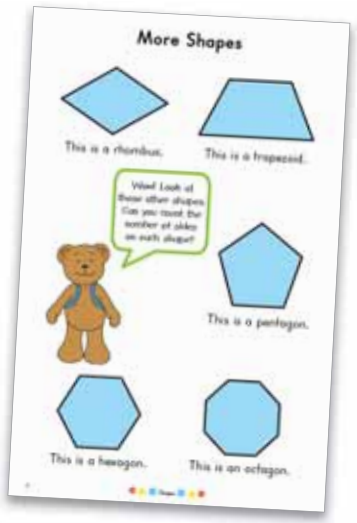
B.4 - Analyze and compare two- and three- dimensional shapes.

1 Introduce Octagon

Indicate *Backpack Bear's Math Big Book,* page 8. Say: **Backpack Bear has drawn more shapes for us!**

Read the speech bubble and the children count the number of sides for each shape: rhombus, pentagon, hexagon.

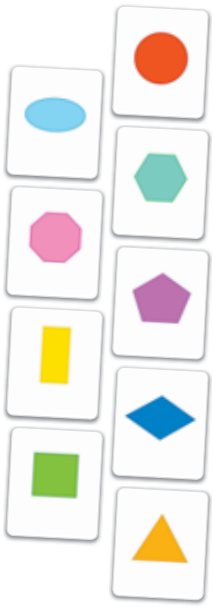
Say: **Backpack Bear has another shape to show us. This shape is an octagon. Say, *octagon*. Does this shape have curved lines or straight lines?**



Say: **Let's count how many straight lines this octagon has.** Count the eight sides.

Place the octagon in the sentence stem. Read: **I know this is an octagon because (**blank**)**. A volunteer completes the sentence.

Ask: **Who can think of a safety sign that is shaped like this? Right, a stop sign is an octagon shape.**



2 Identify 2-D Shapes

Place one set of Shape Cards face down in a pocket chart.

The children take turns to reveal Shape Cards and identify the shapes. A child may ask a volunteer for help in identifying the shape if necessary.

3 Match Shapes

Indicate the bag of two-dimensional Shape Cards.

- Each child draws a Shape Card from the bag
- The children find others with the same shape

Formative Assessment

Review Shapes

Gather the children and indicate *Backpack Bear's Math Big Book*.

Say: **Let's play "Match Your Shape." I'll say the name of a shape.** The children holding that shape stand and find the page in *Backpack Bear's Math Big Book* that demonstrates that shape (pages 4-8). Children may work together to find their shapes in *Backpack Bear's Math Big Book*.

Daily Routines

WEEK 2

DAY 4

Calendar

Materials
- ☐ Classroom Calendar

Continue the Calendar Routine:

- A volunteer tells the name of the month.
- The children name the days of the week.
- The calendar helper turns the next number.
- Say: **Today is (**name of day and date**).**

Weather

Materials
- ☐ Weather Picture Cards (displayed)

Say: **Here are pictures of different kinds of weather. Yesterday was (**yesterday's weather**). I wonder what kind of weather we will have today.**

The meteorologist goes to the window to look outside, predicts the weather, and places a tally mark under the predicted weather.

Ask: **Why do you think this will be the weather today?**

Say: **Let's look at the weather graph. A graph is a picture that gives information.** Ask:

- **Which Weather Picture Card has the most tally marks?**
- **Which Weather Picture Card has the least number of tally marks?**
- **Do any Weather Picture Cards have the same number or equal tally marks?**

Number Line

Materials
- ☐ Number line
- ☐ Pointer

Say: **The number line tells us how many days we have been in school. Let's count.** Point to and count the days.

Say: **Today we will add one more number. Raise your hand if you know what eight plus one more is.** The number helper chooses a volunteer. **Right, eight plus one more is *nine*.** Remove the sticky note to reveal *nine*. **We have been in school *nine* days.**

Place Value

Materials
- ☐ *Ones* container
- ☐ Craft sticks

Indicate the *ones* container. Ask: **How many sticks are in the *ones* container?** (eight) **Right, eight. Today we get to add one more stick. This shows we have been in school for nine days.**

The number helper adds a stick. Say: **Let's count how many sticks we have so far.**

Counting & Cardinality

A.2 - Count forward from a given number.

B.4 - Understand the relationship between numbers and quantities.

B.4a - Say number names in order, pairing each object with one number.

B.4b - The last number counted tells the total number of objects.

B.4c - Each successive number refers to one more.

Hundreds Chart

Materials

- ☐ Hundreds Chart

Ask: **What's one more way to count how many days we have been in school? Right, let's look at the hundreds chart. This chart also shows how many days we have been in school. Today we will turn the next number.** The number helper turns the number.

Ask: **The hundreds chart shows that we have been in school how many days?**

Pattern Review

Materials

- ☐ *Math Melodies* CD, Track 2
- ☐ Three of each construction paper shape (circle, triangle, rectangle, square) in small plastic bags (one bag for each child and one for demonstration)
- ☐ Pocket chart

1 Review AB Patterns

Operations & Algebraic Thinking

OA.1 - Identify, describe, or extend simple patterns.

Geometry

A.2 - Correctly name shapes.

Recall the activity in which the children created a girl/boy pattern. Several volunteers come forward and re-create the girl/boy pattern.

Say: **Today we will create a pattern. The rule for this pattern is stand/sit. Let's try this pattern. Ready? Stand/sit, stand/sit, stand/sit.** The children do this.

Ask: **What is the next movement in this pattern?** (stand) **Right, stand. Now sit.**

Say: **Let's try some more.** Suggestions:

- Hum, clap; hum, clap
- Touch your chin, touch your nose; touch your chin, touch your nose

2 Introduce AABB Patterns

Say: **Let's make the pattern a little more difficult. Listen first. The rule for this pattern is clap, clap, stomp, stomp. Ready?** The children clap and stomp according to this pattern.

Say: **Let's try some more.** Suggestions:

- Hop, hop, jump, jump; hop, hop, jump, jump
- Bend, bend, kneel, kneel; bend, bend, kneel, kneel

The children suggest additional pairs of movements to create patterns.

3 Bingo Song

Play *Math Melodies* CD Track 2, "Bingo."

Explain that during this song the children will create a clapping pattern. Play and sing the song. Discuss the pattern of clapping during the song.

"Bingo"

Johnny had a little dog,
And Bingo was his name-O.

B-I-N-G-O!

B-I-N-G-O!

B-I-N-G-O!

And Bingo was his name-O!

Formative Assessment

Create Patterns

Distribute a plastic bag containing prepared construction paper shapes to each child. Say: **In your bag you have different shapes.**

Indicate a circle from the demonstration bag. Say: **This is a *circle*. In the shapes I just gave you, find a circle shape and wave it in the air.** Repeat for the triangle, rectangle, and square.

Say: **I can make a pattern with the shapes in my bag.** Demonstrate how to use the shapes to create a pattern in the pocket chart. The children determine the rule of the pattern and take turns extending the pattern using their shapes.

Return the shapes to the children to use to create their own patterns.
Use this time to assess the children's understanding of shapes and patterns.

Daily Routines

Counting & Cardinality

A.2 - Count forward from a given number.

B.4 - Understand the relationship between numbers and quantities.

B.4a - Say number names in order, pairing each object with one number.

B.4b - The last number counted tells the total number of objects.

B.4c - Each successive number refers to one more.

Calendar

Materials
- ☐ Classroom Calendar

Continue the Calendar Routine:

- A volunteer tells the name of the month.
- The children name the days of the week.
- The calendar helper turns the next number.
- Say: **Today is (**name of day and date**).**

Weather

Materials
- ☐ Weather Picture Cards (displayed)

Say: **Here are pictures of different kinds of weather. Yesterday was (**yesterday's weather**). I wonder what kind of weather we will have today.**

The meteorologist goes to the window to look outside, predicts the weather, and places a tally mark under the predicted weather.

Ask: **Why do you think this will be the weather today?**

Say: **Let's look at the weather graph. A graph is a picture that gives information. Which Weather Picture Card has the most tally marks? What does that mean?** Volunteers respond.

Number Line

Materials
- ☐ Number line
- ☐ Pointer

Say: **The number line tells us how many days we have been in school. Let's count.** Point to and count the days.

Say: **Today we will add one more number. Raise your hand if you know what nine plus one more is.** The number helper chooses a volunteer. **Right, nine plus one more is *ten*.** Remove the sticky note to reveal *ten*. **We have been in school *ten* days.**

Place Value

Materials
- ☐ *Ones* container
- ☐ Craft sticks

Indicate the *ones* container. Say: **How many sticks are in the ones container?** (nine) **Right, nine. Remember, we can only put nine sticks in the ones container. Today we get to add one more stick.**

Demonstrate removing the nine sticks from the *ones* container, adding one more stick, and bundling the ten sticks with a rubber band.

Say: **Today is "Bundle Day!" Now we have one bundle of ten sticks. We will put our bundle in the *tens* container. This shows we have been in school for ten days.**

Hundreds Chart

Materials
- ☐ Hundreds Chart

Ask: **What's one more way to count how many days we have been in school? Right, let's look at the hundreds chart. This chart also shows how many days we have been in school. Today we will turn the next number.** The number helper turns the number.

Ask: **The hundreds chart shows that we have been in school how many days?**

Count Backward to Zero

Materials
- ☐ *Starfall.com*; Math Songs, (or *Math Melodies* CD) "Five Little Bears," "Five Little Frogs," and "The Zero Song"
- ☐ Five seedless grapes, other food, or manipulatives for each child
- ☐ Pocket chart
- ☐ Number Cards: 0-5
- ☐ Prepared construction paper shapes: ellipse (oval), and circle

1 Introduce Zero

Project *Starfall.com*; Math Songs: "Five Little Bears" (or prepare to play the song on the *Math Melodies* CD).

Say: **We can count in many different ways. Today we will count forward.**

Play "Five Little Bears." Say: **When we count forward we are adding one more each time we say the next number.**

Say: **Another way to count is to count backward.**

Play "Five Little Frogs." Say: **When we count backward we are taking one away, or subtracting one, each time we say a number.**

2 Count Down From Five

Distribute five grapes, other food, or manipulatives to each child. Place the Number Cards 0-5 in order in a pocket chart.

Ask: **How many grapes do each of you have? Who can point to the number that represents five?**

Continue: **Eat one grape. Now you have one fewer grape. How many grapes do you have left?** (4) **Right, 4. Who can find the number that represents four?**

Continue this process until the children only have one grape each.

Say: **Now you have one grape left. Eat your one grape. How many grapes do you have left?** (none) **Right, none. Who can find the number that represents none. This number is *zero*. Say, *zero*.**

"Five Little Bears"

One little bear
Wondering what to do
Along came another
Then there were two!

Two little bears
Climbing up a tree
Along came another
Then there were three!

Three little bears
Ate an apple core
Along came another
Then there were four!

Four little honey bears
Found honey in a hive
Along came another
And then there were five!

Counting & Cardinality

B.4 - Understand the relationship between numbers and quantities.

B.4a - Say number names in order, pairing each object with one number.

B.4b - The last number counted tells the total number of objects.

B.4c - Each successive number refers to one more.

CC.3 - Count backward from a given number.

Operations & Algebraic Thinking

A.1 - Represent addition and subtraction in a variety of ways.

Geometry

A.2 - Correctly name shapes.

Say: **We have been in school for ten days. Look at the number line. Let's count forward from zero and stop at ten.** Indicate each number as it is counted.

Continue: **Great job! Now, let's count backward from ten to zero.** Do this.

3 The Zero Song

Project *Starfall.com*; Math Songs: "The Zero Song." Say: **Let's watch a video about counting backward to zero.** Play the song.

The Zero Song

If I had ten apples
And gave them all away
I would then have zero apples
Zero apples today

Ten, nine, eight, seven
Six, five, and four
Three, two, one, zero!
Now I have no more.

Zero, zero, zero
Zero apples today
Zero, zero, zero apples
I gave them all away

We each have an apple
An apple we can bite
Once we eat all our apples
There'll be zero apples in sight

Ten, nine, eight, seven,
Six, five, and four
Three, two, one, zero!
Now there are no more.

Zero, zero, zero
Zero apples we say
Zero, zero, zero apples
We ate them all today!

4 Review Ellipse (Oval)

Say: **Zero reminds me of a shape.**

Indicate an ellipse (oval). Say: **This shape looks like an egg. Some people call it an *oval*. It also has another name. It is an *ellipse*. Say, *ellipse*.**

Continue: **I know this is an *ellipse* because it has one curved line around two points. What shape does this remind you of?** (a circle) **Right, a circle. Let's see how these shapes are the same and how they are different.**

Indicate the circle. Say: **Remember, a *circle* is one curved line that is always the same distance from its center.**

Indicate the ellipse. Say: **Let's see if this shape is the same distance from the center.**

Demonstrate how the ellipse has two points that are away from the center so the line around them isn't always the same distance from the center of the ellipse.

Formative Assessment

Shape Review

Say: **Let's play a game. I'll point to one shape. You say circle if it is a circle, or say ellipse if it is an ellipse.** Point to each shape several times and the class responds.

Ask: **Which of these shapes reminds you of zero?** (ellipse) **Right, the ellipse.**

Actions for Number 1

Jump	Clap	Nod
Turn Around	Wiggle	Blink
Hop	Wave	Yawn


1 2 3

Math Songs


The Zero Song


The Time Song


5 Little Bears


10 Little Kittens


5 Little Frogs


10 Kids
Went To Play


Once I Caught
A Fish Alive


Today is
Monday

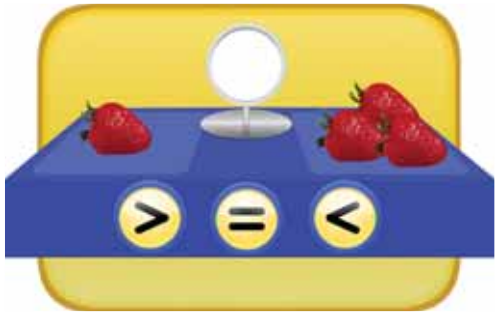

5 Little Farmers


October
The Months
of the Year

Numbers

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20


zero


>

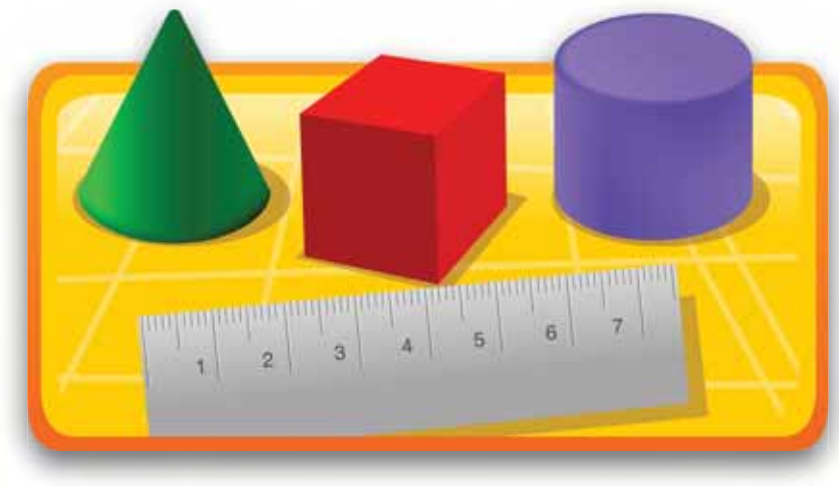

25


50


100


Nickel
Penny
1¢


Penny
Nickel



Geometry & Measurement

GEOMETRY TERMS

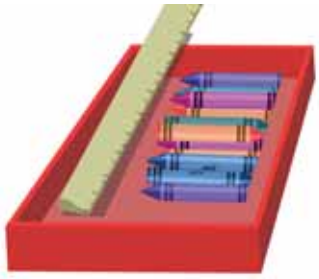
2D / 3D SHAPES

3D SPACE

TRIANGLES

POLYGONS

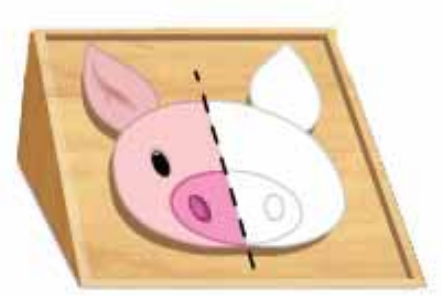
PATTERNS



MEASUREMENT

WEIGHT

TIME

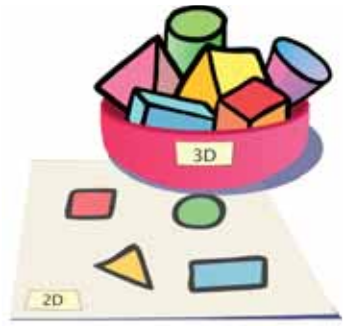


SYMMETRY

BUTTON SORT

PUZZLES

MAKE SHAPES



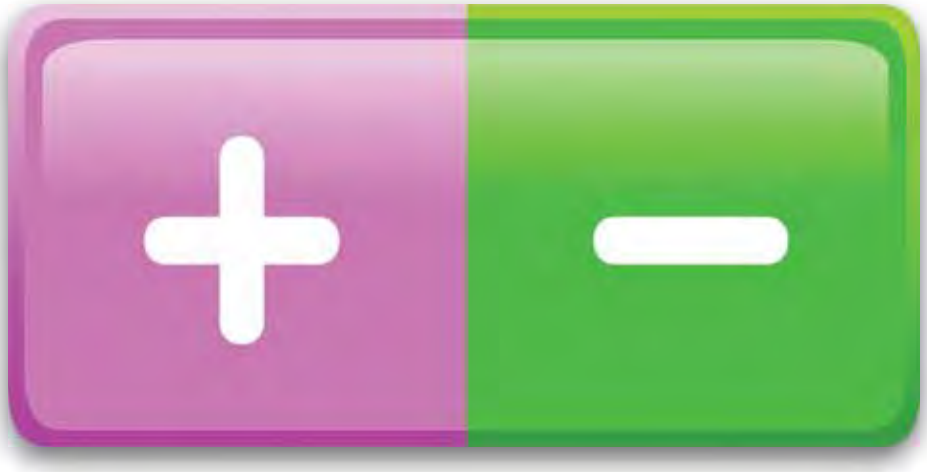
2D / 3D SORT

SYMMETRY 2

QUADRILATERALS

EQUAL SHARES

EQUAL SHARES 2



Addition & Subtraction

Addition Practice

Addition within 10

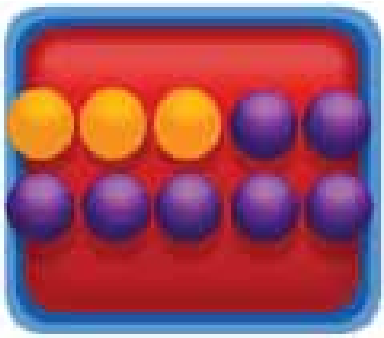
Addition Intro

Addition within 20

Associative Property

Commutative Property

Two Digit Addition



Make 10 Numbers

Make 10 Numbers

Place Value

Compose/Decompose

Base Ten Practice

Subtraction Intro

Subtraction within 10

Subtraction Practice

Minus 1

Subtraction within 10

Subtraction within 20

Add & Subtract Strategies

Math Helpers

0-10

11-20

Word Problems

Operators & Operands

Multiplication & Division