NUMBERS EVERYWHERE

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Summary:
This lesson is an introduction to numbers. It is designed for Kindergarten students.

Context for Learning
Number sense is a necessary life skill that must be developed by all students. Number sense grows as students are exposed to lessons that help them think about numbers in different contexts and in different ways. Teachers can help students develop number sense by showing them how numbers are a part of their everyday world, modeling, questioning, appropriate learning activities, and fostering a classroom environment that nurtures number sense. It is also important for students to recognize a quantity (group of objects) with a symbol (number).

Common Core State Curriculum Standard
K.CC Counting and Cardinality

Know number names and the count sequence

Utah State Core Curriculum Tie

Count to tell the number of objects.

4. Understand the relationship between numbers and quantities; connect counting to cardinality.

Objectives

Intended Learning Outcomes

1. Demonstrate a positive learning attitude.
2. Understand and use basic concepts and skills.
3. Communicate clearly in oral, artistic, written, and nonverbal form.

Objectives

1. When counting objects, students will be able to say the number names in standard order, pairing each object with one and only one number name, and each number name with one and only one object.
2. Students will understand that the last number said tells the number of objects counted.
3. Students will be able to count to answer “How many?” given a number of objects between 1-10.
4. Students will recognize that a number represents a quantity.
5. Students will be able to connect counting to cardinality, correctly matching a written number to a group of objects.

Formative Assessment
Teacher assessment in Kindergarten is primarily accomplished by keen observation of the students as they interact with each other and the teacher. Can a child count a group of objects with one-to-one correspondence? Can he/she tell the difference between a number and an alphabet letter? Can a child point to a correct number when asked? Can he/she count a group of objects and match it correctly to a number?

Students also perform these tasks on the Utah State Kindergarten Pre-Assessment, which is given to all Kindergarten students in August of each school year.

Instructional Procedures

Invitation to Learn

Show video clip Numbers Everywhere
Have students brainstorm places they have seen numbers.

OR introduce this lesson with the book *Numbers All Around Me* by Trisha Callella Jones (ISBN 1-57471-77-9). Discuss the places in the book where students can see numbers. Invite students to add additional places they have seen numbers.



Learning Activities

1. Model pointing and counting to 10 using classroom manipulatives, fingers, children standing in a line, etc. After modeling, have students practice pointing in the air and counting along with you.
2. Pair students and give each pair a bag with 10 objects in it. Have student #1 spread out some of the manipulatives for student #2 to point and count. Student #1 checks student #2. Reverse roles and repeat, setting out a different amount of manipulatives each time.
3. Model pointing and counting to 10 and then writing the corresponding number. Tell students we use numbers to show how many.
4. Throughout the week, introduce the numbers 1-10. Use a variety of activities, such as
    - Songs that teach number formation (e.g. *Straight down and then you're done. That's the way to make a one*.)
    - Visual representation of the number in a 10 frame
    - Matching number cards to picture cards
5. For reinforcement, play the following games:
    - *Number Flips* - Have students create a **Number Flips** book. Give students a bag with 10 objects in it. Students pull out some of the objects, point and count how many there are, and show the corresponding number on their Number Flipbook. Repeat.
    - *Roll My Number* - Give each student a number cube. Have all students stand up. Teacher calls out a number and students roll their number cube. If the number rolled matches the teacher's number, the student sits down. If it doesn't, student continues to roll until he/she rolls the specified number.
    - *Roll and Cross Out* - Give students the **Roll and Cross Out** recording sheet. Have a child roll a dot cube, revealing a number. Students mark an "X" in the box above that number. Repeat until one column of the same number is completely crossed out.
    - Use iPad apps and computer games for practice of skills learned. Here are just a few:
        i. Matching 123 My First Numbers Game https://itunes.apple.com/us/app/matching-game-my-first-numbers/id479661583?mt=8
        ii. Endless Numbers https://itunes.apple.com/us/app/endless-numbers/id804360921?mt=8
        iii. Fun 4 the Brain http://www.fun4thebrain.com/preschool/bigseacount.html

Summative Assessment

Once again, teacher assessment in Kindergarten is primarily accomplished by keen observation of the students as they interact with each other and the teacher. In addition, students can be asked to perform counting and cardinality tasks in a small group or individual setting. The math program which has been adopted by WCSD also provides

numerous opportunities for paper and pencil assessments of this skill. Finally, students also perform these tasks on the Utah State Kindergarten Post-Assessment, which is given to all Kindergarten students in May of each school year.

Extension Activities

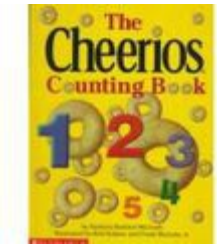
1. Use the above learning activities with numbers 11-20.
2. Write or tell, and illustrate, a story using numbers, such as *The Three Little Frogs.*
3. Count objects seen in the classroom or at home, and graph how many of each object is present.
4. Use technology (powerpoint, storyboard apps, etc.) to create a presentation about groups of objects and corresponding numbers.
5. Family Connection
    a. Invite parents to go on a *Number Hunt* with their child and write down or draw all the places they see numbers.
    b. Have students copy the numbers they see on their house, on their car's license plate, and any other numbers they see around their home.
    c. Encourage parents to allow their child to freely explore a calculator to see how numbers work.

Modifications

1. For struggling or special needs students, repetition and reteaching will be provided in small group or individual settings.
2. For ELLs, we have used modeling, gesturing, pictures and buddy and small group activities to support learning.
3. For diverse learners, we have included different activities in each of the modalities (tactile, visual, oral, kinesthetic) to access all learning styles and to maintain interest and engagement.
4. We have also included activities using technology to support learning.
5. For HALs, we have included extension activities.

Closure

1. Review the numbers 1-10. Introduce students to the higher numbers. Read *The Cheerios Counting Book* by Barbara Barbieri McGarth (ISBN 0-439-14979-7) . This book focuses on counting to 20 and then counting to 100 by tens. Bring out the Cheerios and have students count with the book.



Reflection

It is critical for students to develop number sense. These lessons have helped students think about numbers in different ways and in different contexts. As students count and manipulate objects, participate in appropriate learning activities (including guided and independent practice, interventions and extensions), and make connections to home and the world around them, they develop a deeper understanding of number sense.

When this lesson is taught in the fall, teachers will continue to reflect on student needs, connections students make with the content, and look for opportunities to solidify and extend learning.