An Introduction to Utah's Early Childhood Core Standards Through a Hands-on Approach to Math Robyn K. Giovacchini

Utah Early Childhood Education Conference November 2, 2012



Agenda

I have been impressed with the urgency of doing.

Knowing is not enough; we must apply.

Being willing is not enough; we must do.

-Leonardo da Vinci

- Welcome and Introductions
 - Who are you?
 - Where are you from?
 - Why did you choose this workshop?
- Brief look at the new UECC Standards
- Family Connections
- Summary of Mathematics Standards
- Hands-on Activities
 - Geometry 4
 - Measurement and Data 3
 - Counting and Cardinality 6
- ❖ Literature Connection

Utah's Early Childhood Core Standards

- Purpose
 - Improve kindergarten transition
 - Increase readiness
 - Reduce achievement gaps
- Design
- o Inclusive of all children
- Implemented using children's current strengths, knowledge, and skills
- Instruction is adapted to meet children's individual needs
- o Developmental continuum
 - Preschool Foundation
 - Kindergarten Readiness
 - Kindergarten
- Acknowledge
 - Parents are children's first and most influential teachers
 - Practices are designed to be <u>developmentally</u> appropriate
 - Standards are interconnected to reach the needs of the whole child
 - Social/emotional
 - Physical/gross and fine motor
 - Cognitive
 - Language Arts /Literacy
 - Mathematics
 - Science/Social Studies

23 Mathematics Standards

• 7 Counting and Cardinality

6 Operations and Algebraic Thinking

• 1 Numbers and Operations in Base Ten

3 Measurement and Data

• 6 Geometry

Hands-on Activities

Geometry 4 (Analyze, compare, create, and compose shapes.)

(Foundational) Begin to recognize the difference in basic shapes as two-dimensional (picture) or three dimensional (object).



Materials: Chart paper, markers, student journals, play dough, real 3D objects, real 2D objects, pictures, and non-fiction books.

Procedure:

- Access students' prior knowledge about shapes and write responses on a KWL chart.
- "Piggy Back" on students' prior knowledge and add new information about the difference between 2D and 3D shapes.
- Show concrete examples of shapes and examples from books.
- Provide clay or play dough for students to create 3D figures
- Ask children to tell you about their 3D shapes and explain what they learned by making the shapes.
- Record students' responses on the KWL chart.

Assessment:

Students correctly identify and create two 3D shapes.

Language Arts connection:

Make vocabulary cards with shape pictures. Have cards available during journal drawing and writing.

- o Cube
- o Pyramid
- o Cylinder
- o Sphere
- o Rectangular prism

Measurement and Data 3 (Classify objects and count the number of objects in each category.)

(Kindergarten Readiness) Classify objects into given categories; count the number of objects in each category and sort the categories by count.



Materials: Chart paper, buttons, sorting containers, markers, student journals, books.

Procedure:

- Access students' prior knowledge about buttons and their attributes (color, size, shape, number of holes, etc.) and write responses on a KWL chart.
- Model for students how you would sort a few buttons according to one attribute.
- Give students sorting containers and plenty of buttons for individual sorting.
- Ask children open-ended, processing questions and chart their answers.

Assessment:

Students correctly sort buttons according to two different attributes.

Language Arts connection:

Make vocabulary cards with attribute words and pictures available during journal writing. Children draw their experience in their journal and dictate their sorting story as adult writes.

Counting and Cardinality 6 (Compare numbers.)

(End of Kindergarten) *Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.)*



Materials: Chart paper, markers, floor graph, real apples (3 colors, enough for every child to choose one), and journals.

Procedure:

- Ask students to bring an apple to school for a math project and later a snack, or provide enough apples for all students to choose one.
- Place large graph on floor with yellow apple under one column, red apple under second column, and green apple under third column.
- Students place their apple in the appropriate column.
- Count the number of apples in each column (one-to-one correspondence). Write the number at the top of the graph.
- Discuss the results using the length of each bar. Guide children in indentifying if one column is greater than, less than, or equal to the number of apples in the other columns.

• Students transfer information to their journals.

Assessment

• Students correctly identify which column has a greater number of apples, less apples, and equal apples.

K I M
Key Word Information Memo

Bibliography

Adamson, T & H How Do You Measure Length and Distance?

Aker, Suzanne What Comes In 2's, 3's, and 4's?

Anholt, C & L One, Two, Three, Count With Me

Anno, Mitsumasa Anno's Math Games

Anno's Math Games II
Anno's Math Games III

Baker, Heather Come Cook With Me

Bang, Molly Ten, Nine, Eight

Becker, John Seven Little Rabbits

Brett, Jan The Mitten

Carle, Eric Dream Snow

Ten Little Rubber Ducks The Grouchy Ladybug The Very Busy Spider

The Very Hungry Caterpillar The Secret Birthday Message

Today is Monday

Carter, David How Many Bugs in a Box?

Charles, N.N. What Am 1?

Christelow, Eileen Five Little Monkeys Jumping on the Bed

Five Little Monkeys Sitting in a Tree

Cotter, Noreen The Apple Tree

Crews, Donald Ten Black Dots

Cuyler, Margery 100th Day Worries

DePaola, Tomie Pancakes For Breakfast

Elhert, Lois Red Leaf, Yellow Leaf

Color Zoo Fish Eyes

Facklam, Margery Bugs for Lunch

Falwell, Cathryn Feast For Ten

Feelings, Muriel Moja Means One

Fox, Mem Possum Magic

Freyman & Elffers One Lonely Sea Horse

Giganti, Paul Each Orange Had 8 Slices

How Many Snails?

Hague, Kathleen Numbears

Heller, Ruth Kites Sail High

Hoban, Tana Circles, Triangles, and Squares

Count and See

26 Letters and 99 Cents Of Colors and Things Round and Round

Shapes, Shapes, Shapes

Hodgson, Jim Numberland Lift-The-Flap

Holland, Trish Trees Count

Hubbard, W. 2 is For Dancing

Hutchins, Pat Changes, Changes

Clocks and More Clocks

Rosie's Walk

The Doorbell Rang

Irons & Irons Ten Silly Sheep

What's InThe Cupboard

Kasza, Keiko The Wolf's Chicken Stew

Keats, Ezra Jack Over In The Meadow

The Trip

Kirk, David Miss Spider's Tea Party

Kohl, MaryAnn Math Arts Exploring Math Through Art for 3 to 6

Year Olds

Lionni, Leo Inch by Inch

Martin Jr, Bill Chicka Chicka 1 2 3

McGown, Diane Math Play

McMillan, Bruce Eating Fractions

Time To...

Merriam, Eve 12 Ways To Get To 11

Metzer, Steve Five Little Penguins Slipping on the Ice

O'Keefe, S. H. One Hungry Monster

O'Leary, John Ten on a Train A Countdown Book

Otoshi, Kathryn One

Pallotta, Jerry The Icky Bug Counting Book

Pinczes, Elinor One Hundred Hungry Ants

Reid, Margaret The Button Box

Rose, Deborah L One Nighttime Sea

Schuette, Sarah Series of Six Shape Books (A+ Books)

Schwartz, D. M. How Much Is A Million?

Serfozo, Mary Who Wants One?

Shaw, Charles G. It Looked Like Spilt Milk

Slobodkina, Esphyr Caps For Sale

Tafuri, Nancy Who's Counting

Tang, Greg The Grapes of Math

Thompson, Lauren Little Quack

Tompert, Ann Grandfather Tang's Story

Tudor, Tasha 1 is One

Wallwork, Amanda No Dodos A Counting Book of Endangered Animals

Walsh, Ellen S. *Mouse Count*

Williams, Vera B. A Chair For My Mother

Wise, William Ten Sly Piranhas

Young, Ed Seven Blind Mice