February Curriculum Planning Kindergarten

Children learn mathematics primarily through "...doing, talking, reflecting, discussing, observing, investigating, listening and reasoning." Copley, 2000

Word Wall Words

Knowing the right word to use allows students to communicate more effectively and efficiently. Often, mathematics cannot really be understood or communicated without reference to appropriate vocabulary. Introducing new terms and placing them on a word wall can help to solidify understanding of the vocabulary. Encourage students to create their own word wall cards to demonstrate understanding of a word. Re-visit these words often: Do they remember words from past outcomes? Are they using these words? Can they explain the words? Do they demonstrate understanding?

Some words for this month: one to ten, backward, forward, after, before, count on, count back, how many, dots, five frames, more, fewer, same, less

Curriculum Outcomes for February

N1: Say the number sequence by 1s starting anywhere from 1 to 10 and from 10 to 1. (Forwards and backwards) [C, CN, V]

N3 (cont'd): Relate a numeral, 1 to 10, to its respective quantity. $[{\rm CN},{\rm R},{\rm V}]$

N4: Represent and describe numbers 2 to 10 concretely and pictorially. (Continue to focus on numbers to 5). [C, CN, ME, R, V]

N5: Compare quantities, 1 to 10, using one-to-one correspondence. (Focus on numbers to 5). [C, CN, V]

N2 (revisit): Recognize, at a glance, and name familiar arrangements to 1 to 5 objects or dots. [C, CN, ME, V]

Revisit N2 through warm-ups, exit cards, journaling and other quick activities.

Mathematical Processes

Communication (C): Teachers should model the correct use of mathematical vocabulary. When comparing quantities, students should be encouraged to use specific terminology, such as: fewer, more, as many as, the same number.

Connections (CN): Teaching for deep understanding will be successful if all learning occurs in meaningful contexts. There are many opportunities in the classroom to practice one-to-one correspondence, for example, passing out materials (scissors, pencils, paper, and books), voting (one vote per person). Also, the teacher may say, for example, "There are nine boys in the class" and then ask students, "How many pencils will I need so that each boy can have one?" If they answer "nine" you know that they have an understanding of one-to-one correspondence. Celebrating the hundredth day of school also gives an opportunity for students to learn in a meaningful context.

Reasoning (R): While students are engaged in daily problem-solving, teachers should ask questions that require students to make conjectures, e.g., What if...? Why does this work? Does it always work? Explain...

Mental Mathematics and Estimation (ME): Part-whole understanding is the ability to conceptualize a number as being composed of other numbers. For example, the number 5 is a whole amount but it is also made up of smaller groups 4 and 1, and 2 and 3. Research shows that a strong part-whole understanding positively impacts students' performance in number concepts, place value, and problem solving.

Problem Solving (PS): Problem solving is the focus of mathematics at all grades. It provides a daily opportunity for children to be active in constructing mathematical meaning, to learn problem solving strategies, to practice a variety of concepts and skills in a meaningful context and to communicate mathematical ideas.

Technology (T): Students need to begin with concrete/hands-on experiences with counting, but technology can provide motivating reinforcement for learning about numbers. On-line resources such as <u>http://www.eduplace.com/kids/mw/</u> (see Extra-help section K –More, Fewer, Same) provide students with tools to explore numbers.

Visualization (V): Mental images are needed to develop the N5 outcome, comparing quantities. Activities such as the following will help to develop this concept: Give students a blank plate. Hold up a dot plate and ask students to make a set that is the "same as", "more" or "fewer".

Connections to Math Makes Sense

N1 - Unit 4: Numbers to 10 Lesson 12 "Counting Forward and Backward"

N2 - Unit 2: Exploring Numbers Lesson 7 "Five Frames" Lesson 8 "Visualizing Numbers"

N3 & N4 - Unit 4: Numbers to 10 Lessons 1-11 Exploring number 6-10



N5 - Unit 2: Exploring Numbers Lesson 1 "As Many As, More, or Fewer"

Investigation Idea

Read the story The Very Hungry Caterpillar by Eric Carle. Prepare a large blank graph with the names and pictures of the foods the caterpillar ate. Give each student a



small sticky note. Have them write their names on the sticky notes, then place the sticky notes on the area of the graph that shows their favourite food. Ask, "Which food did more/fewer students choose? The class can also graph the exact number of items the caterpillar ate and do a direct correspondence. (N5)

Journal Ideas

Five birds are in a tree. The birds are red birds and blue birds. There are more red birds than blue birds. Draw the birds in the tree. (N5)

Dan has 5 pets at home. They are dogs and cats. Dan has fewer dogs than cats. Draw Dan's pets. (N5)

Pick a number from 1 to 10. You are doing a rocket launch countdown from that number. Show your countdown. (N1)

Write any number that comes after 5. Write the number on the page, and then write the number before with a marker. (N1)

100 Day Activities (N1, N2, N3, N4, N5)

100 Day Crown: Materials- wide strips of white paper (circumference of students' heads), numeral cards for 100 (or a phrase like "I am 100 Days Smarter"), and different coloured bingo dabbers/stickers/etc. Divide white paper into 10 different sections or have 10 smaller strips of paper that can be added to the band. Students can then make 10 dots in each section or on each strip using a bingo dabber, stickers, etc. in order to create a 100 Day Crown.

100 Day Masks: Have students create 100 day masks for the celebration.



100 Day Snack: Use 10 different snack options (Goldfish, raisins, mini- marshmallows, Cheerios, pretzels, etc.). Have students count out ten of each into their own Ziploc baggie. Once completed, they will have a snack of 100 items.

100 Day Picture: Have a student draw a picture of what they think they will look like when they are 100 years old.

100 Day Class Book: "If I had \$100 I would...." Or, "I would like 100 _____ but not 100 _____".

100 Tally Game: With a partner, have students use dice and a game board to roll and tally to 100. See portal for game board.

100 Day Group Project: With a small group, students must create a poster that has 100 items glued to it. It could be a mitten filled with 100 stickers, a pizza with 100 dots to look like pepperoni, etc.



100 Day Community Project: Challenge classes to see if they can bring in 100 items for their community food bank. Each time an item is brought in a number can be coloured on a 100 chart to check their progress.

100 Counting/Science Link: Fill a clear cup with water close to the top and tell the kids you're going to put 100 paper clips in it. Have them predict whether this will make the cup overflow. Remind them how the water in the bathtub or kiddle pool gets higher when they get in it. Then count to 100 as the paper clips go in the cup. It doesn't overflow. You could let the kids put the clips in one at a time if they're careful.

100 Trains: Have each student make a train of 10 linking cubes (same colour). See how Many trains of 100 your class can make when they put their 10 trains together.



100 Day Penny Stamp: Using an empty 100 chart, have students fill the chart by stamping 1 penny into each space.

Interesting Websites

Website with virtual manipulatives:

http://www.glencoe.com/sites/common_assets/mathematics/ebook_assets/vmf/VMF-Interface.html

Counting activities: <u>http://www.abcya.com/kindergarten_computers.htm</u> Link to Van de Walle blackline masters: <u>http://ablongman.com/vandewalleseries/</u>