



May Curriculum Planning Grade 1



**"If children are unable to learn, we should assume that we have not yet found the right way to teach them."
– Marie Clay**

Curriculum Outcomes for May

N10: Describe and use mental mathematics strategies (memorization not intended), such as:

- **counting on and counting back**
- **making 10**
- **doubles**
- **using addition to subtract**

to determine the basic addition facts to 18 and related subtraction facts. [C, CN, ME, PS, R, V]

SS1 : Demonstrate an understanding of measurement as a process of comparing by:

- **identifying attributes that can be compared**
- **ordering objects**
- **making statements of comparison**
- **filling, covering or matching.** [C, CN, PS, R, V]

SS2: Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. [C, CN, R, V]

SS3: Replicate composite 2-D shapes and 3-D objects. [CN, PS, V]

SS4: Compare 2-D shapes to parts of 3-D objects in the environment. [C, CN, V]

N1 (counting forward and backward) and N9 (addition and subtraction) should be revisited through warm-ups, number line activities, exit cards, journaling and other quick activities.

Mental Math (N10) Counting On and Counting Back

"Although the forward sequence of numbers is relatively familiar to most young children, counting on and counting back are difficult skills for many. Frequent short practice drills are recommended". Van De Walle

Counting On with Counters Activity

Give each child a collection of 10 or 12 small counters that the children line up left to right on their desks. Tell them to count four counters and push them under their left hands. Then say, "Point to your hand. How many are there?" (Four.) "So let's count like this: f-o-u-r (pointing to their hand, five, six,...". Repeat with other numbers under the hand.

Real Counting On

This "game" for two children requires a deck of cards with numbers 1 to 7, a die, a paper cup, and some counters. The first player turns over the top number card and places the indicated number of counters in the cup. The card is placed next to the cup as a reminder of how many are there. The second child rolls the die and places that many counters next to the cup. Together they decide how many counters in all using the counting on strategy. A recording sheet with columns for "In a Cup," "On the Side," and "In All" is an option. The largest number in the card deck can be adjusted if needed. (See [portal](#) for Activity Cards)

Counting Back

Counting back is normally the first strategy that students use when they are learning to subtract. Counting back simply means starting with the minuend (the largest number) and counting back to figure out the difference. For example, in the equation $13-2$, a student would think, "13...12, 11" to get an answer of 11. It is very important to remember that counting back is only an effective strategy when the subtrahend (the number being taken away) is a 1, 2, 3 or 4. With subtrahends that are higher than 4, students tend to get mixed up with their counting and get wrong answers.

Counting Back with Dot Cards

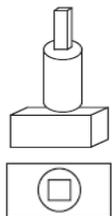
Create a deck of numeral cards with numbers 4- 20. Create a deck of dot cards with dots 1-4. Have students turn over the numeral card and read the number. Next have them turn over a dot card. Students use the counting back strategy by pointing to the dots on the dot card and counting back from the numeral.

Investigation Ideas

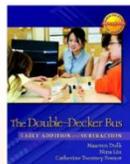
Design Challenge: Have students work in small groups. Tell groups that they have been asked to design and make a model community. They are going to build it on a section of a large piece of mural paper using 3-D objects from school and home. Once the community has been designed, the groups will take their structures apart.

(**Note:** If possible take a picture of the community for later comparison.)

As they do this they are going to record the objects used by tracing the face of each object, in its position. Example: This structure would be recorded as:



Once complete, each group trades places with another group and tries to reconstruct the community by following the 2-D shape diagrams. Have the original groups assess the success of the reconstruction. (SS3)



The Double-Decker Bus: Early Addition and Subtraction

Contexts for Learning K – 3
by Maarten Dolk, Nina Liu, and
Catherine Twomey Fosnot

The Double-Decker Bus, the story of a little girl's efforts to count the passengers on fast-moving double-decker buses, introduces students to the benefits of using the five- structure to quickly calculate quantities. The arithmetic rack (Rekenrek), whose beads mirror the organization of seats on the buses, provides a model for solving addition and subtraction problems. (N1, N2, N3, N4, N6, N7, PR3, PR4)

Sorting Objects: Have your class collect a variety of 3-D objects. Sort objects into two groups. Have students explain their sorting rule, and discuss why each shape fits into that group. Encourage the use of correct geometric terms. (SS2)

Interesting Websites

<http://primarygamesarena.com/shape> - Practice matching 2-D shapes and 3-D objects

<http://mathacs.wikispaces.com/First+Grade+Resources> - Check out the Essential Games section for the SmartBoard

Literature Connections

Three Pigs, One Wolf and Seven Magic Shapes by Grace Maccarone

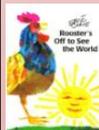
The pigs use the seven magic shapes to form solutions to the problems they encounter. Students will enjoy using tangrams to recreate the figures in the book as well as creating their own tangram figures for classmates to solve. (SS3)



Grandfather Tang's Story by Anne Tompert also uses tangrams to illustrate the story a grandfather tells his granddaughter. Students will enjoy recreating the tangram creatures found throughout the book. (SS3)

See the following site for activities related to both of these books:

<http://mathwire.com/literature/litgeometry.html>



Rooster's Off to See the World by Eric Carle

Students help Rooster keep track of how many friends join him. (N9)



Looking at Nature: What Shape is It?

by Bobbie Kalman (SS4)
Pictures of shapes in the environment.

Journal Ideas

If the answer is seven, what is the question? Think of as many questions as you can. (N9)

Show students a large bag of cotton balls and a small heavy object (e.g. ball bearing, paper weight) Ask: "Which do you think is heavier? Explain why." (SS1)

Josh has 3 marbles. Tom has 9. Bobby has 4 more than Josh and 2 fewer than Tom. How many marbles does Bobby have? (N9)

What strategy could you use to find the sum of $7 + 6$? (N10)

The teacher uses pattern blocks to make an animal such as a pet cat, shows this design to the students and asks them to use the set of pattern blocks provided to replicate the design then copy it into their journal. (SS3)

Explain how you can use a ten frame to find the sum of 8 and 5 by making ten. Use this strategy with another pair of numbers that you choose. (N10)

What would happen if your soccer ball were shaped like a cube? (Substitute with other 3D shapes). (SS2)



Game/Activity Ideas

Give Me a Foot: Have each student trace around their foot then cut it out. Ask them to compare the length of their cut out foot to a partner's. Place the feet in order of length. Then compare with another team's feet and add to the order. Continue until the whole class' feet are part of the order. (SS1)

Shape Hunt: Take students around the school or the playground looking for 2-D shapes in 3-D objects. For example, the door to the classroom has a rectangular shape, the trash can has a circular face, etc. Some students may need to move or touch the objects to determine the 2-D shapes. As students become more familiar with finding 2-D shapes in 3-D objects, they may use magazines, flyers, or catalogues to identify 3-D objects that have parts similar to a 2-D shape. (SS4)

Target Twelve: Players take turns rolling dice and adding. At a turn, each player rolls 2 of the 3 dice. The player may decide to keep the sum or to roll the third die and add. The winner is the player whose sum (from either 2 or 3 dice) is closest to 12.

Note: If the third die is rolled, the sum must reflect all three addends. At each round, the winner collects one Unifix cube. The first person to collect **12 cubes** is the champion! (N10)