Note to Teacher: Anything in red is a note to the teacher. All questions are asked one on one.

1. *Demonstrators should be taught in order written.*
2. *Demonstrator 1 goes with Related Standards 1 and Assessment Item 1, Demonstrator 2 goes with Related Standards 2 and Assessment Item 2, etc.*

Grade: Kindergarten -
Enduring Skill 1:

Students will use geometric ideas and vocabulary to describe and model objects in their physical world.

Demonstrators :

1. Use understanding to identify and name 2D shapes.
2. Use understanding to identify and name 3D shapes.
3. Use understanding to analyze and compare shapes (2D and 3D).
4. Use understanding to draw/compose 2D and 3D shapes in the world.
5. Use understanding to describe the relative position of objects.

Related Standards:
1. K.G.1
2. K.G.2
3. K.G.3
4. K.G.4
5. K.G.5
6. K.G.6

Assessment Items:
Questions regarding 2D shapes must include squares, circles, triangles, rectangles, and hexagons.
Questions regarding 3D shapes cubes, cones, cylinders, and spheres.

1. ES 1. Demonstrator 1 , Standard K.G.2 and K.G.3

   Give students 2D objects of different sizes. Say, "Sort the objects by shape." Once sorted, the teacher points to each sorted group and says, "What is the name of these shapes?"

2. ES 1, Demonstrator 2, Standard, K.G.2 and K.G.3

   Give students 3D objects of different sizes. Say, "Sort the objects by shape." Once sorted, the teacher points to each sorted group and says, "What is the name of these shapes?

3. ES 1, Demonstrator 3, Standard, K.G.1, K.G.2, K.G.3, K.G.4

   a. Teacher displays 2 different 2D shapes and says, "How are these shapes different? How are these shapes alike?"

   b. Teacher displays 2 different 3D shapes and says, How are these shapes different? How are these shapes alike?

4. ES 1, Demonstrator 4, Standard, K.G.5 and K.G.6

   Display at least 4 sets of pattern blocks to create simple 2D shapes. Teacher says:

   a. "Use these two triangles with full sides touching to make a rectangle."
   b. "Use the pattern blocks to create _____." Student must compose simple shapes to form these larger shapes: rectangle, square, triangle, hexagon.

5. ES 1, Demonstrator 5, Standard, K.G.1

Give student a picture of objects on a shelf. Ask the child to describe where the items are in relation to each other.

Teacher Prompt:
1.   "Where is the sun in relation to the purple birds?" Answer: Student uses the word "ABOVE".
2.   "Where is the cat in relation to the slide?" Answer: Student uses the word "BELOW".
3.   "Where is the blue butterfly in relation to the pink butterfly?" Answer: Student uses the word "BESIDE".
4.   "Where is the slide in relation to the tree (teacher points to the blooming tree)?"
Answer: Student uses the word "IN FRONT OF".
5.   "Where is the tree (teacher points to the non-blooming tree) in relation to the swing?" Answer: Student uses the word "BEHIND".
6.   "Where is the slide in relation to the swing?" Answer: Student uses the word "NEXT TO".

Grade Kindergarten

Enduring Skill 2:
Students will understand the relationship between numbers and quantities up to 20.

Demonstrators:

1. Use understanding to write numerals 0 to 20. (Assessment item 1 below)
2. Use understanding to represent a number of objects with a written numeral 0 to 20.
3. Use understanding to recognize a numeral from 0 to 20.

Related Standards:
1. K.CC.3
2. K.CC.4
3 .K.CC.5

Assessment Items:

1. ES 2, Demonstrator 1, Standard K.CC.3

    Say, "Show me how to write the numeral _____?"
    Fill in blank with numerals 0 to 20

2. ES 2, Demonstrator 2, Standard K.CC.3, K.CC.4

    Display a collection of items. Say, "Write the numeral that represents the number of objects in this group." Show different groups ranging from 0 to 20.

3. ES 2, Demonstrator 2, Standard K.CC.4

    Display 25 counters. Have students count out a given number of items. (Example: Get me 6.) Teacher continues for 0-20.

4. ES 2, Demonstrator 3, Standard K.CC.3
    Show the student a numeral card. Say, "Identify the numeral on this card."
    All numerals 0 to 20. Students must verbally say the number name for the numeral on the card and represent the numeral with counters.

5. ES 2, Demonstrator 3 , Standard K.CC.3 and K.CC.4

    Give the student a die numbered 0-5. The student will roll the die, create a group matching the quantity rolled, write the numeral rolled, and draw objects to represent the numeral.

Grade Kindergarten

Enduring Skill 3:

Students will develop an understanding of addition and subtraction within 10 using objects.

Demonstrators :

1. Use understanding of addition and subtraction strategies to fluently solve problems within 5 *(**conceptual understanding meaning** - mental math with understanding not just quickness)*
2. Use understanding of addition as putting things together.
3. Use understanding of subtraction as taking things away from.
4. Use understanding of addition strategies to solve real world problems within 10.
5. Use understanding of subtraction strategies to solve real world problems within 10.

Related Standards:

1. K.OA.1
2. K.OA.2
3. K.OA.3
4. K.OA.4
5. K.OA.5

Assessment Items:

1. ES 3, Demonstrator 1 , Standard K.OA.5

   a. Say, "I have 3 cars. How many more do I need to make 5?"
      (Re-ask the question replacing the number with all combinations 0 to 5.)
   b. Say, "Show me two fists. Using fingers on both fists, show me one way to make 5."
   c. "Show me another way to make 5"." (Referring to 1b above.)
   d. Say, "There are 5 birds in a tree. Some flew away and now there are 3. How many flew away? "(Make all combinations 0 to 5)
   e. Say, "I have _ counters in one hand and _____ counters hidden in my other hand. How many total counters do I have?" (Make all combinations 0 to 5.)

2. ES 3, Demonstrator 2 , Standard K.OA.1, K.OA.3, K.OA.4, K.OA.5

   Show the student _____ counters. Ask "How many more counters do I need to have ____ counters?" (Make all combinations 0 to 10)

3. ES 3, Demonstrator 3, Standard K.OA.1, K.OA.5

   Show the student ____ counters. Say, "I have ____ counters but I'm going to take away ____ counters. How many counters will I have left?" (Make all combinations 0 to 10.)

4. ES 3, Demonstrator 4 and 5, Standard K.OA.1, K.OA.2, K.OA.4, K.OA.5

   a. Say, "Five apples are on the table. Three are red and the rest are green. How many apples are green?"
   b. Say, "Three red grapes and two green grapes are on the table. How many grapes are on the table?"
   c. Say, "There are 7 apples on the table. Some are red and some are green. How many are red and how many are green?
   d. Say, "There were 10 cookies in this package. Bill ate some. Now there are only 6 cookies. How many cookies did Bill eat?"
   Continue asking questions a,b,c,d and changing the numbers for combinations 0-10.

5. ES 3, Demonstrator 5, Standard K.OA.2, K.OA.3, K.OA.5

   a. Say, "Five bananas were on the table. I ate two of the bananas. How many bananas are on the table now?"
   b. Say, "Fred and John have eight cars. If Fred takes three of them, how many cars will John have now?"
   c. Say, "There are 10 apples. Four of the apples are green. How many are red?
   Continue asking questions 5 a,b,c and changing the numbers for combinations 0-10.

Grade Kindergarten

Enduring Skill 4:

Students will develop an understanding of place value in order to compare numbers.

Demonstrators:

1. Use understanding to compare two groups of objects using greater than, less than, equal to.
2. Use understanding to compare two numbers between 1 and 10.
3. Use understanding to compose and decompose numbers 11 to 19 into groups of ten and ones.

Related Standards:
1. K.CC.6
2. K.CC.7
3. K.NBT.1

Assessment Items:

1. ES 4, Demonstrator 1, Standard K.CC.6

   a. Use these blocks to make a group that is (greater than, less than, or equal to) my group?
      Teacher has a group of objects between 1 and 10.

   b. (Give the student 10 blocks.) Use the blocks you have to make two groups. Are these groups equal? If not, ask which group is greater or which group is less. (Continue this activity until the teacher is sure the student knows or doesn't know less than, greater than, or equal to.)

2. ES 4, Demonstrator 1, Standard K.CC.6

   Show students two ten frame cards. Ask: "What can you tell me about these ten frame cards?"

   Ten frame cards are representing quantities 0-10.
   Example: Show students:

   Student responses should reflect a comparison of the two ten frames shown using the vocabulary: equal to, less than, or greater than.

3. ES 4, Demonstrator 2, Standard K.CC.6 and K.CC.7

   Display two numeral cards (use 1-10 numeral cards). Ask these questions.
   a. Are the numbers equal?
   b. Which number is greater?
   c. Which number is less?

4. ES 4, Demonstrator 3 , Standard K.NBT.1

   __Have tools related to place value displayed for student to choose from: arrow cards, three completedly filled ten frames and ten frames representing 1 to 9, unifix cubes, rekenrek and counters.__

This activity can be done individually, in partners, or in small groups. The students have a teacher-made sheet and a writing implement. The cards are shuffled and placed face down.

MATERIALS

- Number cards 11-19
- Pencil, crayon, or marker
- Attached student worksheet

_____ = _____ + _____
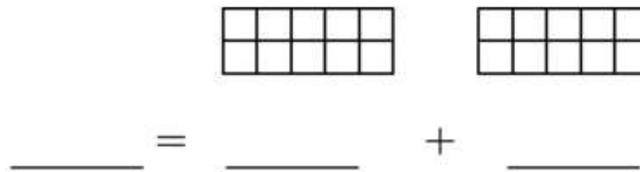
The student picks a card off of the top of the pile. The student then says the number and draws that many dots beginning with the first 10-frame. When the first 10-frame is filled, the student continues drawing the remaining dots in the next 10-frame. The student then fills in the blank equation with the corresponding numbers.
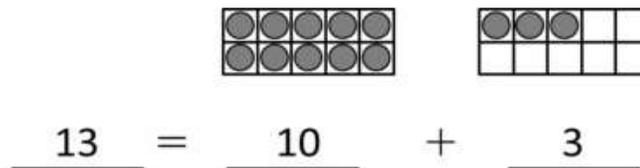
Note: Some questions were based upon work found on the Kentucky Center for Mathematics website.

Example:

13 = 10 + 3

The student continues to pick cards and illustrate numbers in this way until all cards are used or the sheet is filled.