Mathematics 2

Week 1 Day 1

Lesson Plan Title

Counting Sets – Unit Pre-Assessment

Lesson Summary

Working independently, students will represent the number 15 in as many different ways as they can using manipulatives, words, pictures, and symbols.

Curriculum Outcomes

N01, N04

Assessment Of Learning or Assessment For Learning

Observation, Conversation, Product

Observations

- Were students able to count 15 objects?
- Were students able to count 15 objects in a variety of ways (by 1s, 2s, 5s…)?
- Did students understand that when counting by 2s (or 5s) they need to take two (or five) objects at a time?
- Do students understand that it is sometimes necessary to combine different types of counting in order to find the quantity of the set? – If given 15 counters, did they count by 2s to 14 then by 1s to 15?
- Were students able to represent the number 15 using at least one manipulative?
- Were students able to represent the number 15 in more than one way using that manipulatives?
- Were students able to represent the number 15 with a variety of manipulatives?
- Were students able to partition 15 in at least one way? In more than one way?
- Were students able to represent the number 15 pictorially?
- Were students able to record the number symbolically?
- Were students able to record the number word?
- Were students able to describe relationships to other numbers? (15 is more than 14)

Communication/Vocabulary

- number words
- numeral
- skip counting
- estimate
- groups of

Technology

- none

Materials

- enough objects available to enable each student to collect 15 objects for the task
- paper for each student to record the representations of 15
- color daubers, stamps and stamp pads, or crayons/marker for each student to record pictures

Mental Mathematics

Review saying the number sequence by 1s to 100 and by 2s to 20

Introduce the calendar by naming the day of the week and the month of the year

Development

This lesson provides an opportunity to collect evidence of your students' abilities to represent a given number, 15, in a variety of ways.

Before

Activate prior knowledge by asking students to say the number sequence forward and backward by 1s to 100, and by 2s forward to 20.

Explain that each student will represent the number 15 in as many ways as possible. Ask students to suggest ways to represent a number. NOTE: This task is meant to provide a pre-assessment of students' knowledge of numbers and ways to represent them. Avoid showing students how to represent numbers or providing examples of the work you expect students to complete.

During

Students work independently to complete the task.

Circulate and observe how students are organizing, counting and recording the number. Record anecdotal notes as necessary. Please refer to the questions in the assessment section of this lesson plan.

After

Debrief the lesson and draw out key ideas. Areas of focus for discussion may include the following or may include other topics based upon your observations.

NOTE: Information gathered during the observation will be used to direct the "after" section of this lesson.

Ask selected students to share their representations of the number 15. If available in the students' work, ensure that the whole class sees an example of:

- at least one manipulative representation showing a set of 15
- different manipulatives used to represent a set of 15 (base-ten blocks, ten-frames, classroom objects, coins, etc.)
- pictorial representations of a set of 15
- number words
- numerals
- counting to 15 by 1s
- counting to 15 by 2s and then one more
- counting by 5s to 15
- different ways to group 15 objects concretely, pictorially, and symbolically
- different ways to partition 15 into two or more parts concretely, pictorially, and symbolically
- relationships to other numbers

If many or all of the students were counting by 1s, and not grouping and counting by 2s, then the focus for the "after" section of the lesson would be on how to make counting more efficient by grouping objects and counting by those groups. Use the evidence that you observed to facilitate a discussion on how students organized and counted the objects.

Differentiation

- Provide fewer than 10 objects for the student who cannot work with a number greater than 10.
- Provide a Frayer Model with labels in each of the four sections (counters, pictures, words, and numbers) to help a student organize his/her work.
- Ask students to record all possible partitions (2 parts) for the number 15. Ask them to explain how they know they have identified all of the 2-part partitions.