

Mathematics 2

Week 1 Day 4

Lesson Plan Title

Counting Sets and Comparing the Count

Lesson Summary

Students will work with a partner. Students will estimate and then count the quantity of counters (quantities limited to numbers 21 to 50) in a bag. Each partner must use a different method of counting. Partners will compare their counting results.

Curriculum Outcomes

N01, N04, N05, N06

Assessment Of Learning or Assessment For Learning

Observation, Conversation, Product

- Were students able to give reasonable estimates for the counters in the bag?
- Were students able to organize their counters to match the counting instructions?
- Were students able to count using the method they were assigned?
- Was the final count accurate?
- Were students able to record their count symbolically, pictorially, and in words?
- Were students able to record their counting results in a manner that was easily understood by others?
- Could students explain why their final count (quantity) was the same as their partner's count?

Communication/Vocabulary

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

Technology

- none

Materials

- bags containing between 21 and 50 counters such as unifix cubes, multi-link cubes, two-colour counters
- chart paper for recording (divided into halves)
- color daubers, stamps and stamp pads, or crayons/marker
- a set of four cards labelled "count by 1s", "count by 2s", "count by 5s", and "count by 10s" for each pair of students

Mental Mathematics

Review saying the number sequence forward and backward by 1s, 5s and 10s to 100, and forward by 2s to 20

Begin to extend counting forward by 2s to 100 (echo counting)

Development

Before

Discuss the counting activity from yesterday. Using the students' recordings of their counting from yesterday's lesson, post an example of counting by 1s, 2s, 5s, and 10s (if all of these methods were used yesterday). Discuss with students how and why we can count in different ways.

Sort other students' work examples by the method of counting used, for example by 5s, and post under the examples. Discuss the different ways students recorded their counting.

Each pair will be given a bag of counters and four cards labelled with counting instructions (count by 1s, count by 2s, count by 5s, and count by 10s). Each pair of students determines an estimate for the quantity of counters in the bag they've been given. They record their estimate. Then, one partner picks a counting card to determine the way to count counters in the bag. That student then counts the counters according to the counting instructions. Together, the students record the count on chart paper pictorially, symbolically, and with words. For example, students might record a picture of 45 counters, arranged in groups of 5. The picture would be labelled with the numeral 45. Students would then record, "I counted by 5s. The number I said were 5, 10, 15, 20, 25, 30, 35, 40, 45."

The other partner then chooses a different counting card and counts the same set counters using the instructions on the card. Again, the students record the count pictorially, symbolically, and with words on the second half of the chart paper.

During

Students should work with their partner to complete the task. Groups may complete more than one bag.

Teacher's role will be observing and recording 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 about the lesson. Areas of focus for the discussion may include the following or other topics based upon observations.

Ask students to share their group's recordings with the class.

- What is the same about the information on each half of a recording sheet?
- What is different about the information on each half of the recording sheet?
- Why did two partners get the same number when they counted, even though they counted in different ways?
- What way do you like to use when counting?
- Which way of counting took longer when you were counting?
- When looking at a student example on chart paper, ask students to identify the number they would get if they counted the set in a different way.

The intent of the lesson is for students to begin to solidify their understanding that there are different but equal representations for every number and that no matter which way they choose to count a given collection, the final count will be the same. It is also important for students to realize that some methods of counting are more efficient than other methods. Choosing an efficient method of counting when determining the quantity of a set is an attribute of a mathematician.

Differentiation

- Provide bags of less than 20 counters for those students who need this support.
- Provide a hundreds chart to support students with skip counting.
- Provide a larger set of counters for the activity.
- Ask students to create two different pictorial displays for a chosen 2-digit number. One display should make it difficult for another student to count the objects, and the second display should make it easy for a student to count the objects. Ask students to explain their reasoning for their choice of pictures.