

Grandma's Soup

Lesson 4: Defend Phase

Australian Curriculum: Mathematics (Year 1)

ACMNA012: Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by 2s, 5s and 10s starting from zero.

- Developing fluency with forwards counting in a meaningful context.

ACMNA013: Recognise, model, read, write and order numbers to at least 100. Order these numbers on a number line.

ACMNA014: Count collections to 100 by partitioning numbers using place value.

- Understanding partitioning of numbers and the importance of grouping in tens.

Lesson abstract

Groups present their best handful and the counting methods to the class with prompting questions from the teacher where required. They demonstrate counting a collection using skip counting and justify their most efficient method. Students actively listen to others, ask clarifying questions and provide feedback.

Mathematical purpose (for students)

Evidence is required to convince others that our group's grab is close to 100 and has been efficiently counted.

Mathematical purpose (for teachers)

In order to be convinced that another group has answered the Inquiry question, it is necessary to listen carefully, seek clarification when unsure and check the mathematical evidence presented is clear and accurate.

Lesson Length 60 minutes approximately

Vocabulary Encountered

- evidence
- convince
- effective
- efficient
- closest

Lesson Materials

- completed recording sheets from Develop phase
- photographs of counting methods from Develop phase
- (Optional) Evidence Triangle

We value your feedback after these lessons via <https://www.surveymonkey.com/r/CV2TXTT>



Drawing Conclusions

1. (Optional) Review the Evidence Triangle from the previous lesson, highlighting that in this lesson students will gather and present evidence about the best way to count a handful of about 100 macaroni.
2. In their groups, have students look at the pictorial evidence from the last lesson (Develop phase) and practise counting the collection using each of the ways represented. Ask them to discuss how quick and easy each method is to use when counting the macaroni. Have them decide which method is the most efficient and why. Allow time for students to explain and justify the most efficient way to count the selected grab on the recording sheet (Develop phase).

Examples of initial responses:

The best way to count to 114 is 10's, 5's
I sorted the macaroni in 10's by counting in 5's and Eve and Mario checked and the last won was 4.

We counted in 20's, but their where some left overs. So we put the rest in ones. We got 139. That's how we counted. We counted in ones to get to 20.

These responses do not yet address why it is the best way to count

We thought to count is 20's bec we get sum makano you get twenty. then here were left oniz. the naper were 139. and that the 1st way to count

The best way is... 10's, 5's Because is took less space of our desk? I counted in 2's to ten.

This response has used 'because' but is still describing method

This response is starting to explain why but is mostly describing method

The best way we did it was doing it in 2's but we had a problem we did not have them in strat line.

This response is recognising a problem

Presenting solutions

3. Have each group present their completed recording sheet and photographs of their macaroni to explain their strategies. Each student will demonstrate a different way of counting their macaroni using their pictorial representation.

Guide them through their presentation using the following prompts:

- *The Inquiry question was ‘How can we grab 100 pieces of macaroni?’*
- *How did your group grab close to 100 pieces of macaroni?*
- *What were your grabs?*
- *Which grab was closest to 100? How do you know it was closer than the others in the group? (Students should be able to show the totals they recorded and use the number line to explain.)*
- *How can we be sure your total is... 89 (for example)? Show us how you got 89 (students will demonstrate counting). Have each group member demonstrate a different way to count the total (both efficient and inefficient ways).*
- *What does efficient mean? (quick and accurate)*
- *Which was the most efficient way to count your total?*
- *Why was it the most efficient way to count?*

Expected Student Responses

- *Our group likes to group in 10s. We counted in 2s to make our groups of 10. We counted the groups of 10 by 10s and count the rest in 1s. If we got lost, it was easy to start again.*
- *We made groups of 5 to make the groups of 20. We counted in 20s and it was easy but we had to do something different with the rest because we couldn’t make another group of 20 so we counted the rest in 5s and then 1s. It was really quick to count in 20s.*
- *We counted in 5s and it was pretty good. We counted in 5s and then we put 2 of the 5s together and counted in 10s. It was easy too. Probably easier.*

Reflecting on the best way to count

4. From the sharing, summarise what the students have discovered is the best way to count large collections. If we are counting collections of large numbers, the best way to count is to make groups of 10, count in 10s, and count-on the leftovers. Discuss the problems associated with counting large numbers in 1s or 2s. Can students think of problems they might have if they try counting in 4s or 7s?
5. Model how to write a response that addresses the findings and evidence from the Inquiry. Include problems that arose and show how to explain the reasons for selecting a best strategy (e.g., including the word “because”). Example:

*I counted to 10 and made groups of 10 **because** it is easy to count to 10 and make groups of ten. I can count in 2s to make my groups of 10. I know how to count in 10s: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120.... If I get lost I can quickly start again. When I count in 1s, 2s or 5s, I can get lost easily because there are too many numbers to count.*

Conclusion

6. Recap Grandma’s soup recipe that started this inquiry. Grandma’s soup recipe used a handful to tell us how much pasta to use. Discuss with a partner if using handfuls is a good way to record how much is needed for a recipe. Allow students to share responses and suggest more suitable ways to record the amount of macaroni.