

Unit Overview: Tea Party

Inquiry Question: How can we plan a tea party for our friends?

Summary of learning goals

This inquiry presents a purposeful context for counting that is established in the Discover phase. Students plan a tea party (or substitute another relevant event) for a small group of children, using provided materials. In Foundation year, students are developing confidence in using the language of counting and connecting number names, numerals and quantities using one-to-one correspondence. The tasks in this inquiry allow the teacher insight into these processes and opportunity for diagnostic interactions. In the devise and develop phases, the students need to use counting to plan what they will need for the tea party and learn to count by repeating the sequence of numbers. They have the opportunity to identify quantities in small collections and to know various ways of representing them. Students defend their plans when presenting their tea party plans to the teacher before collecting the number of items they will need and getting their tea party ready. They hold their party and reflect on the number aspects afterward. An assessment task is included.

Australian Curriculum: Mathematics (Foundation Year)

ACMNA001: Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point.

ACMNA002: Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond.

ACMNA003: Subitise small collections of objects.

ACMNA289: Compare, order and make correspondences between collections, initially to 20, and explain reasoning.

Summary of lessons

Who Is This Unit For?

“Counting to find ‘how many’ items are in a collection and making collections when asked to match the number of items to given numbers is complex” (The State of Queensland, 2006). This sequence is for students in Foundation year who are developing ideas about number and counting and it is recommended to take place early in the year when counting is being established. Alternatively, the skills of skip counting could be emphasised by moving more quickly through the first two lessons. By differentiating the numbers of people at the tea party, the unit can develop counting skills of all students from those with very rudimentary knowledge (e.g. successfully counts to 3), to those who can confidently count beyond 20.

Lesson 1: Discover Phase

Students are introduced to the context of having a tea party (or other familiar event with food), and consider the items (e.g. plates) that might be on the table. Students then draw themselves at the table with other people, and label the items on the table. They count the people and items. This context offers a purpose for students to connect number names, numerals and quantities to 10, presenting the classroom teacher with valuable feedback on the counting process students use.

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



Lesson 2: Devise Phase

Students make tea party groups and identify the items they wish to include in their own tea party. Each student creates a placemat to represent their setting at a tea party and in small groups, agree on the kinds of items they wish to include. Students count the items on their placemats and compare these numbers to those of others in their group.

Lesson 3: Develop Phase

Students use their placemats from the previous lesson to determine how many of each item they will need for each guest at their tea party. They then see if there are enough items available for the whole class. The develop phase allows the students to use this information in preparation for the big event. There are repeated opportunities to count and recount and for students to check their counts with peers and the teacher.

Lesson 4: Defend Phase

Students present their plans for a tea party to the teacher and class, reasoning about the counts of different items and the total number of items they require. They test their plans by setting up the tea party, and compare their plans to other students' plans. Students enjoy their tea party and reflect on the effectiveness of their plans and on how they used counting to plan a tea party for their friends.

Reflection on this sequence

Rationale

This unit provides a meaningful context for students to count. “The meaning attached to counting is the key conceptual idea on which all number concepts are developed” (Van de Walle, Karp & Bay-Williams, 2013, p.130). Planning a tea party for a small group of students in the class will involve counting quantities up to ten initially, and connecting number names, numerals and quantities, including zero. Repeated opportunities to count and check tea party planning enables classroom teachers to observe students' abilities to count each item just once (one-to-one principle), count a collection of different items (abstraction principle), count objects in any order (order irrelevance principle) and know that the final number is the count (cardinality principle) (Siemon, et al., 2011). Table settings for a tea party also involve sets of items, such as cups, plates and spoons, or small numbers of (pretend or real) biscuits or fruit so each guest has something to eat. Teachers can create opportunities for students to subitise to determine small numbers of objects in groups, involving sets of items. This inquiry also provides a context for comparing collections, initially to 20, and for students to explain their reasoning about this.

reSolve Mathematics is Purposeful

Problem Solving: Students use a range of different materials, in the context of a tea party, to model the authentic problem of how to cater for all guests at a tea party. They use familiar counting sequences to solve familiar problems and when sharing their solutions, discuss the reasonableness of the answer in terms of counting.

Reasoning: Students reason about the numbers of items they need for the people at their party using representations of number that they have created. There is opportunity also to explain comparisons of the quantities needed by different groups.

Fluency: Students have repeated opportunities to increase their fluency in counting. The unit provides frequent opportunities to readily count numbers in sequences to determine the amount of items they need for their tea party, including writing numerals to communicate the count. Students count items to test plans presented by their peers also to check for accuracy.

Understanding: Students deepen connections between number names, numerals and quantities. Through comparison, students identify quantities as larger or smaller than other quantities.

reSolve Tasks are Challenging Yet Accessible

This inquiry poses challenge through the openness of the task. Students plan a tea party for a small group of 4-6 students and make decisions about the number of items they will need. The number of students in each group can be negotiated by the teacher to include a number which is suited to the abilities of students. There is also choice about how students represent and communicate their plans, with the level of complexity guided by the teacher. Choices about the number of items and how ideas are communicated make this task accessible to students at different stages of learning to count. Teacher-conferences with students about their plans can reveal how students

are counting and the number they can count to, with students building confidence through practice counting a range of different items, to 10 and beyond.

reSolve Classrooms Have a Knowledge Building Culture

The inquiry addresses a knowledge building culture through encouraging diversity of ideas, with the opportunity for all individuals to legitimately contribute to the advancement of knowledge in the classroom. There is also the challenge for Foundation students to rise above the complexity of representing mathematical plans. The process of representing mathematical thinking to communicate the number of items needed is complex and can be messy. The teacher can capitalise on diversity in how students respond, by legitimising individuals' contributions. By acknowledging all responses, the students see value in the ideas shared by other students and may incorporate these ideas to improve their planning.

Further Reading

Siemon, D., Beswick, K., Brady, K., Clark, J., Faragher, R. & Warren, E. (2011). *Teaching mathematics: Foundations to middle years*. South Melbourne, Vic.: Oxford University Press.

Van de Walle, J., Karp, K. & Bay-Williams, J. (2013). *Elementary and middle school mathematics: Teaching developmentally (8th edition)*. Boston: Pearson.

The State of Queensland (Queensland Studies Authority) (2006). *Early years curriculum materials: Developing early mathematical understandings*. Retrieved from https://www.qcaa.qld.edu.au/downloads/p_10/ey_lt_maths_understandings.pdf