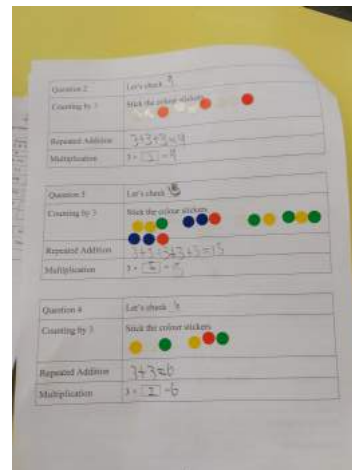
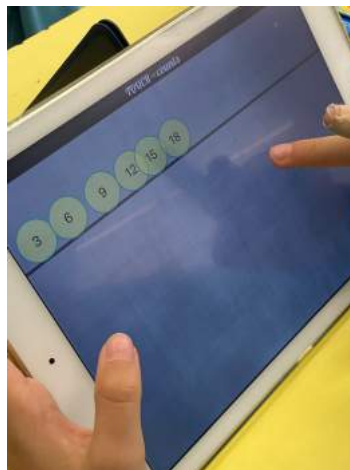


# Using TouchCounts Rhythmic Counting in Learning Multiplication of 3

by WK Cheng



## LEARNING TARGET

Recognise the basic concept of multiplication – which can be represented by skip-counting, repeated addition, and multiplication table

## RATIONALE

From teachers' experiences, non-Chinese speaking (NCS) students could hardly stay focused for a long time during a lesson, but they enjoyed activities and would actively participate in games and hands-on activities. Many students are weak in topics in the Number Strand in general and some students are particularly weak in memorising multiplication facts. Some P2 NCS students could not recall multiplication facts in a fluent way. The key objective of the lesson is to help students understand multiplication in different ways. The aim of the lesson is to provide students with an interesting and enjoyable environment in learning multiplication of 3. Different strategies were employed in the lesson to arouse students' interest, to raise students' participation and engagement, and to cater for learner diversity. This will be explained in the section that follows.

Ownership of knowledge and student empowerment were incorporated in the lesson. Teacher invited students to be a helper and show their TouchCounts results on the screen. The design of the lesson worksheet allowed students to choose the number that they wanted to work on.

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## RELATED THEMES

Activity First – In the lesson, students had their own choice of the numbers that they wanted to work on. They learnt the multiples of 3 with rhythmic chanting, TouchCounts and a hands-on skip counting task of sticking stickers.

Beyond Algorithm – The design of the lesson is to help students use different representations to recognise the basic concept of multiplication of 3. This facilitates students' understanding of the mathematical concept in depth.

## LEARNING AND TEACHING STRATEGIES

### **A. Using self-generated examples to increase students' motivation in learning**

In the lesson, each student had to determine a multiple of 3 and use different representations to show how the numbers could be obtained.

### **B. Using rhythmic chanting to understand skip counting**

Teacher led the class to chant the multiples of 3 in a rhythmic way. After a few trials, students were able to chant the numbers without teacher's lead. Students learnt skip counting in a fun and entertaining way with bodily movement. It created a lively and happy learning environment.

### **C. Student talk**

Teacher led students in teacher-student conversation and teacher-led discussion in the lesson. Teacher used different questioning techniques, such as pressing for reasoning, explaining why, asking students to explain to others, etc. Students had the chance to tell how they obtained the multiples of 3 in front of their classmates.

### **D. Open-ended tasks in the worksheet**

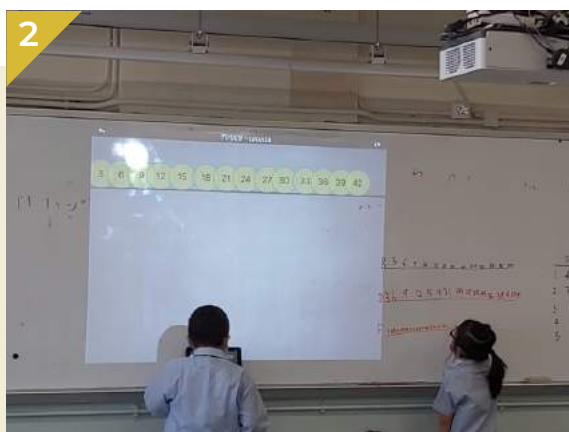
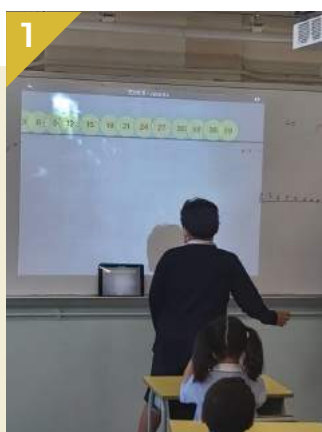
The worksheet was designed with open-ended questions. Students could choose their own number to work on. From the video in this resource pack, the student chose 36, which is a very large number to a P2 student. She could represent this number with repeated addition, though she preferred multiplication and worked on multiplication before trying out repeated addition.

# EVIDENCE

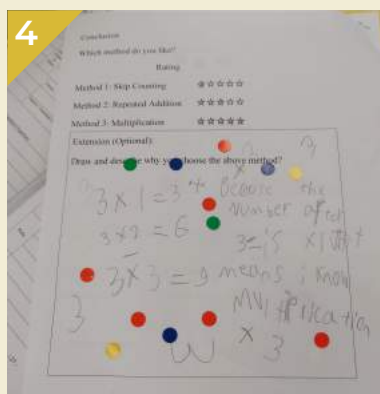
Empowerment is evident in the lesson. A few students were invited upfront and served as a student teacher, tapping the iPad screen with the app TouchCounts. The rest of the class followed the rhythm of the teacher and chanted the numbers. Students chanted “Boom, Boom, Three, Boom, Boom, Six, Boom, Boom, Nine” and so on. At the same time, they saw on the screen that the multiples of 3 are held on the horizontal bar.

Students were engaged in the class activities. All the students chanted and clapped their hands together with the teacher.

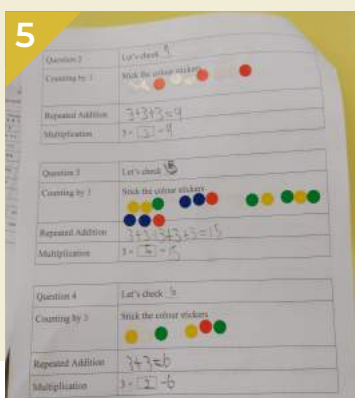
Students could use different ways to represent the multiples



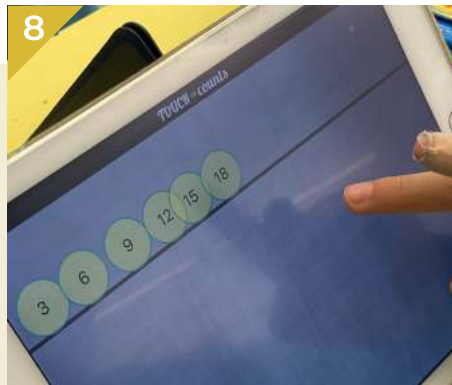
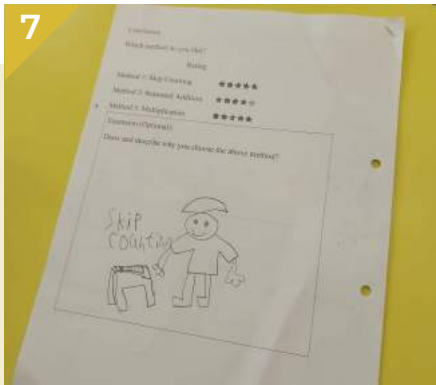
1. Student demonstrated in front of the class.
2. Students actively participated in the lesson.



3. A student worked on TouchCounts and another student wrote down the numbers. The rest of the class kept chanting the multiples of 3.
4. This student preferred multiplication.



5. Students used stickers to represent skip counting and wrote down the corresponding number sentences for repeated addition and multiplication.
6. This student preferred multiplication.



7. This student preferred skip counting.
8. Student practised skip counting with the app TouchCounts.



9. Student could get the multiples of 3 up to 102.
10. Student got mistakes in skip counting.

## OTHER RESOURCES

### Skip counting video

Counting by 3s (for P2-3 students)

<https://www.youtube.com/watch?v=V96lZWctZYA>

### App

TouchCounts

(Requires iOS 8.0 or later. Compatible with iPad.)

<https://apps.apple.com/ca/app/touchcounts/id897302197>