Bansho Example: Creating Equivalent Fractions

Lesson Plan

Topic: Finding equivalent fractions by the multiplication rule

Instructional Purposes:

- Understanding equivalent fractions
- Understanding if multiplying same numbers in a nominator and a denominator except 0 makes same fractions
- Representing fractions through area models
- Developing mathematical language to the parts of a fraction

Stage	Activity	Attention & Materials	Diagram #
		• Before beginning a class, write today's topic.	1
Introduction	• Reviewing ○ finding multiples of 2 and 3	• Reviewing is for helping students use multiplication to find equivalent fractions	2

Development	• Finding equivalent fractions: $^2/_3$
	  ○ Introducing today's task
	  ○ An example: $^2/_3$ and $^6/_9$
	• Activity with a partner or individually
	• Discuss: How did you find about equivalent fractions; what is the principle to find equivalent fractions
		• Preparing for color-copied rectangles
		• If drawing two more lines in the provided figure, is it same to the prior one?
		• Concentrate on reasons why these two fractions are equal.
		• Worksheets for students includes same figures that show $^2/_3$
		• Main points: Multiplying same numbers (except 0) in both a numerator and a denominator means multiplying 1. The product of any number and 1 is that number, so its value is not changed.
			3
			4
			5

Application & Extension	• Introducing a task ($^4/_5$)		6 7
Conclusion	• Multiplication rule	• Multiply the numerator and the denominator of the fraction by the same numbers except 0. • Discussing why not 0.	8

Public Space Planning Diagram

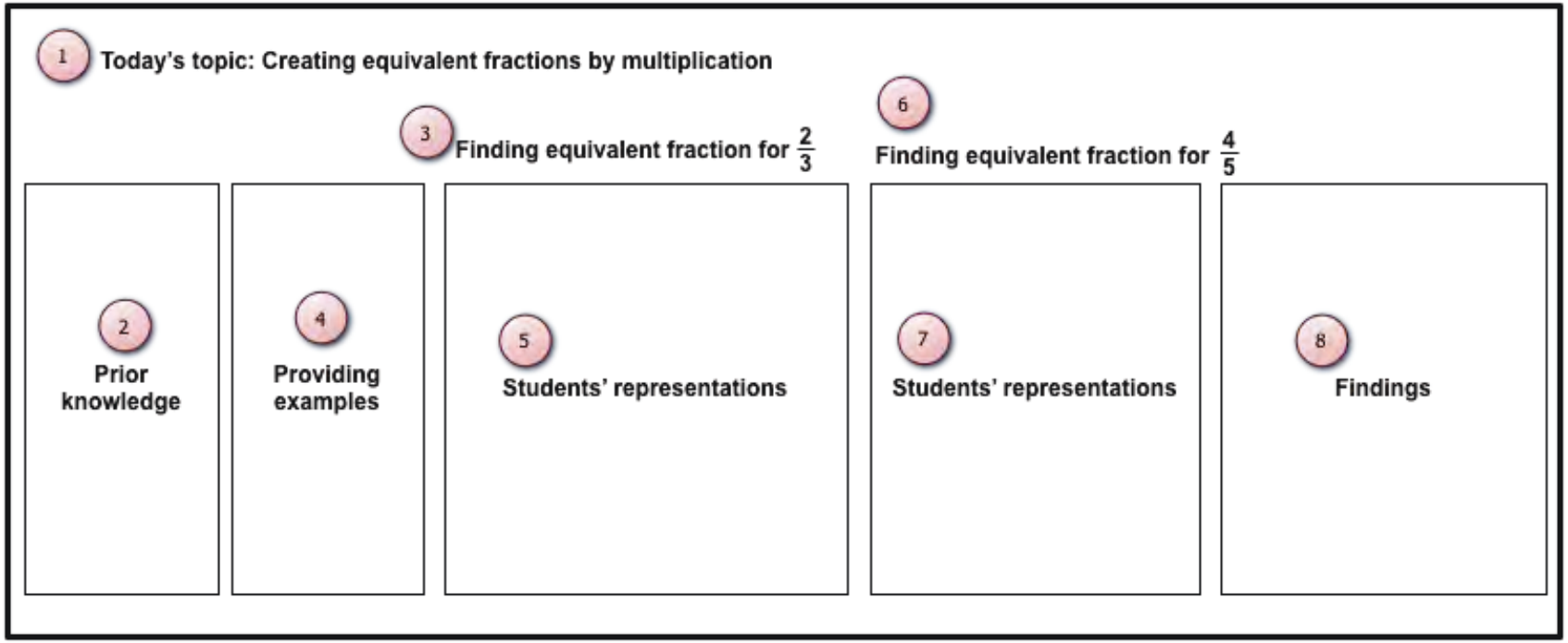
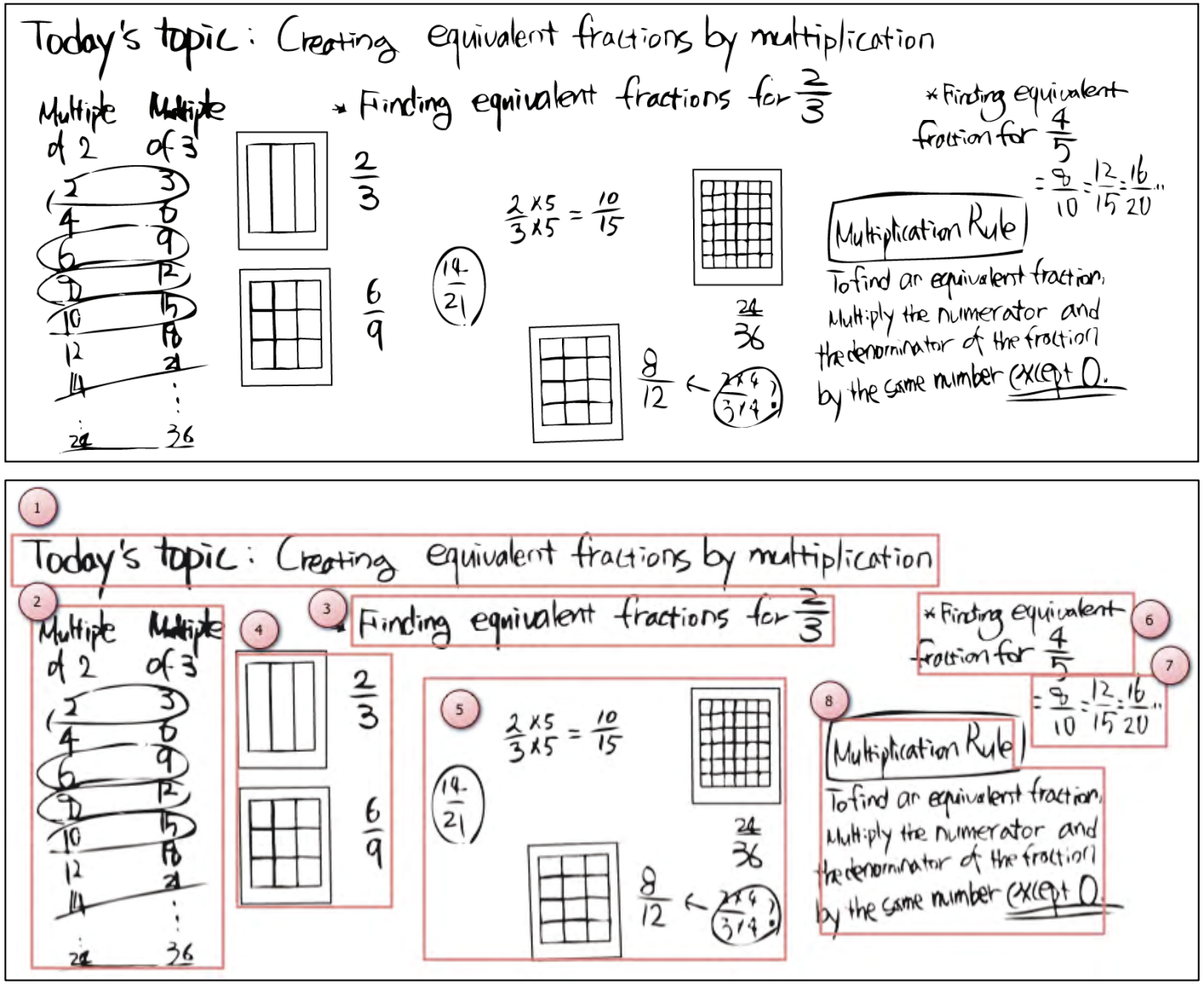


Image of the board



Reflections

Before this class, I wrote today's topic. As a warm up I asked students to list the multiples of 2 and 3. I wrote that down on the board.

I introduced and wrote a main task. I prepared for copies of a rectangle that shows $^{2}/_{3}$. I attached it on the board and asked students to name the fraction and they said $^{2}/_{3}$. I attached another page to the board and drew two lines in the rectangle partitioning it showing $^{6}/_{9}$. When I asked them the name of the fraction they said $^{6}/_{9}$ right away. I asked them whether or not $^{2}/_{3}$ and $^{6}/_{9}$ are same. There was some debate about that. They said that the numbers were different, but the amount that was shaded was the same. We agreed to look at the area and think about different fraction names for that same area

I handed out worksheets that have same rectangles that show $^{2}/_{3}$ and asked them to make equivalent fractions.

In discussion, students shared $^{10}/_{15}$, $^{14}/_{21}$, $^{24}/_{36}$ and $^{8}/_{12}$. In some of them, students used same figures that show multiple fractions. I was initially thinking that students might come to the board and recorded their ideas, but I ended up writing much of what they said mentioned.

As an extension, I introduced finding equivalent fractions with $^{4}/_{5}$. Students easily found fractions, and I wrote them on the board.

As a conclusion, I wrote "multiplication rule" on the board and asked students to read it. Some students had a hard time linking the rule to the pictures that we made. I probably need to explain that a bit better as I don't think students are secure about that idea yet.