

Rational Number Project


Level 1 / Lesson 13 / Overview

Students continue practicing showing fractions with chips. They determine several units that can be used to model a fraction and what units can't be used to model fractions.

Materials

- Chips for students and teacher
- Student page A

Teaching Actions

1. Present this picture: 

SAY: I want to model this fraction using chips as my unit instead of paper. What fraction is shown? If I use 12 chips as my unit, tell me the steps to show $\frac{3}{4}$.

2. Vary the unit by asking students what they'd do if you used 4 chips as a unit and then 20 chips as the unit. Ask how these chip models are alike and how they are different?
3. Summarize by showing that to show $\frac{3}{4}$ you used 4, 12 and 20 chips. Ask if you could have used other sets of chips as your unit.
4. Ask students to show the fraction $\frac{2}{3}$ with chips. Allow them to choose the unit. Ask students to tell you what units they used.

Comments

1. Flexibility of unit is emphasized with chips as was done with fraction circles. Students should know that to show $\frac{2}{3}$ a number of sets can be used: 3 chips, 6 chips, 9 chips... Regardless of number of chips, the same action to model the fraction is used. (Partition into 3 equal groups and make 2 of 3 groups tan.)

Teaching Actions

5. Present this chart to students. Ask them to list 3 possible units that they could use as the unit for each fraction.

Fraction	Units you could use
$\frac{4}{5}$	
$\frac{2}{7}$	
$\frac{3}{4}$	
$\frac{1}{2}$	

6. Conclude the lesson by asking students to show the fraction $\frac{3}{4}$ with 14 chips. Discuss why this can not be done. Ask for units that can not be used to show the fractions in the above chart. [Make another column in table].
7. Assign Student Page A as a way to practice showing fractions with chips.

Comments

2. The possible units are multiples of the denominator.

$$\frac{4}{5} \quad 5, 10, 15, 20, 25, \dots$$

are all possible units.

3. Look closely at Student Page A. This page provides some problem solving for the students.

This page will need some initial guidance. Do the first 4 or 5 rows together; students can finish the rest individually, in pairs or small groups.

Name _____

Lesson 13
Student Page A

Directions:

Use chips and complete the chart. The first one is done for you.

Number of chips in units	Number of equal-size parts	Number of chips in each equal-size part	Number of parts tan	Fraction of parts tan
15	3	5	2	$\frac{2}{3}$
15				$\frac{2}{5}$
9				$\frac{1}{3}$
21	7		5	
21		7		$\frac{2}{3}$
		2		$\frac{4}{5}$
10	2		1	
18	6		4	
18				$\frac{2}{3}$
18	9		4	
				$\frac{2}{4}$
12	4		2	
12	2		1	

Post Lesson Reflection

Lesson _____

1) Number of class periods allocated to this lesson: _____

2) Student pages used: _____

3) Adaptations made in lesson development part:
[For example: added extra problems, eliminated problems, changed fractions used]

4) Adaptations made on Student pages:

5) To improve lesson, next time I should: