7-2-2008

Fractions [6th grade]

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Unit: Fractions
Grade: 6th

Stage 1: Desired Results

Understandings

- Fractions are part of a whole or part of a group (set).
- Fractions are equal to each other in different forms (example: ½ = $^2/_4$).
- Fractions can be simplified.

Essential Questions	Knowledge & Skill
• Why do we need fractions? • Can fractions that look different be equal?	*(NEISD scope & sequence; TEKS; Core; etc.)* **Knowledge** *Students will know:* • *Identify the greatest common factor (6.1E).* • *Identify the least common multiple (6.1F).* • *Common equal fractions* **Skill** *Students will be able to.* • *Compare fractions.* • *Simplify fractions.* • *Use fractions in cooking.* • *Generate equivalent forms of rational numbers, including fractions (6. 1B).* • *Use ratios to describe proportional situations (6.3A).*

Stage 2: Assessment Evidence

Performance Assessment #1: Fraction World:
Students will each receive a checklist. Students will have to find 10 fractions at home or at school. With each fraction, the student will have to write if there is an equal fraction and simplest form of the fraction.

Performance Assessment #2: Cooking with Fractions:
Students will be given the choice of 2 recipes. Out of those 2 recipes. Two will be dealing with equal fractions, two with simplifying. In order to have successful end products, the student must successfully manipulate each fraction.

Stage 3:

Day 1
- Review Factors (what you need to multiple to get a number- "Factor Pairs"; Between 1 and #)
- Factor Pairs Game- Students will work individually, pairs, or groups to find the matching factor pairs.
- Homework: 10 practice problems

Day 2
- Examples of Greatest Common Factor (biggest factor that is on both lists)
- GCF Man: The biggest factor in that pair
- Homework: R 204

Day 3
- Remind students that GCF are between 1 and the #
- Student participate in a board lesson on **multiples**: can go onto infinity
- Least Common Multiple (the smallest multiple that is on both lists)
- Students will practice on the board.
- Homework: R 200-201

Day 4
- Cake (whole cake) (cake with missing pieces): Ask students what is the difference between the two cakes.
- Introduction to fraction vocabulary words: numerator & denominator
- Each student will have to list the fractions for a bowl of M&Ms, bowl of Chex Mix, and a bowl of snack mix
- Multiples (numerator- all multiples of what you start with; denominator- all multiples with the bottom #)
- Homework: (R192-193)

Day 5
- Introduction to Equal Fractions (R 194- 196)
- Students will make fraction books- breaking up units 1; 2 (1/2); 3 (1/3); 4 (1/4); 6 (1/6); 8 (1/8); 12 (1/12); 16 (1/16) (Students could also use stacking manipulatives)
- Equivalency tables Handout
- Homework: R195-196

Day 6
- Comparing Fractions w/ same denominator (R 202): Students will use < > = cards to determine how two fractions compare to one another.
- Simplifying Fractions: Students will simplify fractions with same denominators.
- Homework: R 202, 10 problems

Day 7
- Topic: comparing Fractions w/ unlike denominators
- Lesson: Cross multiplying using the "X-MAN" and finding a common denominator
- Homework: R 202, 10 problems

Day 8
- Comparing Fractions, continued
- Assign Performance Assessment #1 as interactive homework

Day 9
- Buffer Day

Day 10
- Performance Assessment # 2

Day 11
- Review

Day 12
- Test

Real World Fractions

Item	Fraction	List 2 equal fractions.	Is the original fraction in the simplest form?
Girls in my math class total: 7 Boys: 4 Girls: 3	$^3/_7$	6/14 9/27	yes

Magic Potion Punch (order ingredients from largest to smallest; write out recipe for customer)
½ cup chocolate syrup
2 cups milk
2 cans (12 oz) of Sprite or Coke

1. Stir together chocolate syrup and milk in 4-cup microwavable measure until well blended. Microwave uncovered on High 3 to 4 minutes or until hot.

2. Divide heated mixture among 8 paper "hot" cups or mugs. Slowly pour about 3 ounces (1/3 cup) soda pop into each cup. Top with whipped topping.

Equal form Recipe:
2/8 cup chocolate syrup
2/8 cup chocolate syrup
4/4 cup milk
2/4 cup milk
2/4 cup milk
2 cans of Sprite or Coke

Crunchy Popums
2 cups peanut butter
1 cup sifted powdered sugar
36 Chocolate chip cookies

MIX peanut butter and sugar in medium bowl. Add 1-1/2 cups of the crushed cookies; stir until well blended.

SHAPE peanut butter mixture into 60 balls, using 1 heaping teaspoonful for each ball. Roll in remaining 1-1/2 cups crushed cookies until balls are evenly coated; cover.

REFRIGERATE at least 1 hour. Store leftover balls in refrigerator.

Equal form Recipe:
6/8 cup of powdered sugar
2/4 cup of powdered sugar
4/4 cup of peanut butter
4/4 cup of peanut butter
36 Chocolate chip cookies