Math·U·See

Objectives List: *Epsilon*

Lesson 1

EP.1.a	Use models to represent fractions of whole numbers
EP.1.b	Describe a simple proper fraction using the terms numerator and denominator
EP.1.c	Identify a proper fraction, improper fraction, and mixed number
EP.1.d	Calculate a fraction of a whole number

Lesson 2

EP.2.a	Model a proper fraction using manipulatives
EP.2.b	Identify the fraction represented in a model using words
EP.2.c	Name the fraction represented in a model using symbols

Lesson 3

EP.3.a	Use models to represent two fractions with common denominators
EP.3.b	Represent the sum or difference of two fractions using fraction notation
EP.3.c	Express the sum or difference of two fractions using words
EP.3.d	Add or subtract two fractions with common denominators
EP.3.e	Apply knowledge of adding and subtracting fractions with common denominators to solve word problems

Lesson 4

EP.4.a	Use models to represent equivalent fractions
EP.4.b	Express fractions in words
EP.4.c	Add or subtract fractions with common denominators
EP.4.d	Use knowledge of equivalent fractions to solve word problems

Lesson 5

EP.5.a	Build models of equivalent fractions to find common denominators
EP.5.b	Use models to add and subtract fractions with unequal denominators
EP.5.c	Apply knowledge of adding and subtracting fractions to solve word problems

Lesson 6

EP.6.a	Use the “rule of four” to add and subtract pairs of proper fractions with unequal denominators

Lesson 7

EP.7.a	Build models of fractions with unequal denominators to find a common denominator
EP.7.b	Describe the relationship of two fractions using >, <, or =

Lesson 8

EP.8.a	Use the “rule of four” to add multiple proper fractions with unequal denominators
EP.8.b	Add multiple fractions with unequal denominators
EP.8.c	Apply knowledge of equivalent fractions to solve word problems

Lesson 9

EP.9.a	Explain that calculating a fraction of a fraction is equivalent to multiplication of a fraction by a fraction
EP.9.b	Use models to show multiplication of fractions
EP.9.c	Multiply a fraction by a whole number

Lesson 10

EP.10.a	Use the “rule of four” to divide pairs of proper fractions with unequal denominators
EP.10.b	Divide a fraction by a fraction
EP.10.c	Apply knowledge of dividing fractions to solve word problems

Lesson 11

EP.11.a	Apply rules of divisibility to find common factors for a pair or group of numbers
EP.11.b	Determine the Greatest Common Factor (GCF) for a number or pair of numbers

Lesson 12

EP.12.a	Use models to illustrate simplifying fractions by a common factor
EP.12.b	Determine the GCF to simplify fractions to lowest terms
EP.12.c	Simplify fractions to lowest terms

Lesson 13

EP.13.a	Use models to build rectangles to represent prime numbers from one to twenty-four
EP.13.b	Find the prime factors for given values by using a factor tree
EP.13.c	Use prime factorization to simplify fractions
EP.13.d	Explain why prime factorization is an effective method when the GCF is not obvious

Lesson 14

EP.14.a	Use models to illustrate common fractional increments on a customary ruler
EP.14.b	Demonstrate using a ruler as a practical application for simplifying fractions
EP.14.c	Draw a line of a given fractional length
EP.14.d	Simplify fractional measurements to lowest terms when measuring with a ruler

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Objectives List: *Epsilon*

Lesson 15

EP.15.a	Define the terms mixed number, proper fraction, and improper fraction
EP.15.b	Write fractions as mixed numbers, proper fractions, and improper fractions
EP.15.c	Use models to illustrate how to convert a mixed number to an improper fraction and vice versa
EP.15.d	Convert mixed numbers to improper fractions and vice versa

Lesson 16

EP.16.a	Apply knowledge of fractions, mixed numbers, and simplifying fractions to read measurements on a customary ruler

Lesson 17

EP.17.a	Use estimation when adding mixed numbers with common denominators, without regrouping, to determine if the answer is reasonable
EP.17.b	Add and subtract mixed numbers with common denominators

Lesson 18

EP.18.a	Build models of mixed numbers with common denominators to illustrate how to add the fractional pieces by converting them to whole-number parts
EP.18.b	Add mixed numbers with common denominators, using regrouping
EP.18.c	Simplify answers to lowest terms when possible

Lesson 19

EP.19.a	Use models to demonstrate how to regroup when subtracting mixed numbers
EP.19.b	Subtract mixed numbers with common denominators, using regrouping as necessary

Lesson 20

EP.20.a	Apply the “same difference theorem” to subtract mixed numbers with common denominators

Lesson 21

EP.21.a	Add mixed numbers with unequal denominators by using the “rule of four” to find a common denominator
EP.21.b	Add fractions with unequal denominators with regrouping

Lesson 22

EP.22.a	Subtract mixed numbers with unequal denominators by finding a common denominator with the “rule of four”
EP.22.b	Subtract fractions with unequal denominators using the “same difference theorem”
EP.22.c	Subtract fractions with unequal denominators with regrouping

Lesson 23

EP.23.a	Define reciprocal
EP.23.b	Explain why multiplying by the reciprocal of a number is the same as dividing by that number
EP.23.c	Convert mixed numbers to improper fractions before dividing
EP.23.d	Divide fractions by multiplying by the reciprocal

Lesson 24

EP.24.a	Define multiplicative inverse
EP.24.b	Solve for an unknown in an equation by using the multiplicative inverse
EP.24.c	Check work for accuracy by substituting the unknown with the solution
EP.24.d	Apply knowledge of solving equations to solve word problems

Lesson 25

EP.25.a	Multiply mixed numbers
EP.25.b	Multiply fractions, simplifying first by finding common factors
EP.25.c	Multiply fractions and simplify the final product by finding common factors

Lesson 26

EP.26.a	Solve equations by using the additive inverse to isolate the unknown
EP.26.b	Multiply by the multiplicative inverse to eliminate a coefficient

Lesson 27

EP.27.a	Define circumference of a circle
EP.27.b	Define area of a circle
EP.27.c	Substitute the approximation of π ($\frac{22}{7}$) into formulas to calculate the area of a circle
EP.27.d	Substitute the approximation of π ($\frac{22}{7}$) into formulas to calculate the circumference a circle

Lesson 28

EP.28.a	Use the multiplicative inverse to isolate the unknown when the coefficient is a fraction
EP.28.b	Solve simple equations with fractional coefficients

Lesson 29

EP.29.a	Define the terms place value, decimal, expanded notation, and percent
EP.29.b	Use models to illustrate converting a denominator to a power of ten
EP.29.c	Convert fractions to percentages
EP.29.d	Convert decimals to percentages

Lesson 30

EP.30.a	Solve equations with rational numbers
EP.30.b	Use the multiplicative inverse to find the unknown

Appendix A

EP.A.a	Find the area of a trapezoid