Course Blocks

6th Grade Mathematics

Arithmetic is the art of computing by numbers. In 6th Grade Mathematics, students continue mastering the concepts and skills that will aid them in further mathematical pursuits.

Course Organization:

- We recommend that students have a binder with dividers for different sections. Loose leaf paper can then be utilized for written work and filed in a Written Work section. Here are some suggested binder sections:
  - Mastery Practice
  - Definitions
  - Written work
  - Explore More

Explanation of Daily Schedule:

- Mastery Practice:
  - Mastery practice can be used by teachers in a variety of ways. Some teachers may choose to give these tasks in a speed test sort of fashion, but others may choose to simply have students put these items on flashcards for practice and review. Either way, these are items or processes that students should commit to memory and practice frequently.
- Written work:
  - Students should complete their written work in a notebook or binder of some sort.
- Define:
  - This area includes concepts from the text or related materials that students should commit to memory and frequently review. In addition to defining them on paper, we recommend that students also put these words on note cards to review with their Mastery Practice work.
- Notes:
  - These notes are for the teacher to aid in teaching the student.
- Explore More:
  - These projects help students apply a concept or learn more about a concept.

If parents need access to any of the previous texts used in the Wittenberg Academy Grammar School Mathematics series so as to review, please email mrsbenson@wittenbergacademy.org

Here is a link to the text: **6th Grade Mathematics**

News forum

Week 1

Topics:

- Properties of Numbers
- Multiples and Factors
- Composite Numbers
- Prime Numbers
- Least Common Multiple

Textbook reference and written work:

- 6th Grade Mathematics p. 1-11

Materials

- Math Notebook
- Note cards
- Ruler or Yardstick

Suggested Daily Schedule:

Day 1: Properties of Numbers, Multiples and Factors

- Review:

    - What is an integer? (a whole number, not a fraction)
    - What is an odd number? (an integer with a remainder of 1 when divided by 2)
    - What is an even number? (an integer divisible by 2 without a remainder)
    - How do you square a number? (multiply it by itself)
- Written work:
    - 6th Grade Mathematics p. 1-4 (#1-30)
- Define:
    - Multiple
    - Common multiple
    - Factor
    - Divisor
    - Composite number
- Notes:
    - Students may need/want to write out a list of odd and even numbers to complete #1-6).
    - Students may write out the multiples for #7, but they should practice saying them from memory. Return to this exercise in coming weeks until it is mastered.
    - Students should be encouraged to write out the work to get the answer. Many of these problems require multiple steps to arrive at the correct answer.

Day 2: Prime numbers, Prime factors

- Mastery Practice:
    - Give the first twelve multiples of 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- Written work:
    - 6th Grade Mathematics p. 4-8 (#31-71 skip the Note to teacher at the bottom of p. 5 and #50 as students will do a different version of this in their Explore More project)
- Define:
    - Prime number
    - Eratosthenes
    - Prime factor
- Notes:
    - The Explore More project should be done in lieu of #50. Students will use the project to complete Day 2's work.
- Explore More:
    - Research Eratosthenes.
    - What was the Eratosthenes Sieve?
    - Make your own Eratosthenes Sieve:
        - Use this grid to write the numbers 1-120 (1-10 are done for you)
        - 1 is a tricky number, so it will be ignored (it is considered neither prime nor composite
        - Circle 2 and then cross out all multiples of 2
        - Circle 3 and then cross out all the multiples of 3
        - Circle 5 and then cross out all the multiples of 5
        - Circle 7 and then cross out all the multiples of 7
        - Which numbers are left?

Day 3: Least Common Multiple

- Mastery practice:
    - Give the first one hundred numbers in two lists: prime numbers and composite numbers.
    - For each composite number, give the prime factors or which it is composed.
- Written work:
    - 6th Grade Mathematics p. 8-11 (#72-98)
- Define:
    - Least Common Multiple
- Notes:
    - Have students write out their work at least until they get to #80. Have them practice this rule with #81.
    - Students should feel free to draw out diagrams of their work, but also encourage them to use the rules they have learned so that exercises like #91-98 may be solved mentally.

Week 2

Topics:

- Least Common Multiple

- Divisibility of Numbers
- Common Divisors
- Greatest Common Divisor

Textbook reference and written work:

- 6th Grade Mathematics p. 12-18

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Least Common Multiple, Divisibility of Numbers

- Review:
  - Least Common Multiple
- Mastery Practice:
  - Give the first twelve multiples of 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- Written work:
  - 6th Grade Mathematics p. 12-14 (#99-121)
- Define:
  - Rule for finding least common multiple of several numbers (#99)
  - Principle 1 of Divisibility of Numbers
  - Principle 2 of Divisibility of Numbers
  - Principle 3 of Divisibility of Numbers
- Notes:
  -
- Explore More:
  -

Day 2: Divisibility of Numbers

- Mastery Practice:
  - Give the first twelve multiples of 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- Written work:
  - 6th Grade Mathematics p. 14-16 (#122-144)
- Define:
  - Principle 4 of Divisibility of Numbers
  - Principle 5 of Divisibility of Numbers
  - Principle 6 of Divisibility of Numbers
- Notes:
  -
- Explore More:
  -

Day 3: Common Divisors, Greatest Common Divisor

- Mastery Practice:
  - Give the first twelve multiples of 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- Written work:
  - 6th Grade Mathematics p. 16-18 (#145-162)
- Define:
  - Common Divisor
  - Greatest Common Divisor
- Notes:
  -
- Explore More:
  -

Week 3

Topics:

- Powers and Roots

Words to Remember:

- Power: product obtained by multiplying a number by itself one or more times; the number of times a certain number is to be multiplied by itself
- Square: the product of two equal factors
- Liter: a cubic decimeter
- Square root: each of the two equal factors that compose a perfect square
- Perimeter: the continuous line forming the boundary of a closed geometric figure ORIGIN late Middle English: via Latin from Greek perimetros, based on peri- ‘around’ + metron ‘measure.’

Textbook reference and written work:

- 6th Grade Mathematics p. 18-23

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Powers

- Review:
  - Least Common Multiple
- Mastery Practice:
  - Give the first twelve multiples of 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- Written work:
  - 6th Grade Mathematics p. 18-20 (#163-184)
- Define:
  - Power
  - Square
- Notes:
  -
- Explore More:
  -

Day 2: Powers, Metric system

- Mastery Practice:
  - Give in order the first 12 numbers that are perfect squares
- Written work:
  - 6th Grade Mathematics p. 20-21 (#185-196)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3:

- Mastery Practice:
  - Give in order the first 12 numbers that are perfect squares
- Written work:
  - 6th Grade Mathematics p. 22-23 (#197-220)
- Define:
  - Square root
  - Perimeter
- Notes:
  -
- Explore More:

Week 4

Topics:

- Review

Words to Remember:

- Hexagon: a plane figure bounded by six straight lines
- Regular hexagon: a plane figure bounded by six straight lines in which the sides are all equal and the angles are all equal
- Rhombus: a plane figure bounded by four equal straight lines and having no right angles
-

Textbook reference and written work:

- 6th Grade Mathematics p. 23-32

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Review

- Review:
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- Mastery Practice:
  - Name a perfect cube whose units' digit is: 1, 2, 3, 4, 5
- Written work:
  - 6th Grade Mathematics p. 23-26 (#1-40)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Geometry

- Mastery Practice:
  - Give in order the first 12 numbers that are perfect squares
- Written work:
  - 6th Grade Mathematics p. 26-28 (#41-60)
- Define:
  - Hexagon
  - Regular hexagon
  - Rhombus
- Notes:
  -
- Explore More:
  -

Day 3:

- Mastery Practice:
  - Name a perfect cube whose units' digit is: 6, 7, 8, 9, 0
- Written work:
  - 6th Grade Mathematics p. 29-32 (#61-99)
- Define:
  -
- Notes:
  -
- Explore More:

Week 5

Topics:

- Review
- Ratio

Words to Remember:

- Ratio: the quantitative relation between two amounts showing the number of times one value contains or is contained within the other ORIGIN mid 17th cent.: from Latin, literally ‘reckoning,’ from rat- ‘reckoned,’ from the verb reri .
-

Textbook reference and written work:

- 6th Grade Mathematics p. 32-38

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Review

- Review:
  -
- Mastery Practice:
  - Write the percentage of each: $\frac{1}{2}$. $\frac{1}{3}$. $\frac{2}{3}$. $\frac{1}{4}$. $\frac{3}{4}$. $\frac{1}{5}$. $\frac{2}{5}$. $\frac{3}{5}$. $\frac{4}{5}$.
- Written work:
  - 6th Grade Mathematics p. 32-33 (#100-105)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Ratio

- Mastery Practice:
  - Give in order the first 12 numbers that are perfect squares
- Review:
  -

332. **1.** One line is 12 ft. long, another is 3 ft. long. Compare their lengths.

(*a*) The 3-ft. line must be taken (repeated) —— times to make up the 12-ft. line.
(*b*) The 12-ft. line is —— times as long as the 3-ft. line.
(*c*) The 12-ft. line is composed of —— 3-ft. lines.
(*d*) The 3-ft. line is one —— as long as the 12-ft. line.

By comparing or measuring we find the answers required. When we know the answers to *a* and *b*, we know the *relation* (*ratio*) of 12 ft. to 3 ft. The ratio is 4.

When we know the answers to *c* and *d*, we know the ratio of 3 ft. to 12 ft. It is $\frac{1}{4}$.

- Written work:
  - 6th Grade Mathematics p. 34-36 (#1-18)
- Define:
  - Ratio
- Notes:
  -
- Explore More:
  -

Day 3:

- Mastery Practice:
  - Name a perfect cube whose units' digit is: 6, 7, 8, 9, 0
- Written work:
  - 6th Grade Mathematics p. 36-38 (#19-49)
- Define:
  -
- Notes:
  -

Week 6

Topics:

- Ratio

Words to Remember:

- Ratio: the quantitative relation between two amounts showing the number of times one value contains or is contained within the other ORIGIN mid 17th cent.: from Latin, literally ‘reckoning,’ from rat- ‘reckoned,’ from the verb reri .
-

Textbook reference and written work:

- 6th Grade Mathematics p. 39-46

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Ratio

- Review:
  -
- Mastery Practice:
  - 37. $2\sqrt{49} : 3\sqrt{121} = ?$ $3\sqrt{36} : 2\sqrt{144} = ?$
  - 38. $5\sqrt{16} : 4\sqrt{9} = ?$ $2\sqrt{81} : 3\sqrt{64} = ?$
  - 39. $3\sqrt{100} : 5\sqrt{16} = ?$ $2\sqrt{25} : 5\sqrt{36} = ?$
- Written work:
  - 6th Grade Mathematics p. 39-41 (#50-74)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  - a $10 = \frac{2}{3}$ of x. $\frac{5}{7}$ of x. $\frac{2}{9}$ of x. $\frac{5}{9}$ of x. $\frac{5}{8}$ of x.
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 41-43 (#1-36)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3:

- Mastery Practice:
  - d $18 = \frac{2}{7}$ of x. $\frac{3}{10}$ of x. $\frac{6}{11}$ of x. $\frac{9}{10}$ of x. $\frac{2}{5}$ of x. $\frac{2}{7}$ of x.
  - e $20 = \frac{2}{3}$ of x. $\frac{5}{7}$ of x. $\frac{10}{11}$ of x. $\frac{10}{7}$ of x. $\frac{10}{9}$ of x. $\frac{10}{8}$ of x.
  - f $5 = \frac{2}{3}$ of x. $10 = \frac{4}{5}$ of x. $7 = \frac{2}{3}$ of x. $9 = \frac{4}{5}$ of x.
- Written work:
  - 6th Grade Mathematics p. 44-46 (#37-63)
- Define:
  -
- Notes:
  -

Week 7

Topics:

- Fractions

Words to Remember:

- Fraction: an expression of one or more of the parts into which a unit is divided
- Proper fraction: a fraction whose numerator is less than its denominator
- Improper fraction: a fraction whose numerator is equal to or greater than its denominator
- Mixed number: A number that consists of an integer and a fraction
- Reciprocal: the fraction resulting from switching the position of the numerator and the denominator
- Ratio: the quantitative relation between two amounts showing the number of times one value contains or is contained within the other ORIGIN mid 17th cent.: from Latin, literally ‘reckoning,’ from rat- ‘reckoned,’ from the verb reri .
-

Textbook reference and written work:

- 6th Grade Mathematics p. 47-55

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Fractions

- Review:
  - What is a unit?
  - What is the numerator?
  - What is the denominator?
  - What is an integer?
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 47-49 (#1-22)
- Define:
  - Fraction:
  - Proper fraction:
  - Improper fraction:
  - Mixed number:
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  - **8.** Separate the following fractions into two lists, one of proper fractions, the other of improper fractions:

    $\frac{5}{6}$ $\frac{11}{11}$ $\frac{9}{8}$ $\frac{8}{9}$ $\frac{7}{10}$ $\frac{21}{20}$

    $\frac{25}{23}$ $\frac{21}{25}$ .3 $\frac{50}{25}$ $\frac{50}{100}$ 101%
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 49-51 (#23-42)
- Define:
  - Reciprocal:
  - Compound Fraction:
  - Rule in #33
- Notes:
  -
- Explore More:
  -

Day 3:

- Mastery Practice:
  -

- Written work:
  - 6th Grade Mathematics p. 52-55 (#43-81)
- Define:
  - Principle 1
  - Principle 2
- Notes:
  -

Week 8

Topics:

- Addition and Subtraction of Fractions

Words to Remember:

- Similar fractions: fractions that have the same denominator
- Rule in #96

Textbook reference and written work:

- 6th Grade Mathematics p. 55-64

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Fractions

- Review:
  - What is the least common denominator?
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 55-57 (#82-115)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  - **8.** Separate the following fractions into two lists, one of proper fractions, the other of improper fractions:

    $\frac{5}{6}$ $\frac{11}{11}$ $\frac{9}{8}$ $\frac{8}{9}$ $\frac{7}{10}$ $\frac{21}{20}$

    $\frac{25}{23}$ $\frac{21}{25}$ .3 $\frac{50}{25}$ $\frac{50}{100}$ 101%
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 58-61 (#116-157)
- Define:
  - Rule in #136
- Notes:
  -
- Explore More:
  -

Day 3:

- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 61-64 (#158-187)

- Define:
  -
- Notes:
  -

Week 9

Topics:

- Multiplication of Fractions

Words to Remember:

- Arc
- Quadrant

Textbook reference and written work:

- 6th Grade Mathematics p. 65-73

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Multiplying Fractions

- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 65-67 (#188-223)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Multiplying Fractions

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 67-70 (#224-258)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3:

- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 70-73 (#259-288)
- Define:
  - Arc
  - Quadrant
- Notes:
  -

Week 10

Topics:

- Division of Fractions

Words to Remember:

- To divide a fraction by a fraction, multiply the dividend by the reciprocal.
- Reciprocal
-

Textbook reference and written work:

- 6th Grade Mathematics p. 73-81

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Dividing Fractions

- Review:
  - Dividend
  - Divisor
  - Reciprocal
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 73-75 (#289-324)
- Define:
  -
- Notes:
  - To divide a fraction by a fraction:
    - Multiply the dividend by the reciprocal of the divisor
- Explore More:
  -

Day 2: Dividing Fractions

- Mastery Practice:
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- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 75-78 (#325-351)
- Define:
  -
- Notes:
  -
- Explore More:
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Day 3:

- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 78-81 (#352-394)
- Define:
  -
- Notes:
  -

Week 11

Topics:

- Review

Words to Remember:

- Sector: the plane figure enclosed by two radii of a circle or ellipse and the arc between them. ORIGIN late 16th cent. (in sense 2 and sense 3): from late Latin, a technical use of Latin sector ‘cutter,’ from sect- ‘cut off,’ from the verb secare .
- Chord: a straight line joining the ends of an arc.
- Radius: a straight line from the center to the circumference of a circle or sphere. ORIGIN late 16th cent. (sense 2): from Latin, literally ‘staff, spoke, ray.’
- Perimeter: the continuous line forming the boundary of a closed geometric figure ORIGIN late Middle English: via Latin from Greek perimetros, based on peri- ‘around’ + metron ‘measure.’
- Hypotenuse: the longest side of a right triangle, opposite the right angle. ORIGIN late 16th cent.: via Latin hypotenusa from Greek hupoteinousa (grammē)‘subtending (line),’ from the verb hupoteinein (from hupo ‘under’ + teinein ‘stretch’).

Textbook reference and written work:

- 6th Grade Mathematics p. 81-88

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Review

- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 81-83 (#1-41)
- Define:
  - Sector
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  -
- Review:
  - Chord
  - Radius
  - Perimeter
- Written work:
  - 6th Grade Mathematics p. 84-86 (#42-71)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3:

- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 86-88 (#72-92)
- Define:
  - Hypotenuse
- Notes:
  -

Week 12

Topics:

- Denominate numbers

Words to Remember:

- Denominate number: numbers that show measurements whose values are settled by custom or law ORIGIN late Middle English (in the sense ‘give a name to’): from Latin denominat- ‘named,’ from the verb denominare, from de- ‘away, formally’ + nominare ‘to name’ (from nomen, nomin- ‘name’). Sense 1 dates from the mid 20th cent.
- Compound denominate number: denominate numbers that consist of more than one denomination

Textbook reference and written work:

- 6th Grade Mathematics p. 89-95

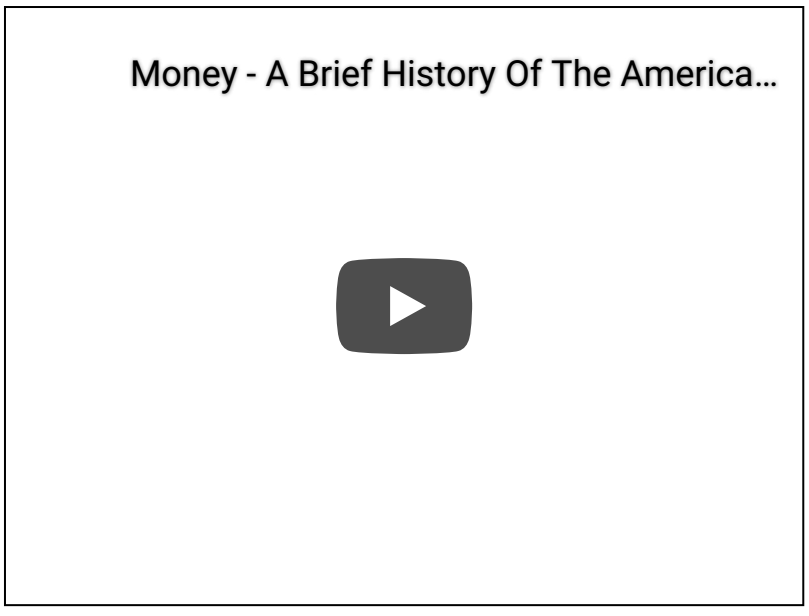
Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Denominate numbers

- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 89-91 (#1-28)
- Define:
  -
- Notes:
  -
- Explore More:
  - Explore the history of U.S. Currency



Day 2: Denominate numbers

- Mastery Practice:
  -
- Review:
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- Written work:
  - 6th Grade Mathematics p. 92-93 (#29-57)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Denominate numbers

- Mastery Practice:

- Written work:
  - 6th Grade Mathematics p. 94-95 (#58-76)
- Define:
- Notes:

Week 13

Topics:

- Denominate numbers

Words to Remember:

- Denominate number: numbers that show measurements whose values are settled by custom or law ORIGIN late Middle English (in the sense ‘give a name to’): from Latin denominat- ‘named,’ from the verb denominare, from de- ‘away, formally’ + nominare ‘to name’ (from nomen, nomin- ‘name’). Sense 1 dates from the mid 20th cent.
- Compound denominate number: denominate numbers that consist of more than one denomination

Textbook reference and written work:

- 6th Grade Mathematics p. 95-102

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Denominate numbers

- Review:
- Mastery Practice:
- Written work:
  - 6th Grade Mathematics p. 95-97 (#77-114)
- Define:
- Notes:
- Explore More:

Day 2: Denominate numbers

- Mastery Practice:
- Review:
- Written work:
  - 6th Grade Mathematics p. 98-100 (#115-153)
- Define:
- Notes:
- Explore More:

Day 3: Denominate numbers

- Mastery Practice:
- Written work:
  - 6th Grade Mathematics p. 100-102 (#154-174)
- Define:

-
- Notes:
  -

Week 14

Topics:

- Denominate numbers

Words to Remember:

- Denominate number: numbers that show measurements whose values are settled by custom or law ORIGIN late Middle English (in the sense ‘give a name to’): from Latin denominat- ‘named,’ from the verb denominare, from de- ‘away, formally’ + nominare ‘to name’ (from nomen, nomin- ‘name’). Sense 1 dates from the mid 20th cent.
- Compound denominate number: denominate numbers that consist of more than one denomination

Textbook reference and written work:

- 6th Grade Mathematics p. 102-108

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Denominate numbers

- Review:
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- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 102-103 (#174-200)
- Define:
  -
- Notes:
  -
- Explore More:
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Day 2: Denominate numbers

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 104-106 (#201-231)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Denominate numbers

- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 106-108 (#232-254)
- Define:
  -
- Notes:
  -

Week 15

Topics:

- Denominate numbers

Words to Remember:

- Denominate number: numbers that show measurements whose values are settled by custom or law ORIGIN late Middle English (in the sense ‘give a name to’): from Latin denominat- ‘named,’ from the verb denominare, from de- ‘away, formally’ + nominare ‘to name’ (from nomen, nomin- ‘name’). Sense 1 dates from the mid 20th cent.
- Compound denominate number: denominate numbers that consist of more than one denomination

Textbook reference and written work:

- 6th Grade Mathematics p. 108-114

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Denominate numbers

- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 108-110 (#255-281)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Denominate numbers

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 110-112 (#282-309)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Denominate numbers

- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 112-114 (#310-339)
- Define:
  -
- Notes:
  -

Week 16

Topics:

- Denominate numbers

Words to Remember:

- Denominate number: numbers that show measurements whose values are settled by custom or law ORIGIN late Middle English (in the sense ‘give a name to’): from Latin denominat- ‘named,’ from the verb denominare, from de- ‘away, formally’ + nominare ‘to name’ (from nomen, nomin- ‘name’). Sense 1 dates from the mid 20th cent.
- Compound denominate number: denominate numbers that consist of more than one denomination

Textbook reference and written work:

- 6th Grade Mathematics p. 114-124

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Denominate numbers

- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 114-118 (#340-383)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Denominate numbers

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 118-121 (#384-416)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Denominate numbers

- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 121-124 (#417-458)
- Define:
  -
- Notes:
  -

Week 17

Topics:

- Review

Words to Remember:

-

Textbook reference and written work:

- 6th Grade Mathematics p. 124-130

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Review

- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 124-126 (#1-35)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 126-128 (#36-65)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Review

- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 128-130 (#66-82)
- Define:
  -
- Notes:
  -

Week 18

Topics:

- Review

Words to Remember:

-

Textbook reference and written work:

- 6th Grade Mathematics p. 130-137

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Review

- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 130-132 (#83-100)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 132-134 (#101-123)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Review

- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 134-137 (#124-145)
- Define:
  -
- Notes:
  -

Week 19

Topics:

- Aliquot parts

Words to Remember:

- Aliquot parts: numbers, either fractional or integral, by which a given number is divisible ORIGIN late 16th cent.: from French aliquote, from Latin aliquot ‘some, so many,’ from alius ‘one of two’ + quot ‘how many.’
- Rhombus: a parallelogram with opposite equal acute angles, opposite equal obtuse angles, and four equal sides ORIGIN mid 16th cent.: via Latin from Greek rhombos
- Bisect: divide (a line, angle, shape, etc.) into two equal parts ORIGIN mid 17th cent.: from bi-‘two’ + Latin sect- (from secare ‘to cut’).
- Cipher: a zero
- Annex a cipher: (Annex: append or add as an extra or subordinate part ORIGIN late Middle English: from Old French annexer, from Latin annectere ‘connect,’ from ad- ‘to’ + nectere ‘tie, fasten. Thus, to annex a cipher is to add a zero, effectively multiplying by 10 for each cipher added. Example: annexing one cipher is the equivalent of multiplying by 10, annexing two ciphers is the equivalent of multiplying by 100, etc.
- To multiply by 3 1/3: annex a cipher to the multiplicand and divide the result by 3
- To multiply by 33 1/3: annex two cipher to the multiplicand and divide the result by 3

Textbook reference and written work:

- 6th Grade Mathematics p. 138-148

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards
- Compass (with which you make circles)

Suggested Daily Schedule:

Day 1: Aliquot parts

- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 138-142 (#1-55)
  - Continue another day if needed
- Define:
  - Aliquot parts
  -
- Notes:
  - The text mentions gaining mental acuity in business calculations. Other benefits to working with numbers in the aliquot parts section include greater comfort in working with numbers, increased speed in working with numbers, and greater ease in serving a neighbor. For discussion: In what way might mental acuity in working with numbers serve a neighbor? (calculating a tip for a waitress, waiter, hairstylist, or other person providing a service, etc.)
- Explore More:
  -

Day 2: Aliquot parts

- Mastery Practice:
  - Count to 30 by 2 1/2s
  - Count to 40 by 3 1/3s
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 142-146 (#56-99)
- Define:
  - Rhombus
- Notes:
  -
- Explore More:
  -

Day 3: Aliquot parts

- Mastery Practice:
  - Count to 100 by 16 2/3s
  - Count to 100 by 8 1/3s
- Written work:
  - 6th Grade Mathematics p. 146-148 (#100-128)
- Define:
  - Bisect
  - Rule of multiplying by 3 1/3
  - Rule of multiplying by 33 1/3
- Notes:
  - To bisect a line, use a compass. Place the point of the the compass on the endpoint of the line (A, for example- see below). Use the pencil end of the compass to draw an arc (see below). Repeat the process with the point of the compass on the other endpoint of the line (B) taking care to use the same setting on the compass. Where the two arcs cross is the midpoint of line AB.

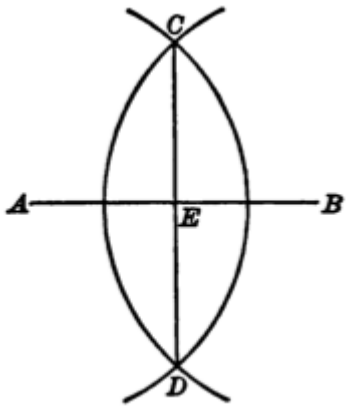
- 

Fig. 2.
  - As students become familiar with the process, an entire arc need not be drawn. The students may merely mark the portion of the arc where it will cross the other arc, thus creating an x of sorts. 

  -

Week 20

Topics:

- Review

Words to Remember:

-

Textbook reference and written work:

- 6th Grade Mathematics p. 149-154

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards
- Compass (with which you make circles)

Suggested Daily Schedule:

Day 1: Aliquot parts

- Review:
  -
- Mastery Practice:
  - Count to 100 by 6 1/2s
- Written work:
  - 6th Grade Mathematics p. 149-150 (#1-34)
- Define:
  -
  -
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  - Count to 30 by 2 1/2s
  - Count to 40 by 3 1/3s
- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 151-152 (#35-60)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Review

- Mastery Practice:
  - Count to 100 by 16 2/3s
  - Count to 100 by 8 1/3s
- Written work:
  - 6th Grade Mathematics p. 153-154 (#61-74)
- Define:
  -
- Notes:
  -

Week 21

Topics:

- Percentage

Words to Remember:

- Percentage: a rate, number, or amount in each hundred
- To find any percent of a number: multiply the number by the percent expressed as a decimal
- Base of percentage: the number or quantity of which a percent is taken
- To find what percent one number is of another: express the ratio of the one to the other as a common fraction and multiply that fraction by 100
- To find the number of which a given number is a certain percent: multiply the given number by 100 and divide the result by the number of percent

Textbook reference and written work:

- 6th Grade Mathematics p. 155-167

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Percentage

- Review:
  - From what Latin phrase does the word percentage come?
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 155-157 (#1-30)
  - Continue another day if needed
- Define:
  - Percentage: a rate, number, or amount in each hundred
  - To find any percent of a number: multiply the number by the percent expressed as a decimal
  - Base of percentage: the number or quantity of which a percent is taken
  -
- Notes:
  -
- Explore More:
  -

Day 2: Percentage

- Mastery Practice:
  - Count to 30 by 2 1/2s
  - Count to 40 by 3 1/3s
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 157-161 (#31-71)

- Define:
  - To find what percent one number is of another: express the ratio of the one to the other as a common fraction and multiply that fraction by 100
- Notes:
  -
- Explore More:
  -

Day 3: Percentage

- Mastery Practice:
  - Count to 100 by 16 2/3s
  - Count to 100 by 8 1/3s
- Written work:
  - 6th Grade Mathematics p. 161-164 (#73-117)
- Define:
  - To find the number of which a given number is a certain percent: multiply the given number by 100 and divide the result by the number of percent
- Explore more:
  - 6th Grade Mathematics p. 165-167 (#118-152)
- Notes:
  -

Week 22

Topics:

- Merchandising
- Commission
- Trade discount

Words to Remember:

- Merchandising: buying and selling goods for profit ORIGIN Middle English: from Old French marchant, based on Latin mercari ‘to trade,’ from merx, merc- ‘merchandise.’
- Merchant: those who carry on merchandising
- Capital: wealth in the form of money or other assets owned by a person or organization or available or contributed for a particular purpose such as starting a company or investing ORIGIN Middle English (as an adjective in the sense ‘relating to the head or top,’ later ‘standing at the head or beginning’): via Old French from Latin capitalis, from caput ‘head.’
- Commission: money received by commission merchants, agents, or brokers for buying or selling goods at a given percent of their value ORIGIN Middle English: via Old French from Latin commissio(n-), from committere ‘entrust’
- Trade discount: a reduction in the selling price of goods ORIGIN early 17th cent. (denoting a reduction in the amount or value of something): from obsolete French descompte (noun), descompter (verb), or (in commercial contexts) from Italian (di)scontare, both from medieval Latin discomputare, from Latin dis- (expressing reversal) + computare

Textbook reference and written work:

- 6th Grade Mathematics p. 167-174

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards
- Good Deal worksheet

Suggested Daily Schedule:

Day 1: Merchandising

- Review:
  - From what Latin phrase does the word percentage come?
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 167-169 (#153-173)
  - Continue another day if needed
- Define:
  - Merchandising

    - Merchant
    - Capital
- Notes:
    -
- Explore More:
    - Young scholars interested in economics may find Lessons for the Young Economist an interesting read. For this week, Lesson 6, Direct Exchange and Barter Prices is most related.
    - Why does understanding how numbers work aid in understanding economics and vice versa?
- Explore More:
    - How are prices set? Young scholars may be interested in listening to this lecture by Murray Rothbard.

Day 2: Commission

- Mastery Practice:
    - Count to 30 by 2 1/2s
    - Count to 40 by 3 1/3s
- Review:
    -
- Written work:
    - Finish previous work
    - 6th Grade Mathematics p. 169-172 (#174-192)
- Define:
    - Commission
- Notes:
    -
- Explore More:
    -

Day 3: Trade Discount

- Mastery Practice:
    - Count to 100 by 16 2/3s
    - Count to 100 by 8 1/3s
- Written work:
    - 6th Grade Mathematics p. 172-175 (#193-222)
- Define:
    - Trade discount
- Explore more:
    - How do you know you are getting a good deal? If you go on Amazon.com or cph.org and find an item on sale, it usually tells you the percentage off and how much money you saved. But what if you are out shopping? How do you figure out how much money you are saving, especially if it just gives you the sale price?
    - Go to a store where you know there will be sales or discounts (or find an ad in a local paper or on the Internet)
    - Using the Good Deal worksheet, choose 15 products and fill in the know information.
    - Calculate the unknown information.
    - Is the sale/discount a good deal?
- Notes:
    -

Week 23

Topics:

- Interest
- Taxes

Words to Remember:

- Interest: money paid for the use of money ORIGIN influenced by medieval Latin interesse ‘compensation for a debtor's defaulting.’
    - Principal x Rate x Time= Interest
- Principal: The sum on which interest is paid ORIGIN Middle English: via Old French from Latin principalis ‘first, original,’ from princeps, princip- ‘first, chief.’
- Amount: sum of the principal and interest
- Exact Interest: calculations of interest made in which a year is considered 365 days instead of 360 days
- Promissory Note: written promise to pay money
- Payee: person to whom a promissory note is to be paid

- Face: The sum mentioned in a promissory note
- Maturity: date at which a promissory note becomes due
- Indorsement: receipt for amount paid
- Premium: money paid for insurance
- Policy: written agreement to pay the insurance in case of loss
- Dividend: amount paid by an insurance company that results from the earnings on invested premiums
- Taxes: money collected by governments to pay public expenses
-

Textbook reference and written work:

- 6th Grade Mathematics p. 175-204

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards
- The Rate of Interest from Human Action by Ludwig von Mises or listen to the audio here
- Lessons for the Young Economist, Advanced Lessons 12, 18 and 19

Suggested Daily Schedule:

Day 1: Interest

- Note: The lessons for this week cover many pages. Teachers should aim for students to have a general understanding of how Interest, Insurance, Taxes, etc. work. In conjunction with a cursory understanding of the calculations, it is advised to read the recommended lessons (or more) from Lessons for the Young Economist.
- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 174-182 (#223-343)
  - Do enough examples for students to understand the concept of Interest. Teachers may find it beneficial to put more emphasis on the Explore More activities than the calculations.
  - Continue another day if needed
- Define:
  - Interest: money paid for the use of money ORIGIN influenced by medieval Latin interesse ‘compensation for a debtor's defaulting.’
    - Principal x Rate x Time= Interest
  - Principal: The sum on which interest is paid ORIGIN Middle English: via Old French from Latin principalis ‘first, original,’ from princeps, princip- ‘first, chief.’
  - Amount: sum of the principal and interest
  - Exact Interest: calculations of interest made in which a year is considered 365 days instead of 360 days
  -
  -
- Notes:
  -
- Explore More:
  - Young scholars may find interesting Lessons for the Young Economist, Lesson 12
  - Also of interest (and about interest):
    - The Rate of Interest from Human Action by Ludwig von Mises or listen to the audio here

Day 2: Promissory Notes, Insurance, etc.

- Mastery Practice:
  - Count to 30 by 2 1/2s
  - Count to 40 by 3 1/3s
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 183-198 (#344-461)
  - Do enough examples for students to understand the concepts
- Define:
  - Promissory Note: written promise to pay money
  - Payee: person to whom a promissory note is to be paid

    - Face: The sum mentioned in a promissory note
    - Maturity: date at which a promissory note becomes due
    - Indorsement: receipt for amount paid
    - Premium: money paid for insurance
    - Policy: written agreement to pay the insurance in case of loss
    - Dividend: amount paid by an insurance company that results from the earnings on invested premiums
- Notes:
    -
- Explore More:
    -

Day 3: Taxes

- Mastery Practice:
    - Count to 100 by 16 2/3s
    - Count to 100 by 8 1/3s
- Written work:
    - 6th Grade Mathematics p. 198-204 (#462-502)
    - Do enough examples for students to understand the concept of Interest. Teachers may find it beneficial to put more emphasis on the Explore More activities than the calculations.
- Define:
    - Taxes: money collected by governments to pay public expenses
- Explore more:
    - Young scholars may find interesting Lessons for the Young Economist, Lessons 18 and 19
- Notes:
    -

Week 24

Topics:

- Review

Words to Remember:

- Circumference: the enclosing boundary of a curved geometric figure, especially a circle. ORIGIN late Middle English: from Old French circonference, from Latin circumferentia, from circum ‘around, about’ + ferre ‘carry, bear.’
- Diameter: a straight line passing from side to side through the center of a body or figure, especially a circle or sphere ORIGIN late Middle English: from Old French diametre, via Latin from Greek diametros (grammē)‘(line) measuring across,’ from dia ‘across’ + metron ‘measure.’
- Radius: a straight line from the center to the circumference of a circle or sphere
- Perimeter: the continuous line forming the boundary of a closed geometric figure ORIGIN late Middle English: via Latin from Greek perimetros, based on peri- ‘around’ + metron ‘measure.’
- Rhomboid: having or resembling the shape of a rhombus ORIGIN late 16th cent. (as a noun): from French rhomboïde, or via late Latin from Greek rhomboeidēs, from rhombos
- Parallel: of lines, planes, surfaces, or objects side by side and having the same distance continuously between them ORIGIN mid 16th cent.: from French parallèle, via Latin from Greek parallēlos, from para- ‘alongside’ + allēlos ‘one another.’
- Trapezoid: a quadrilateral with only one pair of parallel sides ORIGIN early 18th cent.: from modern Latin trapezoides, from late Greek trapezoeidēs, from trapeza ‘table’
- Trapezium: a quadrilateral with no sides parallel. ORIGIN late 16th cent.: via late Latin from Greek trapezion, from trapeza ‘table.’ The term has been used in anatomy since the mid 19th cent.
- Quadrilaterals: a four-sided figure. ORIGIN mid 17th cent.: from late Latin quadrilaterus (from Latin quadri- ‘four’ + latus, later- ‘side’) + -al.
- Polygons: a plane figure with at least three straight sides and angles, and typically five or more. ORIGIN late 16th cent.: via late Latin from Greek polugōnon, neuter (used as a noun) of polugōnos ‘many-angled.’

Textbook reference and written work:

- 6th Grade Mathematics p. 204-218

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards
- The Rate of Interest from Human Action by Ludwig von Mises or listen to the audio here
- Lessons for the Young Economist, Advanced Lessons 12, 18 and 19

Suggested Daily Schedule:

Day 1: Review

- Note:
- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 204-208 (#1-51)
  - Continue another day if needed
- Define:
  - Circumference:
  - Diameter:
  - Radius:
  - Perimeter:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  - Count to 30 by 2 1/2s
  - Count to 40 by 3 1/3s
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 208-214 (#52-113)
- Define:
  - Rhomboid:
  - Parallel:
  - Trapezoid:
  - Trapezium:
  - Quadrilaterals:
  - Polygons:
- Notes:
  -
- Explore More:
  -

Day 3: Review

- Mastery Practice:
  - Count to 100 by 16 2/3s
  - Count to 100 by 8 1/3s
- Written work:
  - 6th Grade Mathematics p. 214-218 (#114-158)
  -
- Define:
  -
- Explore more:
  -
- Notes:
  -

Week 25

Topics:

- Literal quantities

Words to Remember:

- Collecting the terms: uniting quantities of the same kind on the same side of the equation
- Coefficient: the number which shows how many times the literal quantity is taken (ex. in 11x, 11 is the coefficient)
- Transposing: Changing a quantity from one side of an equation to the other
- Principle of transposition: A quantity may be transposed from one side of an equation to the other if the sign prefixed to the quantity is changed from plus to minus or from minus to plus. When no sign is prefixed, the plus sign is understood. ("When I change the side, I change the sign.")
- Solving: Finding the value of the literal quantity in an equation
- Verifying: substituting the value of the unknown quantity in an equation and thus proving the truth of the equation
- Clearing the equation of fractions: multiplying the terms of a fractional equation by a quantity that causes the terms to become integral
- Rule of clearing equations from fractions: Multiply each term of the equation by the least common multiple of the denominators
-

Textbook reference and written work:

- 6th Grade Mathematics p. 235-255

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Literal Quantities

- Note: The key with literal quantities is writing out the information given in a manner conducive to solving. The text contains multiple examples of how to write out the equations.
- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 235-242 (#1-95)
  - Continue another day if needed
- Define:
  -
  -
- Notes:
  -
- Explore More:
  -

Day 2: Literal Quantities

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 243-250 (#96-180)
- Define:
  - Collecting the terms:
  - Coefficient:
  - Transposing:
  - Principle of transposition:
  - Solving:
  - Verifying:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Literal quantities

- Review:
  - Least common multiple
  - Denominator
- Written work:
  - 6th Grade Mathematics p. 250-255 (#181-241)
  -
- Define:
  - Clearing the equation of fractions:
  - Rule of clearing equations from fractions:
- Explore more:
  -
- Notes:
  -

Week 26

Topics:

- Review

Words to Remember:

- Collecting the terms: uniting quantities of the same kind on the same side of the equation
- Coefficient: the number which shows how many times the literal quantity is taken (ex. in 11x, 11 is the coefficient)
- Transposing: Changing a quantity from one side of an equation to the other
- Principle of transposition: A quantity may be transposed from one side of an equation to the other if the sign prefixed to the quantity is changed from plus to minus or from minus to plus. When no sign is prefixed, the plus sign is understood. ("When I change the side, I change the sign.")
- Solving: Finding the value of the literal quantity in an equation
- Verifying: substituting the value of the unknown quantity in an equation and thus proving the truth of the equation
- Clearing the equation of fractions: multiplying the terms of a fractional equation by a quantity that causes the terms to become integral
- Rule of clearing equations from fractions: Multiply each term of the equation by the least common multiple of the denominators
-

Textbook reference and written work:

- 6th Grade Mathematics p. 235-255

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Review

- Note:
- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 255-256 (#1-23)
  - Continue another day if needed
- Define:
  -
  -
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:

-
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 257-258 (#24-54)
- Define:
  -
  -
- Notes:
  -
- Explore More:
  -

Day 3: Literal quantities

- Review:
  - Least common multiple
  - Denominator
- Written work:
  - 6th Grade Mathematics p. 259-260 (#55-77)
  -
- Define:
  -
- Explore more:
  -
- Notes:
  -

Week 27

Topics:

- Involution and Evolution

Words to Remember:

- Involution: the process of raising a quantity to a higher power (In algebra, the raising of a quantity from its root to any power assigned. Thus 2x2x2=8. Here 8, the third power of 2, is found in *involution* or multiplying the number into itself, and the product by the same number.) ORIGIN late Middle English (in the sense '[part] curling inward'): from Latin involutio(n-), from involvere
- Evolution: the process of finding any root of a given quantity (In algebra, *evolution* is the extraction of roots from powers; the reverse of involution.) ORIGIN early 17th cent.: from Latin evolutio(n-) 'unrolling,' from the verb evolvere
- Principle of square roots: The number of units of length in one side of a square is the square root of the number of corresponding units of square measure in the area of the square.
- Principle of squares: The square of any number consisting of tens and units is equal to the square of the tens plus twice the product of the tens and units plus the square of the units: $(t + u)^2 = t^2 + 2tu + u^2$
- Pythagorean Theorem: In a right triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.

Textbook reference and written work:

- 6th Grade Mathematics p. 261-271

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Involution and Evolution

- Note:
- Review:
  -
- Mastery Practice:
  -

- Written work:
  - 6th Grade Mathematics p. 261-264 (#1-22)
  - Continue another day if needed
- Define:
  - Involution:
  - Evolution:
  - Principle of square roots:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Involution and Evolution

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 264-267 (#23-90)
- Define:
  - Principle of squares:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Literal quantities

- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 268-271 (#91-136)
  -
- Define:
  - Pythagorean Theorem:
- Explore more:
  -
- Notes:
  -

Week 28

Topics:

- Review

Words to Remember:

- Involution: the process of raising a quantity to a higher power (In algebra, the raising of a quantity from its root to any power assigned. Thus 2x2x2=8. Here 8, the third power of 2, is found in *involution* or multiplying the number into itself, and the product by the same number.) ORIGIN late Middle English (in the sense '[part] curling inward'): from Latin involutio(n-), from involvere
- Evolution: the process of finding any root of a given quantity (In algebra, *evolution* is the extraction of roots from powers; the reverse of involution.) ORIGIN early 17th cent.: from Latin evolutio(n-) 'unrolling,' from the verb evolvere
- Principle of square roots: The number of units of length in one side of a square is the square root of the number of corresponding units of square measure in the area of the square.
- Principle of squares: The square of any number consisting of tens and units is equal to the square of the tens plus twice the product of the tens and units plus the square of the units: $(t + u)^2 = t^2 + 2tu + u^2$
- Pythagorean Theorem: In a right triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.

Textbook reference and written work:

- 6th Grade Mathematics p. 272-278

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Review

- Note:
- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 272-273 (#1-21)
  - Continue another day if needed
- Define:
  -
  -
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 274-275 (#22-55)
- Define:
  - Principle of squares:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Literal quantities

- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 276-278 (#56-80)
  -
- Define:
  -
- Explore more:
  -
- Notes:
  -

Week 29

Topics:

- Proportion

Words to Remember:

- Proportion: an equation which states the equality of two ratios
- Couplet: terms of each ratio

- Antecedent: first term of a couplet ORIGIN late Middle English: from Old French or from Latin antecedent- ‘going before,’ from antecedere, from ante ‘before’ + cedere ‘go.’
- Consequent: second term of a couplet ORIGIN late Middle English: via Old French from Latin consequent- ‘overtaking, following closely,’ from the verb consequi .
- Extremes: first and fourth, or outside terms of a proportion ORIGIN late Middle English: via Old French from Latin extremus ‘outermost, utmost,’ superlative of exterus ‘outer.’
- Means: second and third, or inner terms ORIGIN Middle English: from Old French meien, from Latin medianus ‘middle’
- Principle of extremes and means: In a proportion, the product of the means equals the product of the extremes.
- Mean proportion: a proportion in which the means are equal
- Mean proportional: the number which each mean represents
- Similar: polygons which have the same shape; corresponding angles are equal and corresponding sides are proportional ORIGIN late 16th cent. (also as a term in anatomy meaning ‘homogeneous’): from French similaire or medieval Latin similaris, from Latin similis ‘like.’

Textbook reference and written work:

- 6th Grade Mathematics p. 279-287

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Proportion

- Note:
- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 279-281 (#1-50)
  - Continue another day if needed
- Define:
  - Proportion:
  - Couplet:
  - Antecedent:
  - Consequent:
  - Extremes:
  - Means:
  - Principle of extremes and means:
  - Mean proportion:
  - Mean proportional:
  -
- Notes:
  -
- Explore More:
  -

Day 2: Proportion

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 282-284 (#51-86)
- Define:
  - Similar:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Literal quantities

- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 285-287 (#87-107)
  -
- Define:
  -
- Explore more:
  -
- Notes:
  -

Week 30

Topics:

- Proportional parts

Words to Remember:

- Proportion: an equation which states the equality of two ratios
- Couplet: terms of each ratio
- Antecedent: first term of a couplet ORIGIN late Middle English: from Old French or from Latin antecedent- ‘going before,’ from antecedere, from ante ‘before’ + cedere ‘go.’
- Consequent: second term of a couplet ORIGIN late Middle English: via Old French from Latin consequent- ‘overtaking, following closely,’ from the verb consequi .
- Extremes: first and fourth, or outside terms of a proportion ORIGIN late Middle English: via Old French from Latin extremus ‘outermost, utmost,’ superlative of exterus ‘outer.’
- Means: second and third, or inner terms ORIGIN Middle English: from Old French meien, from Latin medianus ‘middle’
- Principle of extremes and means: In a proportion, the product of the means equals the product of the extremes.
- Mean proportion: a proportion in which the means are equal
- Mean proportional: the number which each mean represents
- Similar: polygons which have the same shape; corresponding angles are equal and corresponding sides are proportional ORIGIN late 16th cent. (also as a term in anatomy meaning ‘homogeneous’): from French similaire or medieval Latin similaris, from Latin similis ‘like.’

Textbook reference and written work:

- 6th Grade Mathematics p. 287-290

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Proportion

- Note:
- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 287-288 (#108-119)
  - Continue another day if needed
- Define:
  -
  -
- Notes:
  -
- Explore More:
  -

Day 2: Proportion

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 289 (#120-124)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Proportion

- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 289-290 (#125-130)
  -
- Define:
  -
- Explore more:
  -
- Notes:
  -

Week 31

Topics:

- Review

Words to Remember:

-

Textbook reference and written work:

- 6th Grade Mathematics p. 290-304

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards

Suggested Daily Schedule:

Day 1: Review

- Note:
- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 290-294 (#1-64)
  - Continue another day if needed
- Define:
  -
  -
- Notes:
  -
- Explore More:
  -

Day 2: Review

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 295-300 (#65-112)
- Define:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Review

- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 300-304 (#113-169)
  -
- Define:
  -
- Explore more:
  -
- Notes:

Week 32

Topics:

- Lines and Surfaces

Words to Remember:

- Polygon: a plane figure bounded by straight lines ORIGIN late 16th cent.: via late Latin from Greek polugōnon, neuter (used as a noun) of polugōnos ‘many-angled.’
- Triangle: a polygon of three sides ORIGIN late Middle English: from Old French triangle or Latin triangulum, neuter of triangulus ‘three-cornered’
- Quadrilateral: a polygon of four sides ORIGIN mid 17th cent.: from late Latin quadrilaterus (from Latin quadri- ‘four’ + latus, later- ‘side’) + -al.
- Pentagon: a polygon of five sides ORIGIN late 16th cent.: via Latin from Greek pentagōnon, neuter (used as a noun) of pentagōnos ‘five-angled.’
- Hexagon: a polygon of six sides ORIGIN late 16th cent.: via late Latin from Greek hexagōnon, neuter (used as a noun) of hexagōnos ‘six-angled.’
- Heptagon: a polygon of seven sides ORIGIN late 16th cent.: from Greek heptagonon, neuter (used as a noun) of heptagonos ‘seven-angled.’
- Octagon: a polygon of eight sides ORIGIN late 16th cent.: via Latin from Greek octagōnos ‘eight-angled.’
- Nonagon: a polygon of nine sides ORIGIN mid 17th cent.: formed irregularly from Latin nonus ‘ninth,’ on the pattern of words such as hexagon.
- Decagon: a polygon of ten sides ORIGIN mid 17th cent.: via medieval Latin from Greek dekagōnon, neuter (used as a noun) of dekagōnos ‘ten-angled.’
- Dodecagon: a polygon of twelve sides ORIGIN late 17th cent.: from Greek dōdekagōnon, neuter (used as a noun) of dōdekagōnos ‘twelve-angled.’
- Regular polygon: a polygon having all of its sides equal and all of its angles equal
- Equilateral: triangle having three equal sides ORIGIN late 16th cent.: from French équilateral or late Latin aequilateralis, from aequilaterus ‘equal-sided’ (based on Latin latus, later- ‘side’).
- Isosceles: triangle having two equal sides ORIGIN mid 16th cent.: via late Latin from Greek isoskelēs, from isos ‘equal’ + skelos ‘leg.’
- Scalene: triangle having no two sides equal ORIGIN mid 17th cent.: via late Latin from Greek skalēnos ‘unequal’; related to skolios ‘bent.’
- Right: triangle with a right angle (an angle of 90°, as in a corner of a square or at the intersection of two perpendicular straight lines)
- Obtuse: triangle that has an obtuse angle (more than 90° and less than 180°) ORIGIN late Middle English (in the sense ‘blunt’): from Latin obtusus, past participle of obtundere ‘beat against’

- Acute: triangle in which all the angles are acute (less than 90°) ORIGIN late Middle English: from Latin acutus, past participle of acuere ‘sharpen,’ from acus ‘needle.’
- Trapezium: quadrilateral with no parallel sides ORIGIN late 16th cent.: via late Latin from Greek trapezion, from trapeza ‘table.’ The term has been used in anatomy since the mid 19th cent.
- Trapezoids: quadrilateral with two parallel sides ORIGIN early 18th cent.: from modern Latin trapezoides, from late Greek trapezoeidēs, from trapeza ‘table’
- Parallelogram: quadrilateral in which opposite sides are parallel ORIGIN late 16th cent.: from French parallélogramme, via late Latin from Greek parallēlogrammon, from parallēlos ‘alongside another’ + grammē ‘line.’
- Rectangle: parallelogram in which all angles are right angles ORIGIN late 16th cent.: from medieval Latin rectangulum, from late Latin rectiangulum, based on Latin rectus ‘straight’ + angulus ‘an angle.’
- Square: equilateral rectangle ORIGIN Middle English: shortening of Old French esquare (noun), esquarre (past participle, used as an adjective), esquarrer (verb), based on Latin quadra ‘square.’
- Rhomboid: parallelogram in which the angles are oblique (acute or obtuse) ORIGIN late 16th cent. (as a noun): from French rhomboïde, or via late Latin from Greek rhomboeidēs, from rhombos
- Rhombus: equilateral rhomboid ORIGIN mid 16th cent.: via Latin from Greek rhombos .
- Rule of finding the area of a rhomboid: multiply the base by the altitude (height)
- Rule of finding the area of a triangle: The area of a triangle is equal to one-half the product of its base and altitude
- Vertical angle: The angle opposite the base
- Altitude: perpendicular distance from the vertical angle to the line of the base ORIGIN late Middle English: from Latin altitudo, from altus ‘high.’
- Apothem: distance from the center of a regular polygon to the middle point of one of its sides ORIGIN late 19th cent.: from Greek apotithenai ‘put aside, deposit,’ from apo ‘away’ + tithenai ‘to place.’
- Rule of the area of a regular polygon: The area of a regular polygon is equal to one-half the product of its perimeter and apothem
- Inscribed: a polygon is said to be inscribed in a circle when the vertex of each angle of the polygon is in the circumference of the circle ORIGIN late Middle English: from Latin inscribere, from in- ‘into’ + scribere ‘write.’
- Circumscribed: the circle is said to be circumscribed about the polygon ORIGIN late Middle English: from Latin circumscribere, from circum ‘around’ + scribere ‘write.’
- Segment: The part of the circle between an arc and its chord ORIGIN late 16th cent. (as a term in geometry): from Latin segmentum, from secare ‘to cut.’
- Rule of finding the area of a circle: the area of a circle is equal to one-half the product of its circumference and radius
  - This may be expressed by the formula $A = C \times \frac{r}{2}$ or $A = \frac{Cr}{2}$, in which “A” stands for “area of circle,” “C” for “circumference,” and “r” for “radius.”
- Concentric circles: circles which have a common center ORIGIN late Middle English: from Old French concentrique or medieval Latin concentricus, from con- ‘together’ + centrum ‘center.’

Textbook reference and written work:

- 6th Grade Mathematics p. 305-322

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards
- Scissors
- Blank paper
- Pencil
- Markers
- Barn Quilt brochure
- Barn Quilt instructions (Optional)

Suggested Daily Schedule:

Day 1: Lines and surfaces

- Note:
- Review:
  -
- Mastery Practice:
  -
- Written work:
  - 6th Grade Mathematics p. 305-311 (#1-44)
  - Continue another day if needed

- Define:
  - Polygon:
  - Triangle:
  - Quadrilateral:
  - Pentagon:
  - Hexagon:
  - Heptagon:
  - Octagon:
  - Nonagon:
  - Decagon:
  - Dodecagon:
  - Regular polygon
  - Equilateral:
  - Isosceles:
  - Scalene:
  - Right:
  - Obtuse:
  - Acute:
  - Trapezium:
  - Trapezoids:
  - Parallelogram:
  - Rectangle:
  - Square:
  - Rhomboid:
  - Rhombus:
  - Rule of finding the area of a rhomboid:
  - Rule of finding the area of a triangle:
-
- Notes:
  -
- Explore More:
  -

Day 2: Lines and Surfaces

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 311-317 (#45-109)
- Define:
  - Vertical angle:
  - Altitude:
  - Apothem:
  - Rule of the area of a regular polygon:
  -
- Notes:
  -
- Explore More:
  - Take a look at the barn quilt pictures in the Barn Quilts of Black Hawk County brochure.
  - Assuming each barn quilt is 8 feet wide, calculate the area of quilt #27 and quilt #16 (or more!)
  - Using these or other barn quilts as inspiration, create your own barn quilt on paper. Consider turning your drawing into a real barn quilt with these helpful instructions.

Day 3: Lines and Surfaces

- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 317-322 (#110-148)
  -
- Define:
  - Inscribed:

    - Circumscribed:
    - Segment:
    - Rule of finding the area of a circle:
    - Concentric circles:
    -
- Explore more:
    -
- Notes:

Week 33

Topics:

- Solids

Words to Remember:

- Prism: a solid whose bases are solids and sides are rectangles ORIGIN late 16th cent.: via late Latin from Greek prisma ‘thing sawn,’ from prizein ‘to saw.’
- Rule for finding the cubic contents (volume) of a prism: multiply the area of the base by the altitude
- Pyramid: a solid whose base is a polygon and whose sides are triangles meeting at a common point ORIGIN late Middle English (in the geometric sense): via Latin from Greek puramis, puramid-
- Apex: the point where all the faces of a pyramid meet ORIGIN early 17th cent.: from Latin, ‘peak, tip.’
- Altitude: a perpendicular from the apex to the base which meets the base at its center ORIGIN late Middle English: from Latin altitudo, from altus ‘high.’
- Slant height: a line from the apex to the middle point of a side of the base
- Frustum: the portion of a cone or pyramid that remains after its upper part has been cut off by a plane parallel to its base ORIGIN mid 17th cent.: from Latin, ‘piece cut off.’
- Similar solids: solids that have the same shape ORIGIN late 16th cent. (also as a term in anatomy meaning ‘homogeneous’): from French similaire or medieval Latin similaris, from Latin similis ‘like.’
- Homologous line: corresponding lines in similar solids ORIGIN mid 17th cent.: via medieval Latin from Greek homologos ‘agreeing, consistent,’ from homos ‘same’ + logos ‘ratio, proportion.’
- Homologous angle: corresponding angles in similar solids ORIGIN mid 17th cent.: via medieval Latin from Greek homologos ‘agreeing, consistent,’ from homos ‘same’ + logos ‘ratio, proportion.’
-

Textbook reference and written work:

- 6th Grade Mathematics p. 322-336

Materials

- Math Notebook
- Ruler or Yardstick
- Flashcards
- Scissors
- Blank paper
- Compass (for drawing arcs and circles)
- Templates for Week 33 Solids

Suggested Daily Schedule:

Day 1: Solids

- Note:
- Review:
    -
- Mastery Practice:
    -
- Written work:
    - 6th Grade Mathematics p. 322-326 (#149-176)
    - Continue another day if needed
- Define:
    - Prism:
    - Rule for finding the cubic contents (volume) of a prism:
-
- Notes:

-
- Explore More:
  -

Day 2: Solids

- Mastery Practice:
  -
- Review:
  -
- Written work:
  - Finish previous work
  - 6th Grade Mathematics p. 326-330 (#177-213)
- Define:
  - Pyramid:
  - Apex:
  - Altitude:
  - Slant height:
  -
- Notes:
  -
- Explore More:
  -

Day 3: Solids

- Review:
  -
- Written work:
  - 6th Grade Mathematics p. 331-336 (#214-258)
  -
- Define:
  - Frustum:
  - Similar solids:
  - Homologous line:
  - Homologous angle:
  -
- Explore more:
  -
- Notes:

Week 34

Not available

Week 35

Not available

Week 36

Not available