

St. Agnes School

Mathematics Outcomes

with Performance Indicators

Revised 2010

Program Outcomes

- Possess the mathematical skills for successful daily adult life.
- Be able to reason in a sound manner and use common sense in mathematics applications.
- Understand and apply mathematical and technical process skills.
- Understand mathematical manipulation and thinking and the impact of mathematics on science, technology, and daily life.
- Be able to read and apply mathematical concepts in technical manuals.
- Be able to use and apply current technology and be open to future technology.
- Be adequately prepared for next level of learning.

St. Agnes School Math Outcomes Pre - K

1. **Be able to show knowledge & use of numbers in a variety of settings. (Illinois Early Learning Standards - 6A, 6C)**
 - A. Be able to recognize numerals 0-10 (3's), 0-20 (4's) in random order.
 - B. Be able to understand one-to-one correspondence.
 - C. Be able to count a group of objects up to 10 (3's) and 20 (4's)
 - D. Be able to count by ones to 10 (3's) and 20 (4's)
 - E. Be able to write numbers 0 - 10 (4's)

2. **Be able to understand number order. (Illinois Early Learning Standards - 7B, 8A,9B)**
 - A. Be able to identify first, middle and last in a series.
 - B. Be able to use ordinal numbers from first - fifth (4's)
 - D. Be able to count by ones to 10 (3's) and 20 (4's)

3. **Be able to describe numerical relationships using variables and patterns. (Illinois Early Learning Standards - 6C, 7B, 8B)**
 - A. Be able to sort & classify objects into groups by one or more attributes. (color, size, etc.
 - B. Be able to predict & extend patterns such as AB, ABC, or AAB.
 - C. Be able to compare up to 3 sets using words such as more, less, bigger, smaller.
 - D. Be able to understand and use position words.
 - E. Be able to show a beginning understanding of graphing.
 - F. Be able to begin estimating and making realistic guesses.

4. **Be able to show a basic understanding of geometric shapes. (Illinois Early Learning Standards -9A)**
 - A. Be able to know basic shapes.
 - B. Be able to describe shapes.
 - C. Be able to draw shapes such as circle, square, triangle and rectangle(4's)

5. **Be able to understand concept of Time. (Illinois Early Learning Standards -7A)**
 - A. Be able to identify & tell the use of a calendar.
 - B. Be able to recite the days of the week.

St. Agnes School Math Outcomes

Kindergarten

Abilities Outcomes [Apply the following to each content outcome.]

- 1. Develop abilities in math. (Illinois Early Learning Standards - 10A)**
 - A. Think clearly and solve problems in math (classify, decide, estimate, solve, compare).
 - B. Talk and write clearly about math (present, persuade, collaborate, explain, recommend).
 - C. Make careful plans and use them (brainstorm, envision, research, plan, organize, persist).

- 2. Be able to apply math knowledge and skills to a variety of purposes (Illinois Early Learning Standards - 10B)**
 - A. Be able to use math to solve problems in a step-by-step manner.
 - B. Be able to conduct research (locate, observe/gather, present).
 - C. Be able to use manipulatives to help solve problems (sort, pattern, graph, measure using manipulates using non-standard units of measure).
 - D. Possess technical skills:
 - listen/dictate/write/present:

Content Outcomes

- 3. Be able to use words to describe objects (Illinois Early Learning Standards - 7B,8A, 9A)**
 - A. Be able to sort and describe objects (color, weight, shape, length and other kinds of size).
 - B. Be able to use the words for size and position (more/less, most/least, few/many, large/small, big/little, heavy/light, thick/thin, over/under, above/below, top/bottom, right/left/middle, beside/in front of/behind, first/second/third/etc.).
 - C. Know basic shapes (square, circle, triangle, rectangle).

- 4. Understand two-part patterns (Illinois Early Learning Standards - 8B)**
 - A. Be able to predict what comes next.
 - B. Be able to copy a pattern from a picture or model.
 - C. Be able to add to patterns.
 - D. Be able to make your own pattern.

- 5. Be able to count by memory to 100 orally (Illinois Early Learning Standards - 6A)**
 - A. Know number order from 10 to 100 orally.
 - B. Know how to count by 1's, 5's and 10's to 100.
 - C. Know one to one correspondence.
 - D. Know ordinal numbers 1st, 10th
 - E. Know how to count up to 100 from memory

- 6. Be able to count movable objects up to 50 (Illinois Early Learning Standards - 8B)**
 - A. Be able to count up to 50 from memory.
 - B. Be able to touch and count each item in the right order.

St. Agnes School Math Outcomes Kindergarten continued

7. **Be able to match sets with numbers to ten (Illinois Early Learning Standards - 6B)**
 - A. Be able to recognize the numbers 1 to 25.
 - B. Be able to count ordered objects up to 50.
 - C. Be able to count unordered objects up to 50.

8. **Be able to recognize numbers 0 to 20 in random order (Illinois Early Learning Standards -6A)**
 - A. Be able to recognize numbers 0 to 30.
 - B. Be able to recognize number patterns and continue them.
 - C. Be able to point to numbers when asked to.
 - D. Be able to name numbers in random order.

9. **Be introduced to number formation 0 to 31(Illinois Early Learning Standards - 6A)**

10. **Be introduced to simple addition and subtraction using objects (Illinois Early Learning Standards - 6B)**
 - A. Be able to join sets.
 - B. Be able to separate sets.
 - C. Be able to explain how you are joining and separating sets.

11. **Be introduced to different types pf Graphs (Illinois Early Learning Standards - 8A)**
 - A. Be able to read a simple graph.
 - B. Be able to sort and clarify objects.
 - C. Be able to make predictions.

12. **Be able to use simple non-standard units of measurement (Illinois Early Learning Standards - 7A)**
 - A. Be able t o do simple measurement.
 - B. Be able to do simple estimates.

St. Agnes School Math Outcomes First Grade

Abilities Outcomes [Apply the following to each content outcome.]

1. **Develop abilities in math (Illinois Early Learning Standards - 6B, 6C)**

- A. Think clearly and solve problems in math (classify, decide, estimate, solve, compare).
 - B. Talk and write clearly about math (present, collaborate, explain).
 - C. Make careful plans and use them (brainstorm, plan, organize).
 - D. Introduction to mental math.
- 2. Be able to apply math knowledge and skills to a variety of purposes (Illinois Early Learning Standards - 8A, 8B)**
- A. Be able to use math to solve daily life problems in a step-by-step manner (collect facts, select operation, complete operations, solve and label solution).
 - B. Be able to conduct research (locate, observe/gather, present).
 - C. Be able to sort, pattern, graph, measure, and use manipulatives, clocks (to half-hour), money (count to \$1.00), calendars (length of a day, week, month, year), and shapes (square, circle, triangle, rectangle, cubes, cylinders, cones, spheres, to solve problems).
 - D. Possess technical skills:
listen/read/dictate/write/present

Content Outcomes

- 3. Be able to read, write, and compare numbers to 100 (Illinois Early Learning Standards- 6A)**
- A. Be able to count out loud 0 to 100.
 - B. Be able to write numbers to 0 to 100 in order.
 - C. Be able to identify and write numbers 0 to 100 out of order.
 - D. Be able to order two-digit numbers.
 - E. Be able to tell if numbers are greater than, less than, or equal.
- 4. Be able to count to 100 in many ways (Illinois Early Learning Standards - 6A)**
- A. Be able to see the pattern in numbers from 0 to 100.
 - B. Be able to count and write by 2's, 5's, and 10's to 100.
- 5. Understand place value of ones and tens (Illinois Early Learning Standards - 6A)**
- A. Be able to group objects by ones and tens.
 - B. Be able to identify the ones place and tens place in two-digit numbers.
 - C. Be able to identify the ones place, tens place and hundreds place in three-digit numbers.
- 6. Be able to do addition and subtraction process to 12 (Illinois Early Learning Standards - 6B,6C)**
- A. Know meaning of symbols (+, -, =).
 - B. Know meaning of math vocabulary (sum, difference, horizontal, vertical, etc.)
 - C. Be able to use manipulatives to compare, add, and subtract.

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Math Outcomes
First Grade
continued

- D. Be able to add or subtract using numbers vertically and horizontally.
- E. Be able to use strategies to memorize facts to 12 [count on number line, dots, etc.].

7. **Be able to add and subtract two-digit numbers without regrouping (Illinois Early Learning Standards - 6B, 6C)**
 - A. Be able to solve two-digit addition and subtraction problems using manipulatives.
 - B. Be able to start process in the ones column.
 - C. Be able to correctly line up addition and subtraction problems with two-digit numbers.
8. **Fractions (Illinois Early Learning Standards - 6D)**
 - A. Recognize equal and unequal parts of a whole
 - B. Understand top and bottom numbers of fractions.
9. **Money (Illinois Early Learning Standards - 7A)**
 - A. Know names and values of penny, nickel, dime and quarter
 - B. Counting sets of coins in either the same or mixed coins
10. **Patterning (Illinois Early Learning Standards - 8A, 8B)**
 - A. Identify and analyze patterns
 - B. Create patterns
11. **Geometry (Illinois Early Learning Standards - 9A, 9B, 9C)**
 - A. Identify and know attributes of solid shapes.
 - B. Understand geometric terms (plane, vertex, vertices, etc)
 - C. Relating plane shapes to solid figures.
 - D. Identify and draw plane shapes.
12. **Time (Illinois Early Learning Standards - 7A)**
 - A. Recognize analog & digital clocks.
 - B. Understand vocabulary related to time (hour hand, minute hand, etc.)
 - C. Recognize and tell time by hour and $\frac{1}{2}$ hour on both analog & digital clock.
 - D. Write time by hour and $\frac{1}{2}$ hour on analog & digital clock.
 - E. Know names of days of week and months of year in order.
 - F. Interpret a monthly calendar.
13. **Sorting/Graphing (Illinois Early Learning Standards - 10A, 10B)**
 - A. Be able to sort or separate into groups.
 - B. Be able to create picture graph or bar graph.
 - C. Be able to interpret picture graph or bar graph.
14. **Estimating Measurements (Illinois Early Learning Standards - 7A, 7B)**
 - A. Estimate, measure and compare the lengths of objects using non-standard unit.
 - B. Estimate and measure to the nearest inch using a ruler

St. Agnes School Math Outcomes Second Grade

Abilities Outcomes [Apply the following to each content outcome.]

1. **Develop abilities in math (Illinois Early Learning Standards - 6B, 6C)**
 - A. Think clearly and solve problems in math (classify, decide, estimate, solve, compare).
 - B. Talk and write clearly about math (present, persuade, collaborate, explain, recommend).

- C. Make careful plans and use them (brainstorm, envision, research, plan, organize, persist).
 - D. Use the quality process (plan, draft, analyze, and revise when producing products).
 - E. Utilize mental math for addition and subtraction.
- 2. Be able to apply math knowledge and skills to a variety of purposes (Illinois Early Learning Standards - 6A, 6B, 6C, 8A, 8B, 9A, 10C)**
- A. Be able to estimate and solve one-step story problems (estimate and explain estimation strategies, use word clues to select operation, write problem sentence, solve and label solution).
 - B. Be able to conduct research (locate, observe/gather, present). Explore probability and determine patterns.
 - C. Be able to use manipulatives, graphs, charts, clocks (to the quarter-hour and in five-minute intervals), calendars (length of a day, week, month, year), and shapes (cubes, spheres, cylinders, cones, pyramids, rectangular prisms) to solve problems. Money, [.25, .50, and \$1.00]. Weights and scales [lb. kg. and g.]
 - D. Possess technical skills: calculators, how to access information.

Content Outcomes

- 3. Be able to read, write, and compare numbers 100 to 999 and understand hundreds place value (Illinois Early Learning Standards - 6A, 6D, 8C, 8D)**
- A. Know that each place (hundreds, tens, ones) can be any number (0 to 9) and be able to read three-digit numbers.
 - B. Know that each hundreds number must have three digits and be able to make three-digit numbers.
 - C. Know $<$, $>$, $=$, and be able to use them appropriately when comparing numbers up to 999.
 - D. Know the sequence of numbers up to 999.
- 4. Be able to regroup to the tens place**
- A. Know that a group of ten can be broken into ten ones and that ten ones equals a group of ten.
 - B. Be able to regroup numbers to 99.

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Math Outcomes
Second Grade
continued**

- 5. Be able to readily recall addition and subtraction facts and processes to 18 and know about multiplication (Illinois Early Learning Standards - 6B, 6C)**
- A. Know fact families and "double" facts.
 - B. Be able to solve 2 and 3 digit addition and subtraction with and without regrouping.
 - C. Be able to work number sentences vertically and horizontally.
 - D. Be able to skip count by 2,3,5,10,25.
 - E. Be able to use a number line.
 - F. Know concept of multiplication; know familiarity of facts thru 5.
 - G. Use strategies to memorize facts.

- H. Be able to demonstrate how to check addition with subtraction and subtraction with addition.
- 6. **Be able to use standard linear (inch, foot, yard, centimeter, meter) and liquid (cup, pint, quart, gallon, liter) measures (Illinois Early Learning Standards - 7A, 7B, 7C)**
 - A. Be able to recognize an inch and centimeter and use rulers to measure up to 12 inches and 25 cm. correctly.
 - B. Be able to measure down to one-half inch and one centimeter.
 - C. Be able to accurately measure out a given amount of liquid using cup, pint, quart, gallon, and liter.
 - D. Be able to determine an amount of liquid to the cup.
- 7. **Be able to recognize and label fractions in halves, thirds, and fourths (Illinois Early Learning Standards - 9A)**
 - A. Know that a fraction is part of a whole and be able to identify a fractional part and part of a group.
 - B. Be able to divide a circle, square, rectangle into $\frac{1}{2}$, $\frac{1}{3}$, $\frac{2}{3}$, $\frac{1}{4}$, and $\frac{3}{4}$.
 - C. Know what symmetry and line of symmetry means; identify symmetrical and non-symmetrical objects.
- 8. **Be able to recognize and name geometric shapes (Illinois Early Learning Standards - 9A, 9B, 9C)**
 - A. Be able to identify related two and three dimensional shapes.
 - B. Identify solid figures and count their flat surfaces, vertices and edges.
 - C. Recognize and name trapezoids, parallelograms, and hexagons and identify the number of sides and angles.
 - D. Identify and create symmetrical shapes.
- 9. **Be able to organize, describe and make predictions from existing data (Illinois Early Learning Standards - 10A, 10B, 10C)**
 - A. Be able to solve a problem by making a table.
 - B. Be able to collect, record and analyze data.
 - C. Be able to organize data in the form of a venn diagram, pictogram, bar graph, line plot and coordinate graph.

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Second Grade
continued

- 10. **Be able to measure units of time (Illinois Early Learning Standards - 7A)**
 - A. Be able to tell time in five-minute intervals.
 - B. Be able to tell time before and after the hour.
 - C. Be able to estimate the amount of time an activity will take.
 - D. Be able to complete, read and use a calendar.

St. Agnes School

Math Outcomes

Third Grade

Abilities Outcomes [Apply the following to each content outcome.]

1. Develop abilities in math.

- A. Higher thinking (analyze, evaluate, classify, predict, decide, estimate, generalize, solve, compare, simplify).
- B. Communications (present, persuade, collaborate, explain, recommend).
- C. Goal setting/attainment (brainstorm, envision, research, plan, organize, persist).
- D. The quality process (plan, draft, analyze, and revise when producing products).

2. Be able to apply math knowledge and skills to a variety of purposes.

- A. Be able to use the five-step problem-solving process [identify question, locate facts, select operations, solve and label solution, and check for common sense]. (Illinois Early Learning Standards - 6.B.1)
- B. Be able to conduct research (locate, observe/gather, summarize, and present).
- C. Be able to use charts, graphs, tables, manipulatives, clocks (to nearest minute), money (count to \$5.00), models and other resources to solve problems. (Illinois Early Learning Standards - 7.A.1c, 10.A.1a)

Content Outcomes

3. Be able to read, write, and compare whole numbers through six digits and round two- and three-digit numbers to the nearest ten, hundred and dollar.

- A. Be able to read and write to 999,999. (Illinois Early Learning Standards - 6.A.1a)
- B. Be able to compare whole numbers for greater, lesser and equal. (Illinois Early Learning Standards - 6.A.1a)
- C. Be able to find tens, hundreds, thousands, ten thousands, hundred thousands. (Illinois Early Learning Standards - 6.A.1a)
- D. Know and be able to apply the rules for rounding off numbers.
- E. Recognize equivalent representations of whole numbers and generate them by composing and recomposing numbers. (Illinois Early Learning Standards - 6.A.1d)

4. Be able to readily recall addition and subtraction facts through 18 and multiplication and division 0 to 9.

- A. Be able to use manipulatives to understand facts. (Illinois Early Learning Standards - 6.B.1)
- B. Be able to use strategies to memorize facts. (Illinois Early Learning Standards - 6.B.1)
- C. Be able to use basic facts in real-life situations. (Illinois Early Learning Standards - 6.B.1)
- D. Be able to check addition using subtraction and subtraction using addition. (Illinois Early Learning Standards - 6.B.1)

5. Be able to regroup numbers up to three digits in addition and subtraction.

- A. Be able to line up three-digit numbers to add and subtract. (Illinois Early Learning Standards - 6.C.1a)

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Math Outcomes Third Grade continued

- B. Be able to regroup numbers greater than ten in the next column in addition. (Illinois Early Learning Standards - 6.C.1a)
 - C. Be able to complete each column in addition and subtraction before moving on to the next. (Illinois Early Learning Standards - 6.C.1a)
 - D. Be able to regroup in subtraction if the top digit is smaller than the digit below. (Illinois Early Learning Standards - 6.C.1a)
 - E. Be able to use manipulatives to understand regrouping
 - F. Be able to add and subtract money. (Illinois Early Learning Standards - 7.A.1c)
- 6. Be able to read, write, illustrate, and compare fractions with like denominators.**
(Illinois Early Learning Standards - 6.A.1b)
- A. Know placement of numerator and denominator and be able to say and write fractions correctly.
 - B. Know meaning of denominator as the whole and numerator as parts of the whole.
 - C. Be able to use manipulatives and pictures to illustrate and compare fractions.
- 7. Be able to identify, measure, and describe plane and geometric figures.**
- A. Be able to identify and label, squares, circles, triangles, rectangles, pentagons, hexagons, and octagons. (Illinois Early Learning Standards - 9.A.1a)
 - B. Be able to identify and label cubes, spheres, cylinders, cones, pyramids, and rectangular prisms. (Illinois Early Learning Standards - 9.A.1a)
 - C. Be able to describe plane and geometric figures in terms of shape, sides, perimeter, area, and examples. (Illinois Early Learning Standards - 9.B.1a)
 - D. Be able to match congruent figures and draw a line of symmetry. (Illinois Early Learning Standards - 9.B.2)
 - E. Be able to identify and label line, line segments and angles. (Illinois Early Learning Standards - 9.B.1c)
- 8. Be able to use standard linear (inch, foot, yard, mile).**
- A. Be able to properly place a ruler when measuring. (Illinois Early Learning Standards - 7.A.1a)
 - B. Be able to recognize an inch and use rulers to measure up to 12 inches correctly. (Illinois Early Learning Standards - 7.A.1a)
 - C. Be able to measure down to one-half inch and one quarter inch. (Illinois Early Learning Standards - 7.A.1a)
 - D. Be able to accurately measure out a given amount of liquid using cup, pint, quart, gallon, and liter. (Illinois Early Learning Standards - 7.A.1a)
 - E. Be able to recognize temperature degrees (Fahrenheit (F) and Celsius [°]). (Illinois Early Learning Standards - 7.A.1d)

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Third Grade continued

9. **Be able to tell time using an analog clock. (Illinois Early Learning Standards - 7.A.1b)**
 - A. Be able to tell time to the half and quarter hour.
 - B. Be able to tell time to the minute using an analog clock.
 - C. Be able to determine elapsed time between events.

10. **Be able to organize and interpret simple data displays.**
 - A. Be able to collect, organize and describe data using pictures, tallies, tables, charts or bar graphs. **(Illinois Early Learning Standards - 10.A.1a)**
 - B. Be able to use line plots to organize, read and interpret data. **(Illinois Early Learning Standards - 10.A.2a)**
 - C. Be able to find the mode and range for the data in a line plot. **(Illinois Early Learning Standards - 10.A.1a)**
 - D. Be able to interpret and make a pictograph, bar graph, and line graph. **(Illinois Early Learning Standards - 10.A.2a)**
 - E. Be able to locate and graph ordered pairs on a coordinate grid. **(Illinois Early Learning Standards - 10.A.2a)**

St. Agnes School

Math Outcomes

Fourth Grade

Abilities Outcomes [Apply the following to each content outcome.]

1. Develop abilities in math.

- A. Higher thinking (analyze, evaluate, classify, predict, decide, estimate, generalize, solve, relate, interpret, simplify).
- B. Communications (present, persuade, collaborate, explain, recommend).
- C. Goal setting/attainment (brainstorm, envision, research, plan, organize, persist).
- D. The quality process (plan, draft, analyze, and revise when producing products).

2. Be able to apply math knowledge and skills to a variety of purposes.

- A. Be able to solve one- and two-step problems using the four-step problem-solving method with time, money, and measurement in standard and metric units (determine problem, select operations, estimate, solve and label solution) and check for common sense. (Illinois Early Learning Standards - 6.B.2)
- B. Be able to conduct research (locate, observe/gather, present).
- C. Be able to solve one-step problems using graphs, charts, tables, calculators and computers (safely, effectively, efficiently, accurately). (Illinois Early Learning Standards - 6.B.2)

Content Outcomes

3. Be able to read, write, and compare whole numbers through seven digits and decimals to hundredths.

- A. Be able to read and write to millions and hundredths. (Illinois Early Learning Standards - 6.A.1a)
- B. Know each place value to millions and hundredths. (Illinois Early Learning Standards - 6.A.1a)
- C. Be able to compare $<$, $>$, $=$ to hundredths. (Illinois Early Learning Standards - 6.A.2)
- D. Be able to compare $<$, $>$, $=$ for whole numbers. (Illinois Early Learning Standards - 6.A.2)
- E. Be able to read and write decimals to hundredths. (Illinois Early Learning Standards - 6.A.2)
- F. Be able to use money to understand decimals. (Illinois Early Learning Standards - 6.A.2)

4. Be able to round six-digit numbers to the nearest place and estimate sums and differences.

- A. Know place value to round off to hundred thousands. (Illinois Early Learning Standards - 6.A.1a)
- B. Be able to use rules for rounding. (Illinois Early Learning Standards - 6.A.1a)
- C. Be able to estimate sums and differences and tell if answer is an over or under estimate. (Illinois Early Learning Standards - 6.C.2b)

5. Be able to add and subtract whole numbers to seven places.

- A. Be able to line up seven-digit numbers (according to place value) to add and subtract. (Illinois Early Learning Standards -6.C.2a)

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Math Outcomes

Fourth Grade

continued

- B. Be able to regroup in addition. (Illinois Early Learning Standards -6.C.2a)
 - C. Be able to correctly use commas. (Illinois Early Learning Standards -6.A.1a)
 - D. Be able to regroup in subtraction. (Illinois Early Learning Standards -6.C.2a)
 - E. Be able to check with addition and subtraction. (Illinois Early Learning Standards -6.C.2a)
 - F. Be able to add and subtract dollar amounts using decimals. (Illinois Early Learning Standards -7.A.2b)
- 6. Know multiplication and division facts. (Illinois Early Learning Standards -6.C.2a)**
- A. Be able to demonstrate multiplication through the use of manipulatives.
 - B. Be able to readily recall multiplication facts to twelve.
 - C. Be able to readily recall division facts to twelve.
- 7. Be able to multiply using one- and two-digit multipliers and divide four-digit dividends by a one and two digit divisor.**
- A. Be able to line up numbers. (Illinois Early Learning Standards -6.B.2)
 - B. Be able to regroup numbers. (Illinois Early Learning Standards -6.B.2)
 - C. Be able to correctly place the partial products. (Illinois Early Learning Standards -6.B.2)
 - D. Be able to use zero as a place holder. (Illinois Early Learning Standards -6.B.2)
 - E. Be able to correctly place quotient. (Illinois Early Learning Standards -6.B.2)
 - F. Be able to find and correctly place a remainder. (Illinois Early Learning Standards -6.B.2)
 - G. Be able to interpret remainders. (Illinois Early Learning Standards -6.B.2)
 - H. Be able to multiply and divide using dollar amounts expressed as decimals. (Illinois Early Learning Standards -7.A.2b)
- 8. Be able to compare fractions with like and unlike denominators.**
- A. Be able to show fractional parts of a region or set. (Illinois Early Learning Standards -6.A.1b)
 - B. Be able to find and name fractions on a number line. (Illinois Early Learning Standards - 6.A.2)
 - C. Be able to find equivalent fractions by multiplying or dividing. (Illinois Early Learning Standards - 6.C.2a)
 - D. Be able to reduce fractions to lowest terms. (Illinois Early Learning Standards -6.C.2a)
 - E. Be able to compare and order fractions using $<$, $>$, $=$. (Illinois Early Learning Standards - 6.A.2)
 - F. Be able to understand a mixed number and convert between mixed numbers and improper fractions. (Illinois Early Learning Standards - 6.C.2a)
 - G. Use fractions to solve word problems. (Illinois Early Learning Standards -6.B.2)
 - H. Be able to add fractions with like and unlike denominations. (Illinois Early Learning Standards - 6.C.2a)

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Math Outcomes

Fourth Grade continued

- I. Be able to subtract fractions with like and unlike denominators (Illinois Early Learning Standards - 6.c.2a)

- 9. Know and be able to use various intermediate geometric terms and shapes and find perimeter, area and volume.
 - A. Be able to identify solid and plane figures. (Illinois Early Learning Standards -9.A. 1a, 9.B. 1a)
 - B. Be able to identify types of angles and triangles. (Illinois Early Learning Standards - 9.B. 1a, 9.B.2)
 - C. Know lines, line segments, rays and points. (Illinois Early Learning Standards - 9.B. 1a, 9.B.2)
 - D. Be able to identify quadrilaterals and other polygons up to eight sides. (Illinois Early Learning Standards - 9.B. 1a, 9.B.2)
 - E. Be able to identify line segments associated with circles and the relationship between radius and diameter. (Illinois Early Learning Standards - 9.B.2)
 - F. Be able to find lines of symmetry and identify similar and congruent figures. (Illinois Early Learning Standards - 9.B.1c, 9.B.2)
 - G. Be able to find perimeter and area and solve problems about them. (Illinois Early Learning Standards - 7.A.2a, 7.C. 1)
 - H. Be able to find the volume of solids by counting cubic units or using a formula. (Illinois Early Learning Standards - 7.A.2a)

- 10. Be able to use customary and metric measurements.
 - A. Use measures to find length, volume and mass in customary and metric units. (Illinois Early Learning Standards - 7.A. 1a)
 - B. Choose the most appropriate unit for measuring length, volume and mass from equivalent units. (Illinois Early Learning Standards - 7.A.2a)
 - C. Be able to change between equivalent units in customary or metric measurements. (Illinois Early Learning Standards - 7.A.2a)
 - D. Be able to read temperatures above and below zero on Fahrenheit and Celsius thermometers. (Illinois Early Learning Standards - 7.A.2a)

- 11. Be able to compare, round, add and subtract decimals.
 - A. Be able to relate decimals to common fractions. (Illinois Early Learning Standards - 6.A.2)
 - B. Be able to compare, order and round decimals. (Illinois Early Learning Standards - (Illinois Early Learning Standards - 6.A.2)
 - C. Be able to add and subtract decimals to the hundredths place. (Illinois Early Learning Standards - 6.C.2a)

- 12. Be able to create and interpret graphs.
 - A. Be able to use a set of data to create a pictograph, line graph, or bar graph. (Illinois Early Learning Standards - 10.A.2a, 10.B.2b)

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- B. Be able to graph ordered pairs on a coordinate plane. (Illinois Early Learning Standards - 10.A.2a, 10.B.2b)
- C. Be able to use a set of data to determine median, mode, range and mean. (Illinois Early Learning Standards - 10.A.2b)
- D. Be able to use information in graphs to solve problems. (Illinois Early Learning Standards - 10.B.2d)
- E. Be able to graph inequalities, with variable, on a number line. (Illinois Early Learning Standards - 8.B.2, 10.A.2a)

13. Be able to use basic concepts of Algebra.

- A. Be able to solve an algebraic equation with one variable using addition, subtraction, multiplication or division. (Illinois Early Learning Standards - 8.A.2b)
- B. Be able to use an algebraic equation with two variables to find ordered pairs. (Illinois Early Learning Standards - 8.A.2b)
- C. Be able to translate word problems into algebraic equations. (Illinois Early Learning Standards - 8.A.2b)

14. Be able to understand and apply basic concepts of probability.

- A. Be able to describe events by their degree of likelihood. (Illinois Early Learning Standards - 10.C.2b)
- B. Be able to list possible outcomes. (Illinois Early Learning Standards - 10.C.1b)
- C. Be able to express probability as a fraction. (Illinois Early Learning Standards - 10.C.3a)
- D. Be able to make predictions based on probability. (Illinois Early Learning Standards - 10.C.2b, 10.C.2c)

St. Agnes School Math Outcomes Fifth Grade

Abilities Outcomes [Apply the following to each content outcome.]

1. Develop abilities in math.

- A. Higher thinking (analyze, evaluate, classify, predict, decide, estimate, generalize, solve, relate, interpret, simplify).

- B. Communications (present, persuade, collaborate, explain, recommend).
 - C. Goal setting/attainment (brainstorm, envision, research, plan, organize, persist).
 - D. The quality process (plan, draft, analyze, and revise when producing products).
2. **Be able to apply math knowledge and skills to a variety of purposes.**
- A. Be able to solve multiple step problems with whole numbers using the five-step method (read problem, properly label, select operations, estimate solution, apply operations) and explain process.
 - B. Be able to conduct research (locate, observe/gather, present).
 - C. Be able to use graphs, charts, tables, calculators, and computers to solve multi-step problems (safely, effectively, efficiently, accurately).

Content Outcomes

3. **Be able to read, write, compare and estimate whole numbers through twelve digits and decimals to ten thousandths.**
- A. Be able to read whole numbers and decimals and write whole numbers and decimals that are orally given.
 - B. Be able to compare and order whole numbers and decimals. (Illinois Early Learning Standards -6.A.2)
 - C. Be able to estimate sums, differences, products and quotients of whole numbers and decimals by rounding. (Illinois Early Learning Standards -6.C.2b)
4. **Understand and be able to apply addition and subtraction to whole numbers and decimals.**
- A. Be able to identify correct place value after decimal.
 - B. Be able to add decimals to thousandths. (Illinois Early Learning Standards -6.B.2)
 - C. Be able to subtract decimals to thousandths. (Illinois Early Learning Standards -6.C.2a)
 - D. Be able to round whole numbers and decimals to fund sums.
5. **Be able to multiply using three-digit numbers and decimals.**
- A. Be able to round to estimate products.
 - B. Be able to complete each partial step.
 - C. To understand zero as a place holder.
 - D. Be able to add partial steps to find total.
 - E. Be able to apply multiple skills to solve problems. (Illinois Early Learning Standards -6.B.2)
 - F. Be able to use mental math and the Distributive Property (Illinois Early Learning Standards -8.C.2)

**St. Agnes School
Math Outcomes
Fifth Grade
continued**

6. **Be able to divide using two-digit divisors and larger dividends.**
- A. Be able to round to estimate quotient.
 - B. Be able to complete each partial step.
 - C. Be able to complete whole process.
 - D. Be able to apply division skills to solve problems. (Illinois Early Learning Standards -6.B.2)

- E. Be able to understand zeros in the quotient.
 - F. Be able to apply to money. (Illinois Early Learning Standards -7.A.2b)
 - G. Be able to understand factors and prime and composite numbers.
- 7. Be able to work with measurement, weight and time using manipulatives.**
- A. Know customary units of length, weight and capacity. (Illinois Early Learning Standards -7.B.2a)
 - B. Be able to measure length, width, and height. (Illinois Early Learning Standards -7.A.3a)
 - C. Be able to explain time and temperature. (Illinois Early Learning Standards -7.A.3b)
- 8. Be able to understand and perform addition, subtraction, multiplication and division on fractions and mixed numbers.**
- A. Be able identify equivalent fractions and be able to reduce fractions to lowest terms.
 - B. Be able to convert improper fractions to mixed numbers and vice versa.
 - C. Be able to add, subtract, multiply and divide fractions and mixed numbers. (Illinois Early Learning Standards -6.B.2)
 - D. Be able to solve word problems involving fractions and mixed numbers. (Illinois Early Learning Standards -6.C.2a)
 - E. Be able to find the greatest common factor and least common denominator.
- 9. Be able to compare and order fractions and decimals using $<$, $>$, $=$.**
- A. Know terms and symbols $<$, $>$, $=$.
 - B. Be able to compare decimals using place value. (Illinois Early Learning Standards -6.A.2)
 - C. Be able to find a common denominator.
 - D. Be able to compare numerators once common denominators are found.
- 10. Be able to recognize, identify, and classify various geometric terms and shapes.**
- A. Be able to identify and measure acute, obtuse, and right angles.
 - B. Be able to identify basic and complex geometric shapes and classify geometric shapes by attribute. (Illinois Early Learning Standards -9.A.2a and 2b)
 - C. Be able to understand congruence and similarity, transformations and symmetry. (Illinois Early Learning Standards -9.A.2c)
 - D. Know and be able to apply formulas for perimeter, area and volume of various regions and objects. (Illinois Early Learning Standards -7.A.2a, 7.C.2b, 9.C.2)

St. Agnes School Math Outcomes Fifth Grade continued

- 11. Be able to read, interpret and create graphs.**
- A. Be able to answer questions about line graphs, circle graphs, bar graphs, pictographs and stem and leaf plots. (Illinois Early Learning Standards -8.B.2, 10.A.2c, 10.B.2d)
 - B. Be able to create line graphs, circle graphs, bar graphs, pictographs and stem and leaf plots. (Illinois Early Learning Standards -10.A.3a, 10.B.2a, 10.B.2b)
 - C. Be able to find the mean, median, mode and range of a set of data. (Illinois Early Learning Standards -10.A.2b, 10.A.3b, 10.B.2c)

- 12. Be able to connect Arithmetic and Algebraic principles.**
- A. Be able to translate word expressions of algebraic expressions.
 - B. Be able to interpret variables. (Illinois Early Learning Standards -8.A.2a)
 - C. Be able to solve equations. (Illinois Early Learning Standards -8.A.2b, 8.d.2)
 - D. Be able to interpret and use Order of Operations. (Illinois Early Learning Standards -8.C.2)
 - E. Be able to graph ordered pairs.
 - F. Understand integers using addition and subtraction.
- 13. Be able to understand probability.**
- A. Be able to predict outcomes. (Illinois Early Learning Standards -10.C.2a, 2b, 2c)
 - B. Be able to express probability as a fraction. (Illinois Early Learning Standards -6.D.2)
- 14. Be able to understand ratios, proportions and percents.**
- A. Be able to identify equivalent ratios. (Illinois Early Learning Standards -6.D.2)
 - B. Be able to create scale drawings. (Illinois Early Learning Standards -7.C.2a)
 - C. Be able to estimate percents and use to find percents of a number.

St. Agnes School Math Outcomes Sixth Grade

Abilities Outcomes [Apply the following to each content outcome.]

- 1. Develop abilities in math.**
- A. Higher thinking (analyze, evaluate, classify, predict, estimate, generalize, solve, decide, relate, interpret, simplify).
 - B. Communications (present, demonstrate, persuade, collaborate, explain, defend, recommend).
 - C. Goal setting/attainment (brainstorm, envision, research, plan, organize, persist).
 - D. The quality process (plan, draft, analyze, and revise when producing products).
- 2. Be able to apply math knowledge and skills to a variety of purposes.**
- A. Be able to solve multi-step problems using a step-by-step problem-solving method (gather/evaluate/process information, plan operations, solve, check for common sense).

- B. Be able to conduct research (locate, observe/gather, analyze, conclude).
- C. Be able to use calculators, computers, and other technology to assist in problem-solving (safely, effectively, efficiently, accurately) and to create, evaluate, and solve problems with graphs, charts, and tables.

Content Outcomes

3. **Be able to use standard and metric units of measure.**
 - A. Know and know how to find the standard and metric units of measure (linear, weight, volume). **(Illinois Early Learning Standards -7.A.3a)**
 - B. Be able to change units within a system. **(Illinois Early Learning Standards -7.B.2b)**
 - C. Be able to choose best unit of measure.
 - D. Be able to estimate solutions involving measurement and be able to apply operations to units of measurement. **(Illinois Early Learning Standards -7.A.3b, 7.B.2a, 7.B.3,9.D.3)**

4. **Be able to compare and order integers. (Illinois Early Learning Standards - 6.B.3a, 3c)**
 - A. Be able to compare $<$, $>$, $=$ for positive and negative whole numbers.
 - B. Be able to place positive and negative whole numbers, and rational numbers on a line graph.
 - C. Be able to apply values of positive and negative numbers and be able to record and write positive and negative numbers.
 - D. Be able to list positive, negative and rational numbers from least to greatest and greatest to least.

St. Agnes School Math Outcomes Sixth Grade continued

5. **Be able to integrate the use of the four operations with whole and decimal numbers estimating and finding actual answers.**
 - A. Know place value (hundred thousandths to trillions).
 - B. Be able to read and write numbers from hundred thousandths to trillions (standard form and words).
 - C. Be able to round whole numbers named any place.
 - D. Be able to add whole numbers and decimal numbers from millionths to trillions.
 - E. Be able to add, subtract and multiply whole numbers, decimals and positive and negative integers. **(Illinois Early Learning Standards - 6.A.2, 6.B.2)**
 - F. Be able to divide by whole numbers and decimals and into whole number and decimals. **(Illinois Early Learning Standards - 6.A.2, 6.B.2)**
 - G. Be able to use estimating strategies on all problems stated in D-F. **(Illinois Early Learning Standards - 6.C.3b)**

H.Be able to understand and read exponents and scientific notation. (Illinois Early Learning Standards - 6.A.3)

6. Be able to solve and apply basic algebraic functions to problems.

A.Be able to use Order of Operations to solve algebraic problems. (Illinois Early Learning Standards -6.B.2, 8.A. 3a)

B.Be able to solve equations with whole numbers. (Illinois Early Learning Standards - 6.C.3a, 8.D.2)

C.Be able to solve for variables and use in algebraic expressions. (Illinois Early Learning Standards - 8.A. 3b, 8.D.3a)

D.Be able to write expressions with fractions.

E.Be able to solve equations with fractions. (Illinois Early Learning Standards - 6.C.3a)

F.Be able to add, subtract, multiply, divide and solve equations with integers.

G.Be able to graph ordered pairs and graph equations (Illinois Early Learning Standards - 8.B.2)

H.Be able to use a basic understanding to solve inequalities, translate words to expressions and solve two-step equations. (Illinois Early Learning Standards -8.C.2)

7. Be able to estimate and calculate averages (mean, median and mode) and percentages and know about ratios and proportions.

A. Know terms average (mean, median and mode), ratio, proportion and percentage.

B. Be able to determine an average (mean, median and mode). (Illinois Early Learning Standards -10.A.3b)

C. Be able to estimate and find a percentage of a number. (Illinois Early Learning Standards -10.B.2c)

D. Be able to use percentages to find discounts (decreases), sales tax (increase) and simple interest. (Illinois Early Learning Standards - 6.C.3a)

E. Be able to convert decimals, percents, and fractions from one to another.

F. Be able to write a ratio and proportion. (Illinois Early Learning Standards -6.D.3)

G. Be able to solve rates and unit rates.

**St. Agnes School
Math Outcomes
Sixth Grade
continued**

H. Be able to interpret scale drawings and maps. (Illinois Early Learning Standards - 7.C.3a)

8. Possess a basic understanding of the four operations with fractions and mixed numbers. (Illinois Early Learning Standards -6.A.3)

A.Know the principles of prime factorization (least common multiple and greatest common factor).

B.Be able to determine prime and composite numbers. (Illinois Early Learning Standards -6.B.3b)

C.Be able to find a common denominator.

D.Be able to add and subtract fractions. (Illinois Early Learning Standards -6.B.3a)

E.Be able to multiply and divide fractions. (Illinois Early Learning Standards -6.C.3a)

F.Be able to reduce to lowest terms.

G.Be able to convert improper fractions and create whole and mixed numbers.

9. Be able to recognize and use basic geometry vocabulary and formulas.

- A. Be able to write symbols for basic geometric figures and use specific vocabulary. (Illinois Early Learning Standards -9.A.2c, 9.B.3)
- B. Be able to identify and classify angles, perpendicular, and parallel lines, polygons, and polyhedrons. (Illinois Early Learning Standards -9.A.3a,9.B.3)
- C. Be able to identify congruent figures and lines of symmetry. (Illinois Early Learning Standards -9.A.3b)
- D. Know and be able to apply formulas for perimeter, area, circumference, surface area, and volume of various regions. (Illinois Early Learning Standards -7.A.2a, 7.C.3b, 9.C.2, 9.D.3)
- E. Be able to use geometric models as well as formulas to find the number of faces, edges, and vertices of space figures. (Illinois Early Learning Standards -7.C.3a)
- F. Be able to use tanagrams and pattern blocks to duplicate patterns and create their own patterns. (Illinois Early Learning Standards -9.A.3b)

10. Be able to work with probability.

- A. Be able to identify equally likely outcomes and the probability of such. (Illinois Early Learning Standards -10.C.3a)
- B. Be able to use probability information to predict outcomes. (Illinois Early Learning Standards -10.A.2c, 10.C.3b)

11. Be able to work with graphs.

- A. Be able to read, interpret and make line graphs, bar graphs and pictographs. (Illinois Early Learning Standards - 10.A.3a, 10.B.2b)
- B. Be able to formulate questions for a questionnaire. (Illinois Early Learning Standards - 10.B.3)
- C. Be able to find the range, mode, mean and median for a set of data. (Illinois Early Learning Standards -10.A.3b)

St. Agnes School Math Outcomes Seventh Grade

Abilities Outcomes [Apply the following to each content outcome.]

1. Develop abilities in math.

- A. Higher thinking (analyze, evaluate, classify, predict, estimate, generalize, solve, decide, relate, interpret, simplify).
- B. Communications (present, demonstrate, persuade, collaborate, explain, defend, recommend).
- C. Goal setting/attainment (brainstorm, envision, research, plan, organize, persist).
- D. The quality process (plan, draft, analyze, and revise when producing products).

2. Be able to apply math knowledge and skills to a variety of purposes.

- A. Be able to use a variety of strategies in the problem-solving process (patterns, tables, diagrams, simplify, brainstorm, guess and check) in a step-by-step manner (research, thesis, support, recommendations).
- B. Be able to conduct research (locate, observe/gather, analyze, conclude).
- C. Be able to use calculators, computers, and other technology to assist in problem solving (safely, effectively, efficiently, accurately) and to create, evaluate, and solve problems with graphs, charts, and tables.

Content Outcomes

3. **Be completely comfortable with operations with integers.** [Use this outcome to allow students to either catch up or enhance higher level skills.] (Illinois Early Learning Standards - 6B.3a,b)
 - A. Understand positive and negative numbers.
 - B. Be able to name opposite integers.
 - C. Be able to apply four operations to integers.
 - D. Be able to apply appropriate operations.
 - E. Be able to solve problems using operations.

4. **Be able to apply standard and metric measures for temperature, volume, area, mass, and money to real-life situations** (Illinois Early Learning Standards -7A.3a, b)
 - A. Know the advantages and disadvantages of each system.
 - B. Be able to select appropriate unit for various measurement.
 - C. Be able to use various measuring devices.
 - D. Be able to translate within and between a system correctly.
 - E. Be able to apply all terms properly.

5. **Be able to apply ratios, proportions, averages, and percentages to real-life situations** (Illinois Early Learning Standards - 6D.3)
 - A. Be able to find equivalent ratios.
 - B. Be able to use equivalent fractions and cross products to solve problems.
 - C. Be able to use percent, fraction and decimal equivalents.
 - D. Be able to set up and solve percentage problems.
 - E. Be able to combine processes to solve problems.

St. Agnes School Math Outcomes Seventh Grade Continued

- F. Be able to use a calculator to solve problems related to ratios, proportions, averages, and percentages.
 - G. Be able to apply all terms properly.
6. **Be able to apply fractions and decimals to real-life situations** (Illinois Early Learning Standards - 6C.3)
 - A. Be able to define and calculate repeating and non repeating decimals.
 - B. Be able to use scientific notation for large numbers.
 - C. Be able to convert between fractions and decimals.
 - D. Know when to use decimals or fractions.
 - E. Be able to recognize and use operations with decimals and fractions.
 - F. Be able to operate a calculator with fractions and decimals.

 7. **Be able to use geometric principles to draw and compare lengths, area, and volume** (Illinois Early Learning Standards - 7A.3b, 7B, 7C, 9A)
 - A. Know and recognize perpendicular and parallel lines, congruence, and similar figures.
 - B. Be able to measure and construct lengths, angles, and plane geometric figures and draw 3-D figures.
 - C. Be able to calculate and compare area, perimeter, circumference, and volume of geometric figures.

- D. Be able to use basic formulas for area, perimeter, circumference and volume of geometric figures.
 - E. Be able to apply formulas to life problems.
 - F. Be able to apply the concept of unit labels to linear, area and volume measurement.
- 8. Be able to solve basic algebraic equations (Illinois Early Learning Standards - 8A.3a,b & 8B.3)**
- A. Know meaning of variables.
 - B. Know inverse operations.
 - C. Know properties of equality ($=$, $+$ and $-$, \times and \div).
 - D. Be able to apply Order of Operations.
 - E. Be able to substitute answer to check.
 - F. Be able to solve one-step equations and two-step equations.
 - G. Be able to make tables of solutions and be able to graph solutions from a table.
- 9. Be able to analyze and interpret statistics and graphs (Illinois Early Learning Standards- 8D.3a, 10.3)**
- A. Be able to calculate mean, median, mode and range
 - B. Be able to make line plots, stem and leaf plots, box and whisker plots, and scatter grams.
 - C. Be able to find data from various types of graphs and be able to use terms properly.
 - D. Be able to identify quadrants, x and y axis, and signs associated with each.
 - E. Be able to plot points on a coordinate graph.

St. Agnes School
Math Outcomes
Seventh Grade
Continued

- 10. Be able to solve and graph linear inequalities (Illinois Early Learning Standards - 8D.3a)**
- A. Be able to use a number line and the symbolism (\neq , $<$, $>$, \geq , \leq) that goes with it.
 - B. Know the difference between equality and inequality.
 - C. Be able to solve inequalities of addition and subtraction.

St. Agnes School

Math Outcomes

Eighth Grade

Abilities Outcomes [Apply the following to each content outcome.]

1. Develop abilities in math.

- A. Higher thinking (analyze, evaluate, classify, predict, estimate, generalize, solve, decide, relate, interpret, simplify).
- B. Communications (present, demonstrate, persuade, collaborate, explain, defend, recommend).
- C. Goal setting/attainment (brainstorm, envision, research, plan, organize, persist).
- D. The quality process (plan, draft, analyze, and revise when producing products).

2. Be able to apply math knowledge and skills to a variety of purposes.

- A. Be able to use a variety of strategies in the problem-solving process (patterns, tables, diagrams, simplify, brainstorm, guess and check) in a step-by-step manner (research, thesis, support, recommendations).
- B. Be able to conduct research (locate, observe/gather, analyze, conclude).
- C. Be able to use calculators, computers, and other technology to assist in problem-solving (safely, effectively, efficiently, accurately) and to create, evaluate, and solve problems with graphs, charts, and tables.

Content Outcomes

3. Be able to solve consumer-related problems (Illinois Early Learning Standards - 6B, 6C, 6D)

- A. Be able to find, examine, discuss and use formulas.
- B. Be able to calculate, estimate and solve profit and loss.
- C. Be able to calculate commission and gratuity and be able to estimate and calculate sales tax.
- D. Be able to analyze and calculate discount, sale price, and original price and be able to compute unit cost.
- E. Be able to determine interest, principal, and balance.

4. Be able to solve problems using operations with rational numbers (Illinois Early Learning Standards - 6B)

- A. Be able to apply four operations to integers.
- B. Be able to apply four operations to real numbers.
- C. Be able to identify and choose appropriate operations to solve problems.

5. Be able to solve problems using proportions (Illinois Early Learning Standards - 6D)

- A. Be able to write unit rates and ratios.
- B. Be able to prove ratios from a proportion.
- C. Be able to use proportions to solve problems involving percentages, discounts, mark up, commissions, etc.

6. Be able to solve problems using measurement, precision, and conversion (Illinois Early Learning Standards - 7A, 7B)

- A. Be able to measure lengths, volume, and weights in English and metric systems.

St. Agnes School

Math Outcomes

Eighth Grade

Continued

- B. Be able to round off measurement and error and know greatest possible error.
- C. Be able to convert within each of the two systems.
- D. Be able to use scientific notation for minute numbers.

7. Be able to draw conclusions and solve problems using geometric principles (Illinois Early Learning Standards - 9)

- A. Be able to calculate areas and perimeters of triangles, quadrilaterals, and other polygons.
- B. Be able to apply volumes and surfaces of prisms, cones, pyramids, cylinders, and spheres.
- C. Know the vocabulary of polygons and be able to find missing value of polygons.
- D. Be able to draw conclusions using geometric principles.
- E. Be able to solve problems using geometric principles.
- F. Be able to solve problems using the Pythagorean Theorem.

8. Be able to solve multi-step algebraic equations and solve and graph linear equations (Illinois Early Learning Standards -8A)

- A. Be able to apply order of operations.
- B. Be able to substitute and evaluate.
- C. Be able to solve problems by guess, check and revise.
- D. Be able to solve one-step equations and two-step equations.
- E. Be able to transform using grouping symbols.
- F. Know and understand how to solve functions.
- G. Be able to make tables of solutions and be able to graph solutions from a table.

9. Be able to translate from English terms to algebraic equations (Illinois Early Learning Standards - 8A)

- A. Know key words for the four operations.
- B. Be able to write expressions.
- C. Be able to recognize the unknown.
- D. Be able to write equation from written/oral problem.

10. Understand the various types of symmetry and transformation (Illinois Early Learning Standards - 9A)

- A. Be able to recognize and use point line, and rotational symmetry.
- B. Be able to apply the properties of the basic mappings.

11. Be able to use concepts of congruence and similarity to compare lengths, areas and volume (Illinois Early Learning Standards - 9A)

- A. Be able to apply the concepts of congruence and similarity.
- B. Be able to identify the corresponding parts of congruent figures.
- C. Be able to find missing measurements in congruent figures.