

Early Elementary Mathematics

GOAL 6	STUDENT LANGUAGE
Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.	I know about numbers: I can add and subtract them, put them in patterns, understand fractions, and do some multiplication and division.
Learning Standards	
6 A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.	I can show what numbers and fractions mean using pictures and objects. I can put numbers in the right order. I can read and write numbers up to 10,000.
6 B. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.	I can add and subtract up to four-digit whole numbers; I can multiply and divide fact families. I can add and subtract up to four-digit whole numbers and get the right answer. I can explain <u>how</u> I got an answer and <u>why</u> the answer makes sense.
6 C. Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.	I can make reasonable estimates to decide if an answer makes sense. I can decide when to use an estimate and when I need an exact answer. I can decide when to use mental math, paper and pencil or a calculator.
6 D. Solve problems using comparison of quantities, ratios, proportions and percents.	I can use $>$, $<$, $=$, symbols to compare quantities. I can show that 50% is one-half and 100% is one whole.

Early Elementary Mathematics

GOAL 7	STUDENT LANGUAGE
Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.	I know how to measure: I can use the tools of measurement, compare measurements and write labels.
Learning Standards	
7 A. Measure and compare quantities using appropriate units, instruments and methods.	I can measure with rulers, clocks, thermometers and scales. I can change between inches, feet and yards; ounces and pounds; seconds, minutes and hours; and centimeters and meters. I can solve problems with money. I can measure volume by counting cubes or finding cubic units.
7 B. Estimate measurements and determine acceptable levels of accuracy.	I can make close estimates when I measure.
7 C. Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.	I can model and find perimeter and area.
GOAL 8	STUDENT LANGUAGE
Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.	I know about patterns: I can describe them, extend them and tell rules about them.
Learning Standards	
8 A. Describe numerical relationships using variables and patterns.	I can make, extend and explain patterns. I can find the rule about a pattern.
8 B. Interpret and describe numerical relationships using tables, graphs and symbols.	I can use tables, graphs and symbols to represent situations and solve problems.
8 C. Solve problems using systems of numbers and their properties.	I can find the missing number in number sequences or stories.
8 D. Use algebraic concepts and procedures to represent and solve problems.	I can find the missing number in number sequences or stories.

Early Elementary Mathematics

GOAL 9	STUDENT LANGUAGE
Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.	I know about geometric figures: I can describe shapes and solids, compare them, and find points on a grid.
Learning Standards	
9 A. Demonstrate and apply geometric concepts involving points, lines, planes and space.	I can recognize and name geometric shapes and solids and tell about them. I can find points on a grid. I can draw two-dimensional shapes. I can find and draw lines of symmetry.
9 B. Identify, describe, classify and compare relationships using points, lines, planes and solids.	I can tell when shapes are similar or congruent. I can find and count vertices, faces and edges of solids. I can make simple solids such as a cube or a rectangular prism.
9 C. Construct convincing arguments and proofs to solve problems.	I can explain why I am right when I talk about geometric figures.
GOAL 10	STUDENT LANGUAGE
Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.	I know about data: I can talk about data. I can gather and organize data and make predictions.
Learning Standards	
10 A. Organize, describe and make predictions from existing data.	I can tell about data given in a graph, picture, chart or table.
10 B. Formulate questions, design data collection methods, gather and analyze data and communicate findings.	I can collect, organize, show and explain data.

10 C. Determine, describe and apply the probabilities of events.	I can collect data from spinners, dice and number games. I can use the words of “likely,” “unlikely” and “impossible” to talk about the chance of something happening.
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Illinois Learning Standards

Late Elementary Mathematics

GOAL 6	STUDENT LANGUAGE
Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.	I can show I understand numbers and our system of numbers including patterns, ratios and proportions and the operations of addition, subtraction, multiplication and division.
Learning Standards	
6 A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.	I can read, write and compare whole numbers, fractions, decimals and percents.
6 B. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.	I can add, subtract, multiply and divide whole numbers. I can add and subtract fractions and decimals accurately. I can list factors and multiples of whole numbers.
6 C. Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.	I can make reasonable estimates and determine if an answer is logical. I can determine when to use an estimate or an exact answer. I can determine when to use mental math, paper and pencil, a calculator or a computer
6 D. Solve problems using comparison of	I can use ratios, proportions and percents to solve

quantities, ratios, proportions and percents.	simple problems.
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Late Elementary Mathematics

<i>STUDENT LANGUAGE</i>	
GOAL 7	
Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.	I can measure and estimate measurements of objects, quantities, and relationships.
Learning Standards	
7 A. Measure and compare quantities using appropriate units, instruments and methods.	I can measure accurately and change from one unit to another within the standard system and within the metric system.
7 B. Estimate measurements and determine acceptable levels of accuracy.	I can closely estimate measurements.
7 C. Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.	I can choose the appropriate tools to solve measurement problems. I can calculate perimeter, area and volume.
GOAL 8	<i>STUDENT LANGUAGE</i>
Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.	Solve problems using patterns and variables.
Learning Standards	
8 A. Describe numerical relationships using variables and patterns.	I can recognize and describe patterns. I can solve problems with patterns. I can find the rule about a pattern.
8 B. Interpret and describe numerical relationships using tables, graphs and symbols.	I can use tables, graphs and symbols to represent situations and solve problems.

8 C. Solve problems using systems of numbers and their properties.	I can solve simple problems with variables.
8 D. Use algebraic concepts and procedures to represent and solve problems.	I can solve simple equations with variables.

Late Elementary Mathematics

GOAL 9	STUDENT LANGUAGE
Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.	Recognize and use characteristics of shapes and angles to draw conclusions about geometric figures.
Learning Standards	
A. Demonstrate and apply geometric concepts involving points, lines, planes and space.	I can recognize and name shapes, solids and angles and their properties. I can describe characteristics of shapes and angles. I can solve problems using geometry.
B. Identify, describe, classify and compare relationships using points, lines, planes and solids.	I can identify congruence, similarity and symmetry of shapes.
C. Construct convincing arguments and proofs to solve problems.	I can draw conclusions about geometric figures and explain why I'm right.
GOAL 10	STUDENT LANGUAGE
Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.	Collect, organize and analyze data and predict the likelihood of events.
Learning Standards	
10 A. Organize, describe and make predictions from existing data.	I can organize, display and compare data. I can explain results, draw conclusions and make predictions from data. I can find the mean, median, mode and range from a set of data.

10 B. Formulate questions, design data collection methods, gather and analyze data and communicate findings.	I can ask questions and collect data related to them. I can organize, display and compare my data. I can explain results and draw conclusions from my data. I can make predictions based on my data
10 C. Determine, describe and apply the probabilities of events.	I can determine possible outcomes and describe them with numbers. I can determine the likelihood of an event happening. I can use counting principles to solve problems.

Middle School Mathematics

GOAL 6	STUDENT LANGUAGE
Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.	I can apply my knowledge of numbers.
Learning Standards	
6 A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.	I can read, write, compare and change between forms of whole numbers, fractions, decimals and percents.
6 B. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.	I can solve problems using addition, subtraction, multiplication and division of whole numbers, fractions, decimals, integers, exponents and scientific notation.
6 C. Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers	I can make reasonable estimates and determine if an answer is logical. I know when to use mental math, paper and pencil, a calculator or a computer. I can determine when to use an estimate or an exact answer.
6 D. Solve problems using comparison of quantities, ratios, proportions and percents.	I can use ratios, proportions and percents to solve problems.

Middle School Mathematics

GOAL 7	STUDENT LANGUAGE
Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.	I can make, use and estimate measurements of objects, quantities and relationships.
Learning Standards	
7 A. Measure and compare quantities using appropriate units, instruments and methods.	I can measure accurately, compare measurements and change from one unit to another within the United States customary system and within the metric system.
7 B. Estimate measurements and determine acceptable levels of accuracy.	I can estimate measurements closely.
7 C. Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.	I can model, calculate and apply perimeter, area, surface area and volume. I can construct a simple scale drawing.

Middle School Mathematics

GOAL 8	STUDENT LANGUAGE
Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.	I can use algebraic and analytical methods to identify and describe patterns and relationships, solve problems and predict results.
Learning Standards	
8 A. Describe numerical relationships using variables and patterns.	I can use the commutative, associative, distributive, transitive, inverse, identity, zero, equality properties and order of operations to solve problems.
8 B. Interpret and describe numerical relationships using tables, graphs and symbols.	I can use tables, graphs and symbols to represent situations and solve problems.
8 C. Solve problems using systems of numbers and their properties.	I can use algebraic concepts and procedures, including variables, expressions, proportions, formulas and linear functions to represent and solve problems.
8 D. Use algebraic concepts and procedures to represent and solve problems.	I can use algebraic concepts and procedures, including variables, expressions, proportions, formulas and linear functions to represent and solve problems.

Middle School Mathematics

GOAL 9	STUDENT LANGUAGE
Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.	I can use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.
Learning Standards	
9 A. Demonstrate and apply geometric concepts involving points, lines, planes and space.	I can draw or construct two- and three-dimensional geometric figures. I can draw transformation images including reflections, rotations and translations. I can use concepts of symmetry, congruency, similarity, scale, perspective and angles in practical situations.
9 B. Identify, describe, classify and compare relationships using points, lines, planes and solids.	I can identify, describe, classify and compare two- and three-dimensional geometric figures and models.
9 C. Construct convincing arguments and proofs to solve problems.	I can develop and explain informal proofs. I can develop and solve problems using geometric relationships and models.
9 D. Use trigonometric ratios and circular functions to solve problems.	I can compute distances, lengths and measures of angles using proportions. I can use the Pythagorean theorem.

Middle School Mathematics

GOAL 10	STUDENT LANGUAGE
Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.	I can collect, organize and analyze data, predict results and interpret uncertainty using concepts of probability.
Learning Standards	
10 A. Organize, describe and make predictions from existing data.	<p>I can construct, read and interpret tables, graphs and charts.</p> <p>I can compare the mean, median, mode and range.</p> <p>I can test and explain the reasonableness of conclusions based on data.</p>
10 B. Formulate questions, design data collection methods, gather and analyze data and communicate findings.	I can formulate questions, design data collection methods and gather data. I can analyze data and support and explain conclusions.
10 C. Determine, describe and apply the probabilities of events.	I can apply counting principles, simple probability and odds of events to solve problems.

Early High School Mathematics

GOAL 6	STUDENT LANGUAGE
Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.	I can apply my knowledge of numbers.
Learning Standards	
6 A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.	I can read, write and compare rational and irrational numbers. I can read and write complex numbers.
6 B. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.	I can apply primes, common factors, divisors, common multiples, roots, exponents, absolute values and scientific notation to solve problems. I can add, subtract, multiply and divide real and complex numbers accurately.
6 C. Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers	I can make reasonable estimates and determine if an answer is logical. I can determine when to use an estimate or an exact answer. I can determine when to use mental math, paper and pencil, a calculator or a computer.
6 D. Solve problems using comparison of quantities, ratios, proportions and percents.	I can use ratios, proportions and percents to solve problems.

Early High School Mathematics

GOAL 7	STUDENT LANGUAGE
Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.	I can make, use and estimate measurements of objects, quantities and relationships.
Learning Standards	
7 A. Measure and compare quantities using appropriate units, instruments and methods.	I can measure accurately, compare measurements and change from one unit to another within the United States customary system and within the metric system..
7 B. Estimate measurements and determine acceptable levels of accuracy.	I can estimate measurements closely.
7 C. Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.	I can model, calculate and apply perimeter, area, volume and surface area. I can construct a scale drawing.
GOAL 8	STUDENT LANGUAGE
Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.	I can use algebraic and analytical methods to identify and describe patterns and relationships, solve problems and predict results.
Learning Standards	
8 A. Describe numerical relationships using variables and patterns.	I can recognize and describe patterns and solve problems with them.
8 B. Interpret and describe numerical relationships using tables, graphs and symbols.	I can solve problems with patterns, graphs, tables, symbols and algebraic properties.
8 C. Solve problems using systems of numbers and their properties.	I can use polynomial, exponential, logarithmic and trigonometric functions to model situations and solve problems.
8 D. Use algebraic concepts and procedures to represent and solve problems.	I can use polynomial, exponential, logarithmic and trigonometric functions to model situations and solve problems.

Early High School Mathematics

GOAL 9	STUDENT LANGUAGE
Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.	I can use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.
Learning Standards	
9 A. Demonstrate and apply geometric concepts involving points, lines, planes and space.	I can describe and apply geometric concepts to solve problems in other situations.
9 B. Identify, describe, classify and compare relationships using points, lines, planes and solids.	I can recognize and apply angle and shape relationships.
9 C. Construct convincing arguments and proofs to solve problems.	I can construct and test logical arguments to solve problems.
9 D. Use trigonometric ratios and circular functions to solve problems.	I can analyze and solve problems using trigonometric ratios.
GOAL 10	STUDENT LANGUAGE
Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.	I can collect, organize and analyze data, predict results and interpret uncertainty using concepts of probability.
Learning Standards	
10 A. Organize, describe and make predictions from existing data.	I can collect, organize, display and compare data. I can communicate results and conclusions from data and make predictions.
10 B. Formulate questions, design data collection methods, gather and analyze data and communicate findings.	I can design and conduct surveys and collect, organize, display and compare data. I can communicate results and conclusions from data and make predictions to answer the questions posed by the surveys or experiments.
10 C. Determine, describe and apply the probabilities of events.	I can apply counting principles, probability and probability distributions to solve problems.

Late High School Mathematics

GOAL 6	STUDENT LANGUAGE
Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.	I can apply my knowledge of numbers.
Learning Standards	
6 A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.	I can read, write and compare rational and irrational numbers. I can read and write complex numbers.
6 B. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.	I can apply primes, common factors, divisors, common multiples, roots, exponents, absolute values and scientific notation to solve problems. I can add, subtract, multiply and divide real and complex numbers accurately.
6 C. Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers	I can make reasonable estimates and determine if an answer is logical. I can determine when to use an estimate or an exact answer. I can determine when to use mental math, paper and pencil, a calculator or a computer.
6 D. Solve problems using comparison of quantities, ratios, proportions and percents.	I can use ratios, proportions and percents to solve problems.

Late School Mathematics

GOAL 7	STUDENT LANGUAGE
Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.	I can make, use and estimate measurements of objects, quantities and relationships.
Learning Standards	
7 A. Measure and compare quantities using appropriate units, instruments and methods.	I can measure accurately, compare measurements and change from one unit to another within the United States customary system and within the metric system..
7 B. Estimate measurements and determine acceptable levels of accuracy.	I can estimate measurements closely.
7 C. Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.	I can model, calculate and apply perimeter, area, volume and surface area. I can construct a scale drawing.
GOAL 8	STUDENT LANGUAGE
Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.	I can use algebraic and analytical methods to identify and describe patterns and relationships, solve problems and predict results.
Learning Standards	
8 A. Describe numerical relationships using variables and patterns.	I can recognize and describe patterns and solve problems with them.
8 B. Interpret and describe numerical relationships using tables, graphs and symbols.	I can solve problems with patterns, graphs, tables, symbols and algebraic properties.
8 C. Solve problems using systems of numbers and their properties.	I can use polynomial, exponential, logarithmic and trigonometric functions to model situations and solve problems.
8 D. Use algebraic concepts and procedures to represent and solve problems.	I can use polynomial, exponential, logarithmic and trigonometric functions to model situations and solve problems.

Late School Mathematics

GOAL 9	STUDENT LANGUAGE
Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.	I can use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.
Learning Standards	
9 A. Demonstrate and apply geometric concepts involving points, lines, planes and space.	I can describe and apply geometric concepts to solve problems in other situations.
9 B. Identify, describe, classify and compare relationships using points, lines, planes and solids.	I can recognize and apply angle and shape relationships.
9 C. Construct convincing arguments and proofs to solve problems.	I can construct and test logical arguments to solve problems.
9 D. Use trigonometric ratios and circular functions to solve problems.	I can analyze and solve problems using trigonometric ratios.
GOAL 10	STUDENT LANGUAGE
Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.	I can collect, organize and analyze data, predict results and interpret uncertainty using concepts of probability.
Learning Standards	
10 A. Organize, describe and make predictions from existing data.	I can collect, organize, display and compare data. I can communicate results and conclusions from data and make predictions.
B. Formulate questions, design data collection methods, gather and analyze data and communicate findings.	I can design and conduct surveys and collect, organize, display and compare data. I can communicate results and conclusions from data and make predictions to answer the questions posed by the surveys or experiments.
10 C. Determine, describe and apply the probabilities of events.	I can apply counting principles, probability and probability distributions to solve problems.