

Urbana School District #116
FIFTH GRADE CORE EXPECTATIONS

MATHEMATICS

Illinois State Goal 6: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.

State Standard	District Core Expectations
6A: Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.	<ul style="list-style-type: none"> Identify and write numbers up to 100,000,000 Know place values to 100,000,000 Order and compare numbers up to 100,000,000 Order and compare fractions, decimals, and mixed numbers Identify and compare decimals (thousandths) Find whole numbers and $\frac{1}{2}$s, $\frac{1}{4}$s, and $\frac{1}{3}$s on a number line Describe numbers and their characteristics, including square numbers
6B: Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.	<ul style="list-style-type: none"> Solve problems and number sentences using all four operations Add and subtract fractions and decimals Multiply and divide up to three digit numbers Identify the commutative and distributive properties and use them to solve problems
6C: Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.	<ul style="list-style-type: none"> Make reasonable estimates with whole numbers, fractions, and decimals Solve a problem and write how it was solved
6D: Solve problems using comparison of quantities, ratios, proportions and percents.	<ul style="list-style-type: none"> Identify and use ratios correctly Compare percents, fractions, and decimals

Illinois State Goal 7: Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.

State Standard	District Core Expectations
7A: Measure and compare quantities using appropriate units, instruments and methods.	<ul style="list-style-type: none"> Solve problems with elapsed time (hours, minutes) Choose and use correct units and tools to measure length, volume, weight, and angle Measure to the nearest $\frac{1}{4}$" and mm Solve perimeter and area problems with missing sides for triangles, rectangles, and irregular shapes
7B: Estimate measurements and determine acceptable levels of accuracy.	<ul style="list-style-type: none"> Compare and estimate length, area, volume, mass, and angles
7C: Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.	<ul style="list-style-type: none"> Determine the volume of a solid figure using an appropriate formula Convert measurements within one system Use map scale to solve problems

Illinois State Goal 8: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems, and predict results.

State Standard	District Core Expectations
8A: Describe numerical relationships using variables and patterns.	<ul style="list-style-type: none"> Identify a rule to describe a pattern or sequence
8B: Interpret and describe numerical relationships using tables, graphs and symbols.	<ul style="list-style-type: none"> Demonstrate how a change in one quantity results in a change in another quantity
8C: Solve problems using systems of numbers and their properties.	
8D: Use algebraic concepts and procedures to represent and solve problems.	<ul style="list-style-type: none"> Write and solve expressions using letters or symbols

Illinois State Goal 9: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.

State Standard	District Core Expectations
9A: Demonstrate and apply geometric concepts involving points, lines, planes, and spaces.	<ul style="list-style-type: none"> Describe and classify 2D shapes according to their characteristics, including measure of interior angles Describe and classify 3D figures according to their characteristics (face, edge, vertex) Solve problems using the properties of triangles (sum of angles, side length) Sketch circles, including radius and diameter Plot and locate points on a grid, and describe paths of movement Sketch and identify all lines of symmetry in an object Identify and sketch right, acute, and obtuse angles
9B: Identify, describe, classify and compare relationships using points, lines, planes, and solids.	<ul style="list-style-type: none"> Predict the result of composing or decomposing shapes or figures Identify corresponding parts of similar figures
9C: Construct convincing arguments and proofs to solve problems.	NA
9D: Use trigonometric ratios and circular functions to solve problems	NA

Illinois State Goal 10: Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.

State Standard	District Core Expectations
10A: Organize, describe and make predictions from existing data.	<ul style="list-style-type: none"> Create and read tables, tally charts, bar graphs, pictographs, line graphs and circle graphs
10B: Formulate questions, design data collection methods, gather and analyze data and communicate findings.	<ul style="list-style-type: none"> Find the mean and median
10C: Determine, describe and apply the probabilities of events.	<ul style="list-style-type: none"> Show probability as a fraction Solve problems involving combinations (3 shirts, 2 pairs of pants = how many outfits?)

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