

Please note: Estimation and problem solving strategies should be included in number sense/computation, measurement and algebra standards.

NUMBER SENSE/COMPUTATION

Read, Write, and Represent Numbers

- _____ *Scientific notation *MA8-01*
- _____ *Translate between multiple representations of rational numbers *MA8-02*
- _____ *Exponents *MA8-03*

Order, Compare, and Locate on a Number Line

- _____ Rational numbers
- _____ *Irrational numbers *MA8-04*

Number Operations

- _____ *Solve problems, word problems, and number sentences *MA8-05*
 - *rational numbers
 - *exponents and roots
 - proportional reasoning (including scale drawings and indirect measurement)
 - percents
- _____ *Use order of operations and properties of operations to solve problems *MA8-06*
 - integers
 - exponents and roots
 - fractions
 - decimals

MEASUREMENT

Perform measurement conversion within the same system

- _____ Length
- _____ Mass/weight
- _____ Capacity
- _____ *Square Units *MA8-07*

Solve problems involving area and perimeter/circumference (may include sketching a figure from its description)

- _____ Polygons
- _____ Circles
- _____ Composite figures

Solve problems involving volume and surface area

- _____ Right rectangular prism
- _____ Right circular cylinder
- _____ Composite shape

ALGEBRA

Patterns

- _____ *Analyze, extend and create sequences, linear functions, or patterns using rate of change *MA8-08*
- _____ *Determine algebraic expressions to describe the nth term of a sequence *MA8-09*

Write, Simplify and Solve Expressions and Equations

- _____ *Algebraic expressions with one or more rational variable values *MA8-10*
- _____ *Generate equivalent forms of algebraic expressions *MA8-11*

Write, Graph and Solve Equations and Inequalities

- _____ *Linear equations and inequalities in one variable over the rational numbers *MA8-12*
- _____ *Identify, graph and interpret up to two inequalities on a number line *MA8-13*

Representations

- _____ Translate between different representations (table, written or pictorial)
- _____ *Interpret the meaning of slope and intercepts *MA8-14*

GEOMETRY

Coordinate Geometry

- _____ Graph points and identify coordinates (four quadrants)
- _____ Represent and identify geometric figures using coordinate geometry, including those resulting from transformations *MA8-27*

Solve Problems Involving 2-D and 3-D Shapes

- _____ Triangle inequality
- _____ *Pythagorean Theorem *MA8-15*
- _____ Relationships between pi, radius, diameter, circumference
- _____ Congruence and similarity
- _____ Identify front, side and top views of 3-D solids built with cubes

Lines, Segments, Rays, and Angles

- _____ Identify or analyze angle relationships formed by parallel lines cut by a transversal and radii of a circle

DATA ANALYSIS AND PROBABILITY

Read and Interpret Displays

- _____ *Create, read, interpret (including misleading characteristics), and make predictions *MA8-16*
 - Bar graph
 - Line (dot) plot
 - Venn diagram (2 or 3 circles)
 - Chart/table
 - Line graph
 - *Scatter plot (including line of best fit)
 - Circle graph
 - *Stem-and-leaf
 - Histogram

Probability

- _____ Solve problems involving repeated trials, compound events including independent events, or future events with or without replacement
- _____ Represent sample space for simple and compound events

INQUIRY

Scientific Inquiry

- _____ Report and display the process and results of a scientific investigation. *SC18-1*

Technological Design

- _____ Using available technology, report the relative success of the design based on the test results and criteria. *SC18-2*

LIFE SCIENCE

Life Processes

- _____ Explain the cellular processes of photosynthesis, respiration, diffusion, and osmosis. *SC18-3*

Continuity of Life

- _____ Explain the relationship between DNA, chromosomes and genes and how they relate to heredity. *SC18-4*

PHYSICAL SCIENCE

Particles

- _____ Describe relationships among atoms, molecules, elements, compounds and how they interact, as explained in the kinetic molecular theory. *SC18-5*

Machines, Work, and Energy

- _____ Apply concepts and solve problems with work and energy and how they relate to simple machines. *SC18-6*

EARTH SCIENCE

Oceans and Climate

- _____ Explain the concepts that describe the interactions between oceans, climates, and weather (e.g. density/convection currents, fronts, Greenhouse Effect, hurricanes, El Nino). *SC18-7*

CONNECTIONS

Science Practices

- _____ Identify and reduce potential hazards in science activities. *SC18-8*

S/T/S (Science, Technology and Society)

- _____ Explain how scientists create and introduce new technology and how it affects the world. *SC18-9*

At the end of the school year, students will be able to...