

MATH

SCIENCE

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

- _____ Exponents *MA7-01*
- Order, Compare, and Locate on a Number Line**
- _____ Integers *MA7-02*

Number Operations

- _____ Solve problems, word problems, and number sentences *MA7-03*
 - Integers (addition, subtraction, multiplication, division)
 - Decimals (addition, subtraction, multiplication, division)
 - Fractions (addition, subtraction, multiplication, division)
 - Proportional reasoning (including scale factor)
 - Percents
- _____ Use order of operations and properties of operations to solve problems *MA7-04*
 - Whole numbers
 - Fractions
 - Decimals
 - Exponents

MEASUREMENT

Solve Problems Involving Area, Perimeter (may include sketching a figure from its description)

- _____ Polygons *MA7-05*
- _____ Composite figures *MA7-06*
- _____ Circles *MA7-07*
- _____ Irregular shapes *MA7-08*

Solve problems involving volume and surface area

- _____ Right rectangular prism *MA7-09*
- _____ Cylinder *MA7-10*

ALGEBRA

Patterns

- _____ Describe, extend and make generalizations about geometric and numeric patterns with at least one and two or more operations *MA7-11*

Write, Simplify or Solve Expressions

- _____ Algebraic expressions with one or more integer variable values *MA7-12*

Write, Solve and Graph Equations and Inequalities

- _____ Linear equations in one variable *MA7-13*

Representations

- _____ Translate between different representations (table, written or graph) of whole number relationships *MA7-14*
- _____ Interpret the meaning of specific parts of a graph *MA7-15*
- _____ Identify, graph and interpret inequalities on a number line *MA7-16*

GEOMETRY

Coordinate Geometry

- _____ Graph, locate, identify points, describe paths, and plot figures using ordered pairs *MA7-17*

Solve Problems Involving 2-D Shapes

- _____ Analyze results of a combination of transformations *MA7-18*

Congruence and Similarity

- _____ Describe the difference between congruence and similarity *MA7-19*
- _____ Make and compare similar and corresponding figures *MA7-20*

DATA ANALYSIS AND PROBABILITY

Read and Interpret Displays

- _____ Collect and organize data in a table *MA7-21*
- _____ Read, interpret, represent, and make predictions in *MA7-22*
 - bar graph
 - line (dot) plot
 - Venn diagram (2 and 3 circles)
 - chart/table
 - line graph
 - circle graph

- _____ Use properties of distributions to describe variability *MA7-23*

- _____ Describe the difference between numerical and categorical data *MA7-24*

Statistics

- _____ Determine range, mode, median, and mean given a set of data or a graph *MA7-25*

Probability

- _____ Represent the solution of the probability of a simple event as a fraction, decimal, or percent *MA7-26*
- _____ Apply the fundamental counting principal *MA7-27*

INQUIRY

Scientific Inquiry

- _____ Interpret, draw conclusions and report the results of a scientific investigation. *Sc7-01*

Technological Design

- _____ Evaluate the test results based on established criteria and recommend improvements. *Sc7-02*

LIFE SCIENCE

Environmental Science

- _____ Identify the organisms in a food chain or food web as either producers or consumers, and describe their role in the community. *Sc7-03*
- _____ Interpret diagrams of cycles in nature (e.g. water cycle, carbon cycle, nitrogen cycle). *Sc7-04*
- _____ Compare and contrast land biomes on Earth. *Sc7-05*
- _____ Discuss major environmental problems and possible solutions. *Sc7-06*
- _____ Compare renewable and nonrenewable resources, ways they can be conserved and possible alternatives. *Sc7-07*

PHYSICAL SCIENCE

Interactions of Matter

- _____ Identify the number of valence electrons in an atom and how this relates to bonding. *Sc7-08*
- _____ Compare and contrast ionic, covalent and metallic bonds. *Sc7-09*
- _____ Describe how chemical reactions produce new substances with different chemical and physical properties. *Sc7-10*
- _____ Interpret simple formulas and equations. *Sc7-11*
- _____ Compare and contrast acids and bases (e.g. properties, formulas, household examples, pH, reaction to litmus.) *Sc7-12*

EARTH SCIENCE

Inside the Restless Earth

- _____ Compare and contrast rocks and minerals, describe their properties and tests to identify them. *Sc7-13*
- _____ Describe the formation and characteristics of igneous, sedimentary and metamorphic rocks. *Sc7-14*
- _____ Identify types and formations of fossils and what they tell us about the past. *Sc7-15*
- _____ Identify the layers of the Earth by their physical properties. *Sc7-16*
- _____ Explain the effects that plate tectonics has on the Earth's crust (e.g. faults, folds, uplift, volcanoes, earthquakes). *Sc7-17*

Astronomy

- _____ Describe early ideas of the structure of the universe and the contributions of important scientists to our understanding of it. *Sc7-18*
- _____ Describe the characteristics of stars. *Sc7-19*
- _____ Describe the structure, formation and movement of the sun and the members of the solar system. *Sc7-20*
- _____ Compare and contrast characteristics of the inner and outer planets, including the effects of gravity and motion *Sc7-21*
- _____ Explain how the position of the moon, Earth and sun results in various moon phases and eclipses. *Sc7-22*

CONNECTIONS

Science Practices

- _____ Demonstrate lab safety procedures and accepted practices of science. *Sc7-23*

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

- _____ Describe the important contributions of different ethnic and gender groups to science and technology. *Sc7-24*
- _____ Identify science-related careers and the skills/education needed for them. *Sc7-25*
- _____ Investigate a program (e.g. recycling, protecting endangered animals, alternative fuels) and describe the costs and benefits. *Sc7-26*