Rockford Public Schools - Math and Science Power Standards

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

MATH

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

_____ Read, write, recognize and model equivalent representations -
whole numbers up to 1,000,000 *MA4-01*
- fractions

Order and Compare Numbers

_____ Whole numbers up to 100,000 *MA4-02*
_____ Order and compare decimals through hundredths *MA4-03*
_____ Fractions with like denominators *MA4-04*

Number Operations

_____ Master basic facts and solve problems, word problems, and number sentences *MA4-05*
- addition with regrouping
- subtraction with regrouping
- money up to $100.00
- multiplication up to 3 digit by 1 digit

_____ Model and apply knowledge of basic facts *MA4-06*
- multiplication (up to 12 X 12) and apply them to related multiples
- division (up to 12 X 12) and apply them to related multiples

MEASUREMENT

Use Measurement Tools and Units

_____ Length (nearest 1/2 inch or cm) *MA4-07*
_____ Time (elapsed in compound units) *MA4-08*
_____ Temperature *MA4-09*

Solve Problems Involving Area, Perimeter, and Volume

_____ Polygons *MA4-10*
_____ Irregular shapes *MA4-11*
_____ 3-D shapes when cubic units are shown *MA4-12*

Measurement Conversions

_____ Perform conversions within the same measurement system *MA4-13*
- time
- length
- weight/mass

ALGEBRA

Patterns

_____ Determine a missing term in a pattern and extend geometric and numeric patterns *MA4-14*

Write Equations, and Inequalities

_____ Create simple number sentences and solve simple equations *MA4-15*
- equalities
- inequalities
- expressions using a variable

GEOMETRY

Coordinate Geometry

_____ Graph, locate, and identify points using ordered pairs (first quadrant) *MA4-16*

Transformations

_____ Identify images resulting from flips (reflections), slides (translations), or turns (rotations) *MA4-17*

Lines, Segments, Rays, and Angles

_____ Identify and sketch parallel and perpendicular lines and right angles *MA4-18*
_____ Identify and describe 2-D and 3-D shapes according to their characteristics - number of sides, length of sides, vertices, right angles, faces, edges, vertices *MA4-19*

DATA ANALYSIS AND PROBABILITY

Read and Interpret Displays

_____ Read, interpret and represent data in *MA4-20*
-pictograph
- line (dot) plot
- tally chart
- line graph
- bar graph
- Venn diagram (2 circles)
- table
- circle graph

Probability

_____ Classify or describe probability using words such as certain, most likely, equally likely, possible, impossible, and 2 out of 3 chance or 2/3 *MA4-21*

SCIENCE

INQUIRY

Scientific Inquiry

_____ Construct charts, graphs, and visualizations to display and interpret data. *Sc4-01*

Technological Design

_____ Test the design using given instruments, techniques, and quantitative measurement methods. *Sc4-02*

LIFE SCIENCE

Plant Structure and Function

_____ Identify structure and function of parts of a flower. *Sc4-03*

Animal Structure and Function

_____ Compare similarities and differences of young animals to their parents. *Sc4-04*

Energy in Ecosystems

_____ Explain the concept of food chains and webs and the related classifications of plants and animals (e.g. consumers, decomposers, producers, herbivores, carnivores and omnivores). *Sc4-05*

Surviving in the Environment

_____ Know that the world contains many kinds of environments and that different animals and plants are suited to live in different environments. *Sc4-06*

PHYSICAL SCIENCE

Measuring Matter

_____ Identify that an increase in temperature generally causes things to expand, and that a decreases in temperature causes things to contract and that particles move more slowly in a solid than they do in a liquid or a gas. *Sc4-07*

Electricity and Matter

_____ Understand that current electricity is different from static electricity and and identify the how a a circuit can be constructed to make a bulb light. *Sc4-08*

Light and Sound

_____ Describe how lighter colors reflect more light, darker colors reflect less light, and the color of an object is determined by what kind of light is reflected as opposed to what light is absorbed. *Sc4-09*

Force and Motion

_____ Define force and describe what occurs when balanced and unbalanced. *Sc4-10*

EARTH SCIENCE

Measuring Weather

_____ Explain how temperature, air pressure, wind speed and wind direction are measured. *Sc4-11*

Makeup of the Earth

_____ Recognize the differences between renewable & nonrenewable resources and the sources of fossil fuels. *Sc4-12*

Movements of the Solar System

_____ Identify positions of the earth, sun, and moon in the various types of eclipses and phases of the moon. *Sc4-13*

HUMAN BODY

Digestive, Circulatory and Nervous Systems

_____ Describe how the digestive, circulatory, and nervous systems work *Sc4-14*

Keeping Your Body Systems Healthy

_____ Describe how to keep the digestive, circulatory, and nervous systems healthy. *Sc4-15*

CONNECTIONS

Science Practices

_____ Recognize that scientists share results so they can build upon what they learn from others. *Sc4-16*

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

_____ Identify basic science instruments and their function (e.g. ruler, balance, graduated cylinder, clock, stopwatch, thermometer, microscope, and telescope). *Sc4-17*