



Kindergarten Mathematics: MA.K.

Big Idea 1: Algebra

___ A.1.1 Represent quantities with numbers up to 20, verbally, in writing, and with manipulative

___ A.1.2 Solve problems including those involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering, and by creating sets up to 20

___ A.1.3 Solve word problems involving simple joining and separating situations

Supporting Idea 4: Algebra

___ A.4.1 Identify and duplicate simple number and non-numeric repeating and growing patterns

Big Idea 2: Geometry

___ G.2.1 Describe, sort objects using a variety of attributes

___ G.2.2 Identify, name, describe two-dimensional shapes

___ G.2.3 Identify, name, describe three-dimensional shapes

___ G.2.4 Interpret/describe world with geo shapes and vocab

___ G.2.5 Use basic shapes, spatial reasoning, and manipulatives to model objects in the environment and to construct more complex shapes

Big Idea 3: Geometry

___ G.3.1 Compare and order objects indirectly or directly using measurable attributes such as length, height, and weight

Supporting Idea 2: Geometry

___ G.5.1 Demonstrate an understanding of the concept of time using identifiers such as morning, afternoon, day, week, month, year, before/after, shorter/longer

First Grade Mathematics: MA.1.

Big Idea 1: Algebra

___ A.1.1: Model addition and subtraction situations using the concepts of "part-whole," "adding to," "taking away from," "comparing," and missing addend."

___ A.1.2: Identify, describe, and apply addition and subtraction as inverse operations.

___ A.1.3: Create and use increasingly sophisticated strategies, and use properties such as Commutative, Associative and Additive Identity, to add whole numbers

___ A.1.4: Use counting strategies, number patterns, and models as a means for solving basic addition and subtraction fact problems

Big Idea 2: Algebra

___ A.2.1: Compare and order whole numbers at least to 100

___ A.2.2: Represent two digit numbers in terms of tens and ones

___ A.2.3: Order counting numbers, compare their relative magnitudes, and represent numbers on a number line

Supporting 4: Algebra

___ A.4.1: Extend repeating and growing patterns, fill in missing terms, and justify reasoning.

Supporting Idea 6: Algebra

___ A.6.1: Use mathematical reasoning and beginning understanding of tens and ones, including the use of invented strategies, to solve two-digit addition and subtraction problems.

___ A.6.2: Solve routine and non-routine problems by acting them out, using manipulatives, and drawing diagrams.

Big Idea 3: Geometry

___ G.3.1: Use appropriate vocabulary to compare shapes according to attributes and properties such as number and lengths of sides and number of vertices.

___ G.3.2: Compose and decompose plane and solid figures, including making predictions about them, to build an understanding of part-whole relationships and properties of shapes.

Supporting Idea 5: Geometry

___ G.5.1: Measure by using iterations of a unit, and count the unit measures by grouping units.

___ G.5.2: Compare and order objects according to descriptors of length, weight, and capacity.

Second Grade Mathematics: MA.2.

Big Idea 1

___ A.1.1 Identify relationships between the digits and place values through the thousands, counting by tens and hundreds

___ A.1.2 Identify/name numbers through thousands in terms of place value, apply this knowledge to expanded notation

___ A.1.3 Compare/order multi-digit numbers to thousands

Big Idea 2

___ A.2.1 Recall basic addition and related subtraction facts

___ A.2.2 Add and subtract multi-digit whole numbers through three digits with fluency by using a variety of strategies

___ A.2.3 Estimate solutions to multi-digit addition and subtraction problems through three digits

___ A.2.4 Solve addition and subtraction problems that involve measurement and geometry

Big Idea 3

___ G.3.1 Estimate and use standard units, including inches and centimeters, to partition and measure lengths of objects

___ G.3.2 Describe the inverse relationship between the size of a unit and number of units to measure a given object

___ G.3.3 Apply the Transitive Property when comparing lengths of objects.

___ G.3.4 Estimate, select an appropriate tool, measure, and/or compute lengths to solve problems

Big Idea 4

___ A.4.1 Extend number patterns to build a foundation for understanding multiples and factors – for example, skip counting by 2's, 5's, 10's

___ A.4.2 Classify numbers as odd or even and explain why.

___ A.4.3 Generalize numeric and non-numeric patterns using words and tables

___ A.4.4 Describe and apply equality to solve problems

___ A.4.5 Recognize and state rules for functions that use addition and subtraction

Big Idea 5

___ G.5.1 Use geometric models to know relationships between wholes and their parts as foundation to fractions

___ G.5.2 Identify time to the nearest hour and half hour

___ G.5.3 Identify, combine, and compare values of money in cents up to \$1 and in dollars up to \$100

___ G.5.4 Measure weight/mass and capacity/volume of objects with the use of unit of measure and abbreviations

Big Idea 6

___ A.6.1 Solve problems that involve repeated addition.



**Kindergarten Science
SC.K.**

Big Idea 1: Practice of Science

- ___ N.1.1: Collaborate with a partner to collect information.
- ___ N.1.2: Make observations of the natural world and know that they are descriptors collected using the five senses.
- ___ N.1.3: Keep records of investigations conducted
- ___ N.1.4: Observe and create a visual representation of an object which includes its major feature
- ___ N.1.5: Recognize that learning can come from careful observation

Big Idea 2: Earth in Space and Time

- ___ E.5.1: Explore the Law of Gravity by investigating how objects are pulled toward the ground unless something holds them up
- ___ E.5.2: Recognize the repeating pattern of day and night
- ___ E.5.3: Recognize that the Sun can only be seen in the daytime
- ___ E.5.4: Observe that sometimes the Moon can be seen at night and sometimes during the day.
- ___ E.5.5: Observe that things can be big and things can be small as seen from Earth
- ___ E.5.6: Observe that some objects are far away and some are nearby as seen from Earth.

Big Idea 8: Properties of Matter

- ___ P.8.1: Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light) and texture

Big Idea 9: Changes in Matter

- ___ P.9.1: Recognize that the shape of materials such as paper and clay can be changed by cutting, tearing, crumpling, smashing, or rolling

Big Idea 10: Forms of Energy

- ___ P.10.1: Observe that things that make sound vibrate

Big Idea 12: Motion of Objects

- ___ P.12.1: Investigate that things move in different ways, such as fast, slow

Big Idea 13: Forces and Changes in Motion

- ___ P.13.1: Observe that a push or a pull can change the way an object is moving

Big Idea 14: Organization of Living Organisms

- ___ L.14.1: Recognize the five senses and related body parts
- ___ L.14.2: Recognize that some books and other media portray animals and plants with characteristics and behaviors they do not have in real life
- ___ L.14.3: Observe plants and animals, describe how they are alike and how they are different in the way they look and in the things they do

**First Grade Science
SC.1.**

Big Idea 14: Organization of Living Organisms

- ___ L.14.1: Make observations of living things and their environment using the five senses
- ___ L.14.2: Identify the major parts of plants, including stem, roots, leaves, and flowers
- ___ L.14.3: Differentiate between living and nonliving things

Big Idea 16: Heredity and Reproduction

- ___ L.16.1: Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population

Big Idea 17: Interdependence

- ___ L.17.1: Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space

Big Idea 8: Properties of Matter

- ___ P.8.1: Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float

Big Idea 12: Motion of Objects

- ___ P.12.1: Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow

Big Idea 13: Forces and Changes in Motion

- ___ P.13.1: Demonstrate that the way to change the motion of an object is by applying a push or a pull

Big Idea 5: Earth in Space and Time

- ___ E.5.1: Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky
- ___ E.5.2: Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object
- ___ E.5.3: Investigate how magnifiers make things appear bigger and help people see things they could not see without them
- ___ E.5.4: Identify beneficial / harmful properties of the Sun

Big Idea 6: Earth Structures

- ___ E.6.1: Recognize that water, rocks, soil, and living organisms are found on Earth's surface.
- ___ E.6.2: Describe the need for water and how to be safe around water
- ___ E.6.3: Recognize that some things in the world around us happen fast and some happen slowly

Big Idea 1: Practices of Science

- ___ N.1.1: Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations
- ___ N.1.2: Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others
- ___ N.1.3: Keep records as appropriate - such as pictorial and written records - of investigations conducted
- ___ N.1.4: Ask "how do you know?" in appropriate situations



Second Grade Science
SC.2.

Big Idea 1: Nature of Science

- ___ N.1.1: Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations
- ___ N.1.2: Compare the observations made by different groups using the same tools
- ___ N.1.3: Ask "how do you know?" in appropriate situations and attempt reasonable answers
- ___ N.1.4: Explain how particular scientific investigations should yield similar conclusions when repeated.
- ___ N.1.5: Distinguish between empirical observation (what you see, hear, feel, smell, or taste) and ideas or inferences
- ___ N.1.6: Explain how scientists alone or in groups are always investigating new ways to solve problems

Big Idea 6: Earth Structures

- ___ E.6.1 Recognize that Earth is made up of rocks. Rocks come in many sizes and shapes
- ___ E.6.2 Describe how small pieces of rock and dead plant and animal parts can be the basis of soil and explain the process by which soil is formed
- ___ E.6.3 Classify soil types based on color, texture, the ability to retain water, and to support the growth of plants

Big Idea 7: Earth Systems and Patters

- ___ E.7.1 Compare and describe changing patterns in nature that repeat themselves, such as weather conditions: temp and precipitation, day to day and season to season
- ___ E.7.2 Investigate by observing and measuring, that the Sun's energy directly and indirectly warms the water, land, air
- ___ E.7.3 Investigate, observe and describe how water left in an open container disappears (evaporates), but water in a closed container does not disappear
- ___ E.7.4 Know that air is all around us, moving air is wind
- ___ E.7.5 State the importance of preparing for severe weather, lightning, and other weather related events.

Big Idea 8: Properties of Matter

- ___ P.8.1 Observe and measure objects, including size, shape, color, temperature, weight, texture, sinking/floating in water, & attraction/repulsion of magnets
- ___ P.8.2 Identify objects/materials as solid, liquid, gas
- ___ P.8.3 Recognize that solids have a definite shape and that liquids and gases take the shape of their container
- ___ P.8.4 Observe/describe water in solid, liquid, gas states
- ___ P.8.5 Measure/compare temp taken daily at same time
- ___ P.8.6 Measure/compare volume of liquids using containers of various shapes and sizes

Big Idea 9: Changes in Matter

- ___ P.9.1 Investigate that materials can be altered to change some of their properties, but not all materials respond the same way to any one alteration

Big Idea 10: Forms of Energy

- ___ P.10.1 Discuss that people use electricity or other forms of energy to cook food, cool/warm homes, power cars

Big Idea 13: Forces and Change in Motion

- ___ P.13.1 Investigate effect of various pushes/pulls on different objects
- ___ P.13.2 Demonstrate that magnets can be used to make some things move without touching them.

___ P.13.3 Recognize that objects are pulled toward the ground unless something holds them up.

___ P.13.4 Demonstrate that the greater the force applied to an object, the greater the change in motion of the object

Big Idea 14: Organization of Living Organisms

___ L.14.1 Distinguish human body parts & basic functions

Big Idea 16: Heredity and Reproduction

___ L.16.1 Observe and describe major stages in the life cycles of plants and animals, including beans and butterflies.

Big Idea 17: Interdependence

___ L.17.1 Compare and contrast the basic needs that all living things, including humans, have for survival

___ L.17.2 Explain that living things are found all over Earth, but only able to live in habitats that meet its basic needs