

The Rubicon Academy

History and Geography

"We should take advantage of children's natural curiosity and begin early to broaden their horizons by introducing them to a broad range of knowledge about other people, places, and times. In starting at an early age to teach children about history and geography, we can foster the beginnings of understanding about the world beyond children's immediate surroundings, and about varied people and ways of life. We can also begin to develop children's sense of our nation's past and its significance." -

E.D. Hirsch, Author of *Cultural Literacy*

Here is a **brief summary** of the History and Geography curriculum for Pre-K through 5th Grade.

• Pre-K,/Kindergarten

By working with maps and globes students learn to identify and locate the seven continents, the oceans, the poles, the city, state, and country in which they live. Their knowledge of the continents is reinforced with familiar landmarks and plant and animal life on each continent. They learn about Native Americans, early exploration and settlement of this country, stories about some American presidents, and national symbols.

Children are introduced to the beginnings of Constitutional government in America, James Madison and "we the people" govern ourselves. They learn about the War of 1812, westward expansion of the nation, and the story of the Civil War. Through narrative and biography they are introduced to the importance of immigration to our country. In connection with these historical studies, children learn about the geography of the Americas.

Study continues with a brief look at the French and Indian War, an extended look at the American Revolution, the making of a constitutional government, early presidents and politics, and ideas and people in social reform movements before the Civil War.

• Kindergarten/First Grade

Children learn more about maps and globes. They review the seven continents and major oceans, learn about the major directions, geographic terms, and places relevant to what they are studying. Students begin their study of ancient civilizations and are introduced to ancient Egypt. Since religion is so important in the story of civilization, children are introduced to the history of major religions. Kindergarteners study about very early hunters and nomads who crossed from Asia to North America. They are instructed in the topics of American colonization, the American Revolution, Thomas Jefferson and the Louisiana Purchase, and more national symbols.

• Second Grade/Third Grade

In second grade children build on their earlier study of Greece and learn about Ancient Rome. They learn about the legend of Romulus and Remus, and how the Romans adapted the Greek religion. They are introduced to Julius Caesar and explore life in the Roman Empire. Students learn about the Vikings in connection with their Language Arts study of Norse mythology. Their study of world geography includes important rivers of the world, the use of atlases, and bar scales to measure distance. Children continue to learn about Native Americans, early explorers, and the settlement of the original thirteen colonies.

• Fourth Grade/Fifth Grade

Having been introduced in Kindergarten to the Aztec, Maya, and Inca civilizations, children in fourth grade now learn more about their achievements, ways of life, and beliefs. Children begin studying the causes and consequences of European exploration, trade, and clash of cultures. Fourth graders begin their study of the Renaissance. By meeting Copernicus and Galileo, they learn about the conflicts between science and the church. They learn about the great artists of the Renaissance in their Visual Arts study and read from *Don Quixote* and a *Midsummer's Night Dream* in Language Arts. Children continue their study of world history with an introduction to the Reformation. They learn about some turning points in the history of England. They look back to the history of feudal Japan and learn about the early growth of Russia. To their work with maps and globes, children add new knowledge about time zones, great lakes, and an overview of the political geography of Europe. Children will study the Civil War in greater detail, the Reconstruction era, and the American West after the Civil War. As part of their studies, children review the geography of the U.S., including a cumulative review of all fifty states and capitals.

• First Grade/Second Grade

In first grade children extend their knowledge of ancient civilizations and world religions. They learn major geographical features of Asia, and as they learn about India they are introduced to Hinduism and Buddhism. They learn about China, including Confucius, the building of the Great Wall, and important inventions. Students become familiar with modern civilization and culture in Japan and ancient Greece in connection to their Language Arts literature study.

• Third Grade/Fourth Grade

In third grade children are introduced to the history of Europe including the Middle Ages. They are introduced to the developments of the Christian church, the spread and development of Islamic civilization, and the history of early and medieval African kingdoms. They continue to build upon their knowledge of Ancient Egypt, the medieval dynasties of China, and the geography of Africa. The children expand their work with maps and globes, learning about latitude and longitude, the Prime Meridian, the International Date Line, and the representations of elevations and depressions on relief maps.

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Language Arts

In the primary grades, Pre-K through third grade, an emphasis is placed on teaching children to read. As Elizabeth McPike of the American Federation of Teachers has put it:

If a child in a modern society like ours does not learn to read, he doesn't make it in life. If he doesn't learn to read well enough to comprehend what he is reading, if he doesn't learn to read effortlessly enough to render reading pleasurable, if he doesn't learn to read fluently enough to read broadly and reflectively across all content areas, his chances for a fulfilling life, by whatever measure- academic success, financial success, the ability to find interesting work, personal autonomy, self-esteem – are practically nil.

Here is a **brief summary** of the main topics in the Language Arts program for Pre-K through 5th Grade.

• Pre-K/Kindergarten

Children are taught to recognize, name, and write the letters of the alphabet, to decode letter-sound relationships, read simple phonetic stories, engage in oral language activities, and to express themselves in print. They are introduced through reading aloud to a varied selection of poetry, literature, and children's classics.

• Kindergarten:/First Grade

Children continue systematic instruction and practice in decoding letter-sound relationships, working toward the goal of more independent reading and writing. They master common sight words, read phonetic stories, and with assistance, they read "beginning reader" books. They are offered many opportunities to express themselves in print. They practice handwriting, dictation, and learn some conventions of written language, including capitalization, end punctuation, making words plural by adding s, and writing common contractions. They practice going over what they have written and correcting their mistakes. The children are introduced to a varied selection of poetry, literature, and classic selections. They take part in a drama and learn about some terms and conventions of drama.

• First Grade/Second Grade

Children continue systematic instruction and practice in decoding letter-sound relationships. There is regular practice in spelling and vocabulary enrichment, handwriting, and

sentence dictation. A balance is struck between creativity and the correct use of conventions: spelling, capitalization, end punctuation, and complete sentences. Nouns, verbs, common prefixes and suffixes, antonyms and synonyms, and familiar

abbreviations are introduced. Through a combination of reading aloud and independent reading the children are introduced to a varied selection of literature, (Greek myths, tall tales, stories from around the world) poetry, and classics. They learn more about the terms and conventions of drama, including comedy and tragedy, playwright, theater, stage, act, and scene.

• Second Grade/Third Grade

Independent reading and writing are encouraged. Reading instruction continues with systematic attention to decoding skills as needed. Children practice giving speeches and are given regular practice with spelling and vocabulary enrichment. They refine their handwriting skills and continue writing from dictation by the teacher. They are offered many opportunities for writing both imaginary and expository essays. They learn more grammar and conventions of the written language, including parts of speech, sentence types, helping verbs, homonyms, and letter writing. Through a combination of reading aloud and independent reading, they are introduced to a variety of literature: poetry, Greek and Roman mythology, Norse mythology (in connection with their study of the Vikings). The children learn how to use the library.

• Third Grade/Fourth Grade

Independent reading and writing are encouraged. Children practice giving speeches. They are given regular practice with spelling and vocabulary enrichment. They continue to use the library and learn what a bibliography is. They are offered many opportunities for both creative and expository writing, in various contents and subject areas, with a stronger emphasis than previous grades on expository writing, including summaries, book reports, and essays. They learn how to organize and develop a brief essay and the paragraphs in it. They enjoy poetry, stories from around the world, classics, literature in connection with Colonial times and the Middle Ages.

• Fourth Grade/Fifth Grade

Children are given more responsibility for editing and revising their essays. They study more grammar and conventions of writing. Students learn and apply literary terms and concepts. They learn about pen names, figurative language, alliteration and onomatopoeia. Children read stories from around the world, Indian legends, Japanese folktales, and study the Renaissance selections from *Don Quixote* and Shakespeare's *A Midsummer's Night Dream*.

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Mathematics

"Learning math is in some ways like learning to read. Both are mostly unnatural activities; they require the brain and mind to do things they are not designed by nature to do. Because almost all math knowledge is unnatural knowledge, it is not something that children discover; rather it is something that must be taught." –

E.D. Hirsch, Author of *Cultural Literacy*

Here is a **brief summary** of the mathematics curriculum for Pre-K through 5th Grade.

• Pre-K/Kindergarten

Children work with patterns and classification, both with concrete objects and pictorial representations. They learn the concepts of more than, less than, equal to, most, and least. They count to 50 by ones, twos, fives, and tens. They learn to identify one-half of a set. They identify and work with money, add and subtract to ten, identify familiar tools of measurement and their function, and begin to measure length in nonstandard units and then inches. They compare the weight of objects, the capacity of containers, and temperatures. They learn to read a clock face to the hour, learn the days of the week, and the months of the year. They identify basic plane figures and learn terms of relative orientation and position.

• Kindergarten/First Grade

Children define sets, count and write numbers to 100, count by twos, fives, and tens. They identify ordinal position, a dozen and half-dozen, and pairs. They are introduced to the concept of place value, recognize one-half, one-third, one-fourth, and interpret simple graphs. They show how different combinations of coins equal the same amounts of money. Children learn their addition and subtraction facts up to 12 and practice them until mastered. They learn about zeros and two-digit addition and subtraction without regrouping. They learn to solve basic one step story and picture problems. Students learn more about measurement and geometrical skills.

• First Grade/Second Grade

Children learn to recognize and write numbers to 1000. They count by twos, threes, fives, tens, and hundreds. They

continue to develop their understanding of place value, writing numbers in expanded form, and rounding to the nearest ten. Students create and interpret simple bar graphs, practice with fractions: one-half, one-third, one-fourth, one-fifth, one-sixth, one-eighth, and one-tenth. They continue working with money values, computing with mastery to 18, two and three digit addition and subtraction without regrouping. Children begin studying multiplication, measuring in linear units, estimate and measure liquid volumes, solve simple word problems, and measure and record temperature. Students tell time to five-minute intervals, solve problems on elapsed time, and reinforce topics in geometry.

• Second Grade/Third Grade

Second graders learn to read and write numbers up to six digits. They practice identifying place value to hundred thousands and learn to order and compare numbers. They identify perfect squares and square roots to 100, read Roman numerals to twenty, are introduced to the concept of negative numbers, and create and interpret bar and line graphs. Mastery of addition and subtraction facts is expected, computation both with and without regrouping, multiplying two whole numbers with and without regrouping, and division facts to ten. Second graders continue practice with linear and liquid measurements. They reinforce topics in geometry and learn about angles, area, and perimeter.

• Third Grade/Fourth Grade

Third graders read and write numbers up to nine digits and recognize place value to one hundred million. They round to the nearest thousand and learn Roman

numerals from 1 to 1000. They plot points on a coordinate plane, using ordered pairs of positive whole numbers. They review and extend earlier work with fractions and decimals and by third grade should have mastered all basic whole number operations. They learn to identify factors of a given number as well as common factors of two numbers. Third graders practice solving two step word problems and extend earlier work with measurement. Children expand their knowledge of geometry and learn to compute volume.

• Fourth / Fifth Grade

Fourth graders read and write numbers up to the hundred billions and round to the nearest hundred thousand. They learn to identify prime numbers less than 50, to determine the greatest common factor, as well as the least common multiple. Students are introduced to ratio and percent. Work is continued with fractions and decimals. Children review and practice measurement and solve problems involving different units requiring conversion. Further work with geometry includes measuring the degrees of angles, identifying and constructing different kinds of triangles, and finding the area of triangles and parallelograms using formulas. Students are introduced to the concept of probability, and organizing data in graphic form. They learn to recognize variables and solve simple equations with one variable and to graph simple functions.

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Music

"Clearly, the best way to appreciate music is not just to read about it, but to hear it, sing it, and play it. The goal is to help children enjoy music, express themselves musically, and gain a basic understanding of musical form."

-E.D. Hirsch, Author of *Cultural Literacy*

Here is a **brief summary** of the Music curriculum for Pre-K through 5th Grade.

• Pre-K/Kindergarten

Students learn to recognize and move to a steady beat; recognize long and short sounds; discriminate between loud and quiet, fast and slow, short and long sounds; and sing unaccompanied and in unison. They learn to recognize by sight and sound instruments such as the piano, guitar, trumpet, flute, violin, and drums.

• Kindergarten/First Grade

Children learn to echo short rhythms and melodic patterns; play simple rhythms and melodies; and recognize like and unlike phrases. Students are introduced to the concept of musical notation. They learn about the families of instruments of the orchestra, and the role of the conductor. They are introduced to classical music and composers, and to music that tells a story. Children are introduced to ballet and other types of dance, as well as to opera and jazz.

• First Grade/Second Grade

Children learn to gradually slow down and get faster, and gradually increase and decrease volume; to recognize verse and refrain; to recognize a scale as a series of notes; to sing the C major scale using "do re mi"; and to recognize more musical notation.

Children build on their introduction to instruments and the orchestra by becoming more familiar with the string and percussion families, and with keyboard instruments.

• Second Grade/Third Grade

Children learn to recognize harmony and sing rounds; recognize a theme and variations; and become familiar with more musical notation. Children build on their introduction to instruments and the orchestra by becoming more familiar with the brass and woodwind families.

• Third Grade/Fourth Grade

Children reinforce musical skills learned in previous grades and also learn to name the ledger lines and

spaces of the treble clef; sing or play simple melodies while reading score; understand meter signatures (4/4, 2/4, and 3/4); and understand terms such as legato and staccato. They become familiar with vocal ranges, female (soprano, mezzo-soprano, and alto) and male (tenor, baritone, and bass).

• Fourth/Fifth Grade

Students reinforce music skills learned in previous grades and also participate in two- and three-part singing. They learn the word octave and learn to recognize chords, intervals, and more musical notation. Students explore jazz: its history, the importance of improvisation, syncopation, and composers and performers such as Scott Joplin and Duke Ellington. They are introduced to the influence of Jazz on other music.

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Science

"To understand the world of plants and animals, or seasons and weather, or physical forces like magnetism, a child needs firsthand experiences with many opportunities to observe, experiment, and get her hands dirty. Children gain knowledge about the world around them from observation and experience. But while experience counts for much, book learning is also important, for it helps bring coherence and order to a child's scientific knowledge." –

E.D. Hirsch, Author of **Cultural Literacy**

Here is a **brief summary** of the science curriculum for Pre-K through 5th Grade.

• Pre-K/Kindergarten

Children learn about plant growth, basic parts of plants, and how people use plants for food and other purposes. They learn about animals and their needs and how to care for pets. They study the human body, in particular the five senses, and taking care of their bodies. Children learn about the four seasons and the weather, why we need to take care of the earth, recycling, and magnetism. Children are introduced to the lives and achievements of scientists.

• Kindergarten/First Grade

Children explore the interdependence of living things and their environment. Students get an overview of the major systems of the human body, the idea that everything is made of matter, different measuring tools and measurement. They observe and experiment with electricity and explore the solar system. They continue to be introduced to the lives and achievements of scientists.

• First Grade/Second Grade

Children are introduced to the idea of the life cycle, and learn about the life cycles of plants and various animals. They continue their study of the weather by learning about the water cycle. The study of the human body continues with a more detailed look at some of the systems, viewing cells under a microscope, and keeping healthy with proper diet and exercise.

They begin to explore how tools and simple machines work. They are also introduced to orienteering using a compass. Students continue to be exposed to the biographies of scientists.

• Second Grade/Third Grade

Children are introduced to the ways scientists classify animals. The study of the human body continues with a more detailed look at some of its systems. Students observe and experiment with light and simple optics. Through experiments and observation, they learn about sound. Children build on their earlier studies of habitats as they are introduced to ideas and terms related to ecology and ecosystems. They build on their introduction to the solar system by exploring astronomy in more detail. Students continue to be introduced to the lives and achievements of scientists.

• Third Grade/Fourth Grade

Children build upon their earlier studies of the human body by examining in more detail how the circulatory and respiratory systems work. They learn about different blood cells, blood types, the structure of the heart, and about heart attacks. Students are introduced to terms and concepts of chemistry: a simple model of an atom, electrical charge, familiar elements, and they do simple experiments with solutions and crystallization. They continue their study of electricity in more detail.

Students are introduced to the field of geology and the study of the earth. Building on what they know about weather, children study topics in meteorology. They continue to study the biographies of various scientists.

• Fourth Grade/Fifth Grade

Building upon their introduction on how scientists classify the natural world, children learn about the different kingdoms. They learn more about cell structures and processes, photosynthesis, cell division, and reproduction. Chemical terms and processes continue with further learning about matter and change. Students are introduced to basic concepts about physics and learn some simple formulas. They extend their earlier studies of astronomy by taking an historical perspective. Children continue to study scientists and their achievements.

• Fifth Grade/Sixth Grade

Students explore different forms of energy and their relationship to each other. They learn in more depth about light, the electromagnetic spectrum, and about sound. Students are introduced to topics in genetics: DNA, the inheritance of traits, and researchers in genetics. Children continue their focus on the systems of the human body, diseases, and the lives and achievements of scientists.

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Visual Arts

"Much of the study of art in the early grades should take the form of doing. In addition, children should understand art not only as doing, but also as seeing, in particular, informed and active seeing, so that the artistic concepts and works the children learn about may develop their understanding and enhance their own creative endeavors. By looking closely at art, and talking with children about it, they develop a love of art and a habit of thoughtful, active enjoyment."

-E.D. Hirsch, Author of *Cultural Literacy*

Here is a **brief summary** of the Visual Arts curriculum for Pre-K through 5th Grade.

• Pre-K/Kindergarten

Children are introduced to a variety of art activities and materials, artists and works of art in many media, including drawing, painting, sculpture, printmaking, and collage. Children learn about color and talk about the ways different colors can produce different effects and feelings both in their own creations and those of the painters being studied. Children learn to identify and use different kinds of lines and how different artists use lines. Children begin to look closely at pictures through being asked what the pictures make them feel and think, what details they notice, what questions the pictures make them ask, and why they think that artist chose to depict things in a certain way. Besides making their own sculptures, children learn about such sculptures as the Statue of Liberty, totem poles, and mobiles.

• Kindergarten/First Grade

Children learn more about the elements of art, including color, line, shape, and texture. They look at the use of color in many works and they continue to identify and use different kinds of lines. Children identify and use basic geometric shapes and note how artists in the works being studied use these

shapes. They learn to describe qualities of texture in natural objects and works of art. Children discuss examples of different kinds of paintings, create their own, and study about murals. In connection with their learning about ancient civilizations, children learn about the art of those civilizations.

• First/Second Grade

Children continue to build on their earlier learning about elements of art. They learn how lines and shapes can indicate movement and they come to understand the term landscape. Children are engaged in looking at, talking about, and comparing art. In connection to what they are learning in World History, children are introduced to architecture of these ancient civilizations.

• Second/Third Grade

Children begin paying attention to two new elements of art, light and space, and start to think about how all the elements work together to form a design. They look for patterns, balance, and symmetry in a variety of works. In connection with what they are learning in World History, children are introduced to examples of the art of ancient Rome, as well as some Byzantine art, such as mosaics.

Third/Fourth Grade

Children are introduced to the art of the Middle Ages in Europe, including examples of several medieval Madonnas. Students are introduced to Islamic art, the art of Africa, and some examples of the art of China. Children become familiar with works of art representative of the "new" nation they are learning about in history, the U.S. after the mid-eighteenth century. They also learn about the architecture of Thomas Jefferson's home, Monticello.

• Fourth Grade/Fifth Grade

Children learn the term perspective. They compare paintings that do not attempt to create an illusion of depth with paintings that do. They learn about a variety of Renaissance artists and works. They observe the new emphasis on humanity and the natural world, as well as the influences of Greek and Roman art. In connection with learning about feudal Japan, children are introduced to works of art such as the Great Buddha and landscape gardens. In connection with learning about nineteenth-century American history, children learn about American art and artists of the time.

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