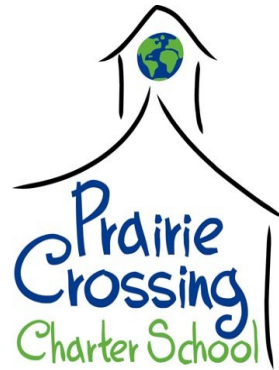


# Prairie Crossing Charter School

## Curriculum Overview

5<sup>th</sup> – 6<sup>th</sup>



### Subject Areas

- Math
- Language Arts
- Social Studies
- Science
- Service Learning
- Physical Education
- Spanish
- Art
- Music
- Environmental Education
- Farm-Based Education
- Technology

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# Math

## Year A

### Shapes and their Properties

- Generate important examples of angles, lines and 2 and 3 dimensional shapes
- Categorize, define, and relate figures in a variety of representations
- Understand principles governing the construction of shapes with reasons why certain shapes serve special purposes (e.g. triangles for trusses)
- Build and visualize three-dimensional figures from various two-dimensional representations and vice versa
- Recognize and use shapes and their properties to make mathematical arguments and to solve problems
- Recognize and use standard, essential geometric vocabulary.

### Transformations

- Symmetry, Similarity, and Congruence
- Visually identify line, rotational and translational symmetries and use them to solve problems
- Identify and use congruent triangles and/or quadrilaterals to solve problems about shapes and measurement

### Measurement

- Understand what it means to measure an attribute of a figure or a phenomenon
- Estimate and measure angles, line segments, areas and volumes using tools and formulas

- Relate angle measure and side lengths to the shape of a polygon
- Find area and perimeter of rectangles, parallelograms, triangles, circles, and irregular figures
- Relate units within and between the customary and metric systems
- Use measurement concepts to solve problems

### Geometric Connections

- Use geometric concepts to build understanding of concepts in other areas of mathematics
- Connect geometric concepts to concepts in other areas of mathematics

### Number Sense

- Use numbers in various forms to solve problems
- Understand and use large numbers, including in exponential and scientific notation
- Reason proportionally in a variety of contexts using geometric and numerical reasoning, including scaling and solving proportions
- Compare numbers in a variety of ways, including differences, rates, ratios, and percents and choose when each comparison is appropriate
- Order positive and/or negative rational numbers
- Express rational numbers in equivalent forms
- Make estimates and use benchmarks

## **Operations and Algorithms**

- Develop understanding and skill with all four arithmetic operations on fractions and decimals
- Develop understanding and skill in solving a variety of percent problems
- Develop fluency with paper and pencil computation, calculator use, mental calculation, and estimation; and choose among these when solving problems
- Properties
- Understand the multiplicative structure of numbers, including the concepts of prime and composite numbers, evens, odds, and prime factorizations

# Year B

## **Formulating Questions**

- Formulate questions that can be answered through data collection and analysis
- Design data collection strategies to gather data to answer these questions
- Design experiments and simulations to test hypotheses about probability situations
- Data Collection
- Carry out data collection strategies to answer questions
- Distinguish between samples and populations
- Characterize samples as representative or non-representative, and random or
- Use information from samples to draw conclusions about populations

## **Probability**

- Distinguish between theoretical and

biased

- Use these characterizations to evaluate the quality of the collected data

## **Data Analysis**

- Organize, analyze and interpret data to make predictions, construct arguments, make decisions
- Use measures of center and spread to describe and to compare data sets
- Be able to read, create and choose data representations including bar graphs, line plots, coordinate graphs, box & whisker plots, histograms, and stem & leaf plots
- Informally evaluate the significance of differences between sets of data
- Compare numbers in a variety of ways, including differences, rates, ratios, and percents and choose when each comparison is appropriate

- experimental probabilities and understand the relationship between them
- Use probability concepts to make decisions
  - Find and interpret expected value
  - Compute and compare the chances of various outcomes, including two-stage outcomes
  - Use a variety of strategies to count outcomes in probability and combinatorics problems

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#### **Properties**

- Understand the multiplicative structure of numbers, including the concepts of prime and composite numbers, evens, odds, and prime factorizations

Language Arts

## Reading

In the fifth/sixth grade classroom, the focus for reading will be on the refinement of reading skills. Emphasis will be placed on internalizing decoding skills. Students through the use of a variety of literature response techniques will demonstrate reading for more complexity and using higher level thinking levels. Specific skills for reading non-fiction will be taught. There will be many opportunities to use non-fiction books for research and student will be asked to use the information they gain in non-fiction reading by writing reports, giving oral reports, creating posters and doing other types of presentations.

Students this year will be reading from a variety of non-fiction books, and other print material, that have been chosen to compliment our units of study. Some fiction will be introduced through literature circles and guided reading groups. At other times, students will be asked to read fiction independently. Many different genres of fiction will be introduced to students, including myths, legends, folktales and historical fiction. Students will be asked to accountable for independent Reading Response Journals and/or final projects, which the students choose that allow the students to reflect on their reading.

### ***Reading Concepts/Skills at the Fifth Grade Level***

- Critically reflects on and response to text, providing different levels of interpretation and adopting alternative view points
- Interpret the meaning of figurative language in a variety of texts
- Evaluate new information and hypotheses by comparing them to known information and ideas
- Apply self-monitoring and self-correcting strategies during reading to check and clarify for understanding
- Read aloud fluently (with expression, accuracy and appropriate speed)
- Develop creative interpretations of reading
- Select and read books for recreation
- Confirm, reject and modify questions, predictions, and
- Can stand back and reflect on won reactions to text
- Recognizes specific language forms such as figurative language, jargon and technical language
- Recognizes and describes the purpose and structure of different genres
- Reflects personal interpretation of text through oral reading
- Recognizes and responds to text complexity such as text ambiguity and conflicting messages
- Can compare and contrast different points of view
- Can identify and integrate layers of facts and concepts within a text
- Can identify and discuss different author's styles
- Can read selections orally with fluency, confidence and good tone inflections
- Can read sections silently and analyze information from selection
- Make connections to real world situations or related topics before and during reading
- Identify author's ideas and purposes
- Connect and clarify main ideas and concepts, and identify their relationships to other sources and topics
- Demonstrate and accurate understanding of important information in the text by focusing on the key ideas presented explicitly or implicitly
- Summarize ideas from text to make and defend accurate inferences about character traits and motivations
- Identify author's ideas and purposes
- Build and support plausible interpretations with evidence from the text through collaboration with others
- Compare the theme, topic, text structure and elements of various selections within a content area
- Interpret concepts or make connections though analysis , evaluation, inference and/or comparison
- Select reading strategies for text

# Social Studies

## Year A

### Units

Ancient Mesopotamia  
Ancient Egypt & Nubia  
Ancient Greece

### Geography

- Analyze the relationships between the physical features and human activities
- Describe how people gained access and control over rivers and deserts
- Explain how humans have adapted to the environmental changes
- Analyze the geographic features that have influenced migration of people

### Government

- Identify significant events to show political changes in the different cultures
- Compare/contrast the development of political systems during ancient times
- Describe major developments in the Western political system that occurred in ancient times

### History

- Explain historical events and the influence of migration of people throughout the world
- Describe the development of empires, countries, cultures and people in ancient times

- Compare the various roles of men, women, and children in the family, at work and community
- Archaeologists (anthropologists) play an important role in our understanding of human history

### Economics

- Describe the impact of trade on the development of the ancient civilizations
- Explain how the environment impacted economic developments
- Analyze the law of supply and demand, markets, and exchange of goods and services
- Describe basic economic changes leading to or resulted from turning points in history

### Social Systems

- All people, past and present, have shaped their beliefs and behavior in the face of universal human needs and problems
- Analyze how customs and traditions of people changed in ancient times
- Physical creations (artifacts) of a people reflect many of their beliefs and values
- Examine patterns within literature, art, music, language and architecture
- Describe how cultures are shared through writing, music and art
- Compare/contrast the social structures of ancient civilizations

# Year B

## Units

- US Government
- Other Government Systems
- Modern Cultures
- Geography

## Geography

- Read political, physical and special purpose maps
- Identify the biomes and habitats of US regions and their impact on the local culture
- Identify and analyze the different types of biomes worldwide

## Government

- Discuss and explain the US system of Democracy
  - Checks and Balances for each branch of government
  - US Constitution, Bill of Rights and the Declaration of Independence
  - Regulation of Natural Resources and toxins

- Discuss and explain other systems of governance throughout the world
- Analyze the similarities and differences between the different forms of government
- Identify the pros and cons of different government systems

## Social Systems

- Identify the characteristics of a good democratic citizen
- Explain the effects of social injustice on social groups
- Compare and contrast cultures to each other using cultural universals
- Different Cultural views on Natural Resources

# Science

# Year A

## Units

- Evolution/ Adaptations
- Natural Resources
- Simple Machines

## Evolution/ Adaptations

- Discover how adaptations help an organism to survive

## Simple Machines

### Scientific Inquiry

- Design and conduct scientific investigations
- Use appropriate tools and techniques to gather, analyze, and interpret data
- Develop descriptions, explanations,

- Analyze specific adaptations of animals in order to determine that animals niche
- Biological evolution
- Early hominid development
- Natural selection
- Understanding the scientific terms; hypothesis, theory, and scientific law

### **Natural Resources**

- Distinguish the three types of Natural Resources (Renewable, Non-renewable, and Reusable)
- Water cycle and human impact upon the water cycle
- Water conservation
- Sustainability –three aspects (Environmental, Social, and Economics)
- Environmental Economics
- Understand the allocation of resources worldwide

predictions, and models using evidence

### **Position and motion of Objects**

- An objects motion can be described by tracing and measuring its position over time
- The position and motion of objects can be changed by pushing and pulling

### **Motions and forces**

- If more than one force acts on an object along a straight line then they will either reinforce or cancel each other out
- Transfer of energy

# Year B

## Cells and Heredity

- Define cells, tissues, organs and organisms
- Define populations, communities and ecosystems
- State the parts of the cell theory
- Identify cell organelles
- Explain the process of diffusion and osmosis
- Compare and contrast passive and active transport
- Explain photosynthesis, cellular respiration and fermentation
- Explain the cell cycle
- Understand patterns of inheritance
- Know the components and structures of DNA
- Explain the effects of mutations on genetic inheritance

## Life Science

- Living systems at all levels of organization demonstrate the complementary nature of form meets function
- Describe the organization and structure and function include cells, organs, tissues, organ systems, whole organisms, and ecosystems
- Specialized cells perform specialized functions in multicellular organisms (eg. Muscle cells, nerve cells, etc.)
- Describe how like cells form tissues and like tissues form organs and like organs form systems and that all together they form an organism
- Animals have similar body systems that perform the same task

- Disease is a breakdown in structures or function of an organism.
- Some diseases are the result of intrinsic failures of the system
- Some diseases are the result of damage by infection from other organisms

## Health

- Explain the relationship between health behaviors and the prevention of injury, illness, and premature death
- Explain how health is influenced by the interaction of body systems
- Describe ways to reduce risks related to adolescent health problems
- Demonstrate the ability to locate health products and services
- Explain the importance of assuming responsibility for personal health behaviors
- Analyze a personal health assessment to determine health strengths and risks
- Demonstrate the ability to apply a decision making process to health issues and problems individually and collaboratively
- Analyze how health related decisions are influenced by individuals, family, and community values
- Develop a plan that addresses personal strengths, needs, and health risks
- Analyze how environmental factors and hazardous chemicals can impact ones health

# Service Learning

## Guidelines

- Minimum 20 hours
- Maximum of 2 projects
- At least one project with an outreach or presentations to others
- Students should take a role of choosing the project
- Students should take a role in leading and directing the projects
- Students should realize their potential impact on the world “feel a sense of empowerment”
- Students should be doing curriculum reflection in a plethora of modes (oral, journaling, written report, graphs, etc...)
- Projects should have an environmental component that is essential to the project
- Projects should be related to environmental topics they have been learning throughout the year

# Physical Education

## 5<sup>th</sup> and 6<sup>th</sup>

- Applies skills and strategies in physical activities (19)
- Demonstrates participation in a variety of physical activities (19)
- Identifies basic rules in selected physical activities and sports (19)
- Maintains a safe environment by following rules and taking care of P.E. equipment. (19)
- Assesses individual fitness levels (20)
- Demonstrates cooperation and sportsmanship during physical activities (21)
- Monitor intensity of exercise through a variety of methods (target heart) with or without technology. (22)

# Spanish

## Communication

- Responds appropriately to simple commands
- Demonstrate understanding of basic conversational questions/answers
- Asks simple questions with prompts
- Responds to basic conversational questions
- Imitates pronunciation, intonation and inflection
- Recognizes the written form of spoken words
- Copy and writes words
- Demonstrates knowledge of vocabulary introduced during thematic units
- Comprehends main messages of oral/audio presentations
- Comprehends details of oral/audio presentations without visual cues
- Understands oral/audio presentations in academic, technical, social or work environments
- Can follow written classroom directions, reads simple passages, infers meaning of cognates and recognize loan words
- Comprehends main messages of a variety of written materials with the help of resources
- Understands key vocabulary as well as the main message of complex written materials without the help of visuals
- Demonstrates knowledge of a variety of materials intended for native speakers in academic, social and work situations

- Decodes new vocabulary using contextual clues
- Compares word use and sentence structure of Spanish with those used in other languages
- Demonstrates knowledge of written materials by organizing information and concepts
- Distinguish meanings in a variety of contexts, such as in poetry and prose
- Compare Spanish vocabulary, word use, phrase, sentence structure and complete text structures with other languages
- Demonstrates knowledge of how various languages are related by word origin and text structures
- Writes compositions and reports
- Writes complete expository pieces
- Writes documents in a variety of forms with supporting evidence
- Presents simple written or oral report on a familiar subject
- Presents findings from research on unfamiliar topics
- Makes a persuasive presentation with documentation
- Makes impromptu presentations in a variety of academic, social and work situations
- Presents an original production using known vocabulary and grammatical structures
- Presents a simple, original poem or story
- Presents a short original piece on a given theme
- Presents an original piece on a theme of their choice
- Identify and explain ideas and themes expressed in selected works of art
- Demonstrate target language expressions
- Understands and uses essential target language vocabulary referring to tools, processes, and conducts in one or more art forms
- Identify main characters, settings and events from samples of children's literature
- Identify different types of literature (poetry, short stories, plays) in Spanish
- Identify primary media sources that use Spanish
- Recognize important people and events in the history of areas where Spanish is spoken
- Identify and use simple geography vocabulary
- Read, retell and summarize
- Read, discuss and write about themes and settings
- Identify sample literary works and authors
- Read, discuss and write about plot and form of literary works
- Summarize main points of selected media presentations
- Create simple print and/or non-print media messages
- Use simple history vocabulary to identify historical concepts
- Identify key historical figures
- Use maps, charts, and digital images to describe countries
- Describe geographical aspects (population and natural resources)

### **Culture**

- Uses common forms of courtesy
- Demonstrates knowledge of language appropriate to the time of day and relationship (adult, peer)
- Identify one or more art forms from Spanish-speaking countries
- Demonstrate one or more art forms representative of Spanish-speaking countries
- Identify sample art works and their creators associated with areas where target language is spoken

### **Language connections to academic disciplines**

- Recognize the currency of Spanish-speaking countries
- Use Spanish vocabulary to identify simple science terms relating to weather and nature
- Use Spanish vocabulary while participating in games, activities
- Identify different geometric shapes
- Identify common professions and occupations

- Identifies professions in which Spanish is spoken
- Identify products from Spanish speaking countries
- Use Spanish to do measurements/time/money
- Use Spanish to describe basic earth science content
- Use Spanish to describe games/sports
- Use Spanish to describe activities and characteristics of occupations and workplaces
- Use Spanish to explain and describe career choices

# Art

## Fifth/Sixth

- Distinguish between figure and ground in a still life composition
- Draw a still life composed of objects, demonstrating overlap and placement
- Demonstrate an understanding of the ability of line to create value and surface change
- Distinguish between light and dark values
- Recognize rhythm created through repetition of sensory elements
- Construct a color wheel in a given media, consisting of primary,

secondary, and intermediate colors

- Compare mood in several portraits of famous people
- Explain processes used with specific tools (e.g., paint with brushes)
- Select and use appropriate tools and materials to create in 2-D and 3-D
- Sketch and build a sculpture from a 2-D drawing
- Describe or demonstrate tools and processes used in printmaking (e.g., block, mono, stamp, calligraphy)
- Describe or demonstrate the process of weaving. Explain how visual art plays a part in everyday life (e.g., architecture, political cartoons, fashion design)
- Describe the roles of artists in society

# Music

- Experience musical interpretation through singing and movement
- Gain a respect and awareness of many different cultures through music
- Sing patriotic, folk, popular, and multi-cultural songs, as well as songs of the seasons and celebrations
- Sing rounds, partner songs, songs in two parts
- Perform in casual settings and on stage
- Identify a variety of sound sources (e.g. instruments, voices, and environmental sounds)
- Identify elements and expressive qualities such as tone color, harmony, melody, form (rondo, theme and variation), rhythm/meter and dynamics in a variety of musical styles
- Become familiar with selective classical music and their composers throughout music history
- Read and interpret the traditional music notation of note values and letter names
- Relate musical concepts to nature (e.g. musical form v patterns in nature; rhythmic patterns in music v in nature)
- Perform a musical play integrating classroom social studies/science

# Environmental Education

## **Energy**

- Alternative Energy/ Resources
- Food and Agriculture over time

## **Materials**

- Resources and resource use
  - Distinguish the three types of Natural Resources (Renewable, Non-renewable, and Reusable)
  - Water cycle and human impact upon the water cycle
  - Water conservation
  - Sustainability –three aspects (Environmental, Social, and Economics)
  - Environmental Economics
  - Understand the allocation of resources worldwide

## **Lifestyle and Sustainability**

- Environmentally friendly recreation
- Distinguish the three types of Natural Resources (Renewable, Non-renewable, and Reusable)
- Sustainability –three aspects (Environmental, Social, and Economics)
- Water Conservation
- Health Issues
- Environmental Economics
- Habitat Restoration

## **Interrelationships**

- Populations (dynamics, overpopulation and resource use)
- Niches

## **Changes**

- Adaptations
  - Evolution/ extinction/ mutation
- Glaciers
- Local History and geologic history
- Advanced phenology
  - Photoperiod and seasons
- Cells/ heredity
- Form and function

## **Sense of Place**

- Magic Spots
- Camping Trips
- Habitat Restoration

## **Skills/ Technology**

- Microscopes
- Field Guides
- Simple Farm Technology
- Camping Skills
- Scientific Drawings and Observations
- Scientific Inquiry
- Measurement
- Graphing
- Probability

# Farm Education

- Year A ancient civilizations wheat unit (growing, harvesting, processing and economics in fertile crescent, ancient Greece and Rome; early domestication of grains)
- Year B Illinois history wheat unit (growing, harvesting, processing and economics in early Illinois; changes in tools and labor force)
- Year A, B growing wheat with organic methods (disease/pest prevention with hand picking, compost, observation); Organic Plant Sale service-sowing/transplanting using organic methods
- Year A ancient civilizations wheat unit (trade and economics in fertile crescent, ancient Greece and Rome)
- Year B Illinois history wheat unit (economics in early Illinois wheat farming; changes in tools and labor force; Great Depression and Dust Bowl)
- Year A ancient civilizations wheat unit (water and fertility on first farmland in fertile crescent, geography of ancient Greece and Rome)
- Year B Illinois history wheat unit (economics and tools leading to increase scale of agriculture land use)

