CHARLES RIVER SCHOOL
DEEPER UNDERSTANDING, HIGHER ACHIEVEMENT.

FIFTH-GRADE CURRICULUM

The fifth-grade year centers on the thematic study "The Changing Face of America," under this umbrella topic we look at immigration, forced migration, and migration within the United States. This thematic study integrates many elements of the fifth-grade curriculum including: social studies, language arts, geography, math, science, art and music. This thematic study provides a meaningful and rich experience through which students develop a wide variety of skills. Generating thoughtful questions and facilitating in-depth discussions allow students to draw individual conclusions about different time periods in American history.

LANGUAGE ARTS

Language Arts is integrated into all areas of the curriculum.

READING

As fifth graders transition from "learning to read" to "reading to learn," we work with students to further develop their ability to read effectively and to establish a love of reading. Classes are organized in a variety of groupings, both teacher-facilitated and student-led groups, allowing students to read and analyze a range of literature from poetry to nonfiction to biography.

Materials

Some examples of the types of texts we might read are: *Chasing Vermeer* by Blue Balliett, *Home of the Brave* by Katherine Applegate, *Inside Out & Back Again* by Thanhha Lai, and *Full Cicada Moon* by Marilyn Hilton. We also read various non-fiction books and articles related to immigration.

Skills

- Recognizing different genres
- Developing listening skills to enhance meaningful discussions of literature
- Distinguishing fact from opinion
- Expanding vocabulary
- Developing strategies for finding meanings of unknown words
- Literal comprehension:
    - Find the main idea
    - Analyze character, plot, theme, setting
    - Read for detail

    - Sequence events
- Inferential comprehension:
    - Identify cause and effect
    - Draw conclusions based on textual clues
    - Generate discussion questions
    - Summarize main idea and details
- Monitor reading for comprehension using the following strategies:
    - Preview
    - Infer
    - Visualize
    - Make Connections
    - Ask questions
    - Summarize
    - Predict
    - Respond

WRITING

Students use writing both as a process of self-discovery and as an effective mode of communication. Through the writing workshop and the writer's notebook, students develop personal writing topics and create drafts that they revise and edit. The writing that students do in fifth grade is often connected to an area of thematic study. Students write in a variety of genres throughout the year, including memoirs, short stories, poetry, and non-fiction. We emphasize different steps of the writing process – including brainstorming, planning, drafting, revising, and editing – in order to aid each student in their growth as a writer.

<u>Skills</u>

Handwriting

- Use neat and legible handwriting
- Increase proficiency at typing and using a computer effectively for major pieces of writing

Writing Habits

- Writing on a daily basis
- Independently use the writing process, including: brainstorming, planning, drafting, revising, editing, publishing
- Use graphic organizers as a tool for organizing writing

Conventions (Grammar and Mechanics)

- Recognize complete sentences, fragments, and run-ons
- Review the following parts of speech
    - Noun
    - Action verb

    - Adjective
    - Pronoun
- Learn the following parts of speech
    - Prepositions
    - Conjunctions
    - Indirect and direct objects
    - Nouns – concrete vs. abstract
    - Helping verbs
    - Adverbs
- Master the following parts of speech
    - Subject-predicate
    - Verbs of being
    - Articles
    - Interjections
- Master use of capitals in writing
- Master use of commas in: a series, dates, letter salutations and closings, between city and state
- Master punctuation of dialogue
- Master rules for formation of possessives
- Recognize sentence types (declarative, imperative, interrogatory, exclamatory)
- Use correct subject-verb agreement independently in simple sentences
- Recognize and repair sentence fragments and run-on sentences
- Master friendly letter format

Composition

- Write cohesive expository paragraphs consisting of a clear topic sentence, supporting details, and concluding sentence
- Write more than one paragraph about a topic
- Write historical fiction, combining information from multiple resources
- Write from the point of view of another person

Language

- Give oral presentations for various purposes
- Express an opinion about a topic or text using supporting details
- Learn strategies for completing analogies
- Learn new vocabulary words
- Use context to understand words with multiple meanings
- Practice dictionary skills

MATHEMATICS

In fifth-grade mathematics, we challenge students to think about different strategies for approaching real-world situations and new mathematical situations. We also challenge

them to become more flexible in their thinking. We foster a strong understanding of why basic operations work and emphasize that students should express their thinking verbally. We continue to encourage students to apply prior knowledge to new and unknown mathematical concepts.

Skills

Number & Operations

- Write numbers in expanded form
- Read, write, and compare decimals to the thousandths (using base-ten numerals, number names, and expanded form)
- Recognize that in a multi-digit number, including decimals, a digit in any place represents 10 times as much as it represents in the place to its right, and 1/10 of what it represents in the place to its left
- Explain patterns in the number of zeros of the product when multiplying whole numbers by powers of 10
- Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10
- Demonstrate understanding of multiplication of double digit by double digit whole numbers in 3 ways
- Demonstrate understanding of division of two digit by two digit numbers in 3 ways
- Fluently multiply multi-digit whole numbers using the standard algorithm
- Continue gaining proficiency in math facts
- Demonstrate understanding of the relationships between operations; inverse of multiplication and division used as a check

Fractions

- Add and subtract fractions with unlike denominators
- Add and subtract mixed numbers with unlike denominators
- Compare and determine greater than and less than with fractions with unlike denominators
- Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators
- Understand that fractions are a representation of division
- Multiply and divide fractions using a visual fraction model and/or area model
- Interpret multiplication as scaling (resizing)
- Multiply a fraction or whole number by a fraction
- Divide unit fractions by whole numbers and whole numbers by unit fractions
- Solve real world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problems

Algebra

- Use parentheses, brackets, or braces in numerical expressions and evaluate expressions using these symbols

- Understand the idea of a variable as an unknown quantity using a letter or symbol
- Generate two numerical patterns using two given rules and identify relationships between corresponding terms

Geometry

- Build and draw geometric objects
- Identify and describe line and rotational symmetry in two- and three-dimensional shapes and designs
- Identify and build a three-dimensional object from a two-dimensional representation of that object
- Graph points on a coordinate plane to solve real-world and mathematical problems
- Recognize geometric ideas and relationships and apply them to other disciplines and to problems that arise in the classroom and everyday life

Measurement

- Accurately convert inches into feet and vice-versa
- Understand that measurements are approximations and understand how differences in units affect precision
- Recognize volume as an attribute of solid figures and understand concepts of volume measurement
- Measure volumes by counting unit cubes, using cubic cm, cubic in., cubic ft.
- Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume
- Apply the formulas V= l x w x h and V= b x h
- Recognize volume as additive

Data Analysis and Probability

- Find the mean, median, and mode of up to ten whole two-digit numbers
- Design an investigation to address a question
- Predict the probability of outcomes of simple experiments and test those predictions
- Collect data using observations, surveys, and experiments
- Represent data using tables and graphs
- Consider how data collection methods affect the nature of the data set

SOCIAL STUDIES

“The Changing Face of America” is the focus of our thematic study, which integrates most subject areas. Fifth graders begin the year thinking about what it means to be a historian, and they learn to draw reasoned conclusions from primary source material. Our units of study include voluntary immigration, forced migration, and migration within the United States. We study immigration as the starting point of the country, the impact of the cultures that immigrant groups brought to America, and immigration today. Throughout

the studies of these topics, we also discuss the themes of social injustice and prejudice towards minority groups. The thread of social injustice and prejudice is woven throughout our study, as we look at how people who change history are treated.

Units

- Immigration: specifically from Colonial immigration to present day
- Migration: specifically the difference between forced migration and migration

Skills

- Developing research categories
- Develop focused questions or problem statements and conduct inquiries
- Discerning important information about a topic
- Organize information and data from multiple primary and secondary sources
- Organizing notes into specific categories
- Analyze the purpose and point of view of each source; distinguish opinion from fact
- Evaluate the credibility, accuracy, and relevance of each source

SCIENCE

Science is an integral part of the theme, delving into topics related to migration, adaptation, humanity, and human impact on the environment.

Units include

- Math in Nature
- Owl Adaptations, Digestive System, and Pellet dissection
- Forensics - simulated sleuthing experience
- Human Body systems including skeletal, muscular, respiratory, circulatory, and sensory systems including the eyes and ears
- Growth Education - Endocrine system, puberty, and changes to the brain and body.
- Oceans, currents, temperature & salinity, climate zones, waves, tides,
- Whales and human impact
- Invertebrate study in the wetland

Skills

- Observation
- Ask questions about what would happen if a variable were to change
- Hypothesize
- Plan and carry out investigations
- Analyze and interpret data, compare & contrast data
- Developing and using models
- Use mathematics & computational thinking
- Design solutions to a problem
- Critical thinking

- Develop a simple physical prototype to convey an object, and test cause and effect relationships
- Communicate scientific information orally and in writing, including tables, charts, and diagrams

WORLD LANGUAGE

We recognize that the grammar of Romance Languages uses a binary gender system. While we strive to maintain the integrity of the history and culture of these languages, we also seek to create inclusive learning environments for all students.

In fifth grade, students continue to study French language and Francophone culture during the first half of the year. Themes change yearly and areas of study may include the city of Paris, its organization, historic sites and museums and art, or the province of Quebec, important French explorers and traditional cuisine, or a performance of a West African folktale. In March, language sections are created and fifth graders begin their formal study of either French or Spanish; each student then continues to study that language through eighth grade.

ART

Color theory is central to the fifth grade art curriculum, guiding the majority of projects throughout the year. Students begin with the basics, including re-familiarization with the color wheel, understanding complementary and tertiary colors, and building sophisticated color palettes. After working with grayscales and learning about value, students progress to examine the interrelation of light, color, and visual perception, and how it can be utilized in the art making process. A sequence of studies and experiments typically culminates in a large collaborative project in which the class does a deep exploration of an advanced color concept. Past projects include using color to create optical illusion, recreating art historical works through optical mixing, and creating large photo realistic portraits with colored “pixels”.

In addition to the study of color, fifth grade students enjoy a variety of independent projects that inspire and challenge their conceptual and technical abilities. Examples of past projects include but are not limited to:

- Minimalist movie posters inspired by the work of Saul Bass
- Found object sculpture
- Mixed media collage
- Three dimensional perspective drawings focusing on foreground, middle ground and background
- Papier mache creatures
- Character design and rotational animation

MUSIC

In fifth grade, students continue to expand skills of creative musical participation through singing, movement and playing instruments. Students learn to play the ukulele. Students also learn the role of music and sound effects in storytelling in an extended soundtrack project where they provide the music and sound effects for a film clip. Students also study songwriting and instrumental composition, learning to use online music composition software.

Singing

- Sing independently with accurate pitch
- Sing in unison, rounds and two part harmony
- Develop full, relaxed vocal quality
- Develop blended class sound

Instrumental

- Play xylophones in two and three parts from notation and by ear
- Recognize groups of instruments
- Play melodies on various instruments
- Play a 12-bar blues pattern on an instrument
- Play the ukulele, including both chords and reading tab notation

Listening

- Listen to and discuss components of selected compositions: Pitch, duration, volume, timbre, texture, form, style
- Study the extensive musical history that has contributed to modern American music, including classical, folk and blues composers

Composition – Individual and Small Group Projects

- Compose unique compositions using the computer programs Garageband and Soundtrap
- Write original songs in the Blues unit

Music Theory

- Reading ukulele tab
- Improvising patterns up to 16 beats using discussed rhythmic and melodic and harmonic elements
- Song structure and composition

TECHNOLOGY

The technology program at CRS starts with the why – why should we teach technology at all? The answer is we don't teach "technology;" we teach self-reflection, empathy, and

problem solving (know themselves, understand others, and shape the future). The medium we work within to accomplish this is digital tools, and we teach students both existing skills and how to learn new technology on their own. While the process of learning new tools is inherently valuable (growth mindset, exploration, logic, sequential thinking, curiosity), ultimately we teach technology because of the opportunities it can provide for students to improve themselves and make a positive impact on the world.

We approach this through focusing on four main curricular categories that spiral throughout all grades (PreK - 8):

- Engineering & Design Thinking
- Multimedia Production
- Programming & Robotics
- Digital Citizenship

In fifth grade, we focus on online collaboration, digital citizenship, independent project management skills (time management, daily and long term planning), animation, movie and soundtrack editing, programming (event handling and conditional statements), and the formal design thinking process. Examples include learning to create animation walk cycles, one minute movie stories, re-scoring a film for a different emotional effect, and a long-term independent passion project.

PHYSICAL EDUCATION

The Physical Education program is developmental and skill-based. The program includes cooperative games, standard games, such as capture the flag and ultimate Frisbee, and team sports including field hockey, soccer and basketball. Students practice motor and sports skills throughout these activities. Students develop sports skills through movement exploration, specific skill work and playing games.

Skills

- Locomotor Movements: Walk, run, hop, slide, jump, crawl, roll
- Non-Locomotor Movements: Swing, bend, stretch, twist, turn, dodge, push, pull
- Sports Skills: Throw, dribble, kick, bat, catch, shoot (basketball), volley

Activities

Soccer, softball / baseball, field hockey, Frisbee, kickball, basketball, volleyball, lacrosse, team handball, track and field, tennis, flag football, fitness exercises, relays, cooperative games, group challenges, obstacle courses, lifetime fitness activities

LIBRARY

Fifth grade students continue to use the library as a resource for reading for pleasure and information, and more increasingly, for developing skills in inquiry and research. Fifth

grade students develop and practice fluency in identifying fiction genres, and, in collaboration with their homeroom, read widely from a variety of genres. Students are exposed to primary sources such as newspaper articles, videos, and audio related to multiple historical events, honing the skills they will need to become sophisticated consumers of news and information. Through a variety of in-depth inquiry challenges using both print and digital resources, as well as "Breakout" challenges, students collaborate, share knowledge, solve information puzzles, and learn how to participate in research ethically and productively.

Literature Appreciation Skills

- Evaluate books for content and appeal
- Recognize characteristic styles of various authors
- Recognize reading as a lifelong pursuit

Information Literacy Skills

- Distinguish, use, and navigate effectively a variety of print and electronic reference sources to locate information
- Use the Library Online Catalog system readily and easily
- Develop news literacy skills; curating and comparing multiple sources of information, both digital and print
- Demonstrate facility with solving digital and physical Breakout challenges

SPORTS (Interscholastic Competition)

The school offers a program of interscholastic competition for students in Grades 6-8 for three seasons and Grade 5 in the fall and spring. Students are encouraged to participate in at least one of the three seasons per year. Offerings for fifth graders include: soccer, field hockey, cross-country in the fall; fitness club in the winter; track, ultimate Frisbee, and girls' lacrosse in the spring. Children work with others in their age group under the supervision of a coach. They learn strategies, positions on the field, skills specific to the sport, and skills to develop effective teamwork. The Charles River School Sports Program encourages group cooperation in a competitive setting, as each team plays games with neighboring teams of similar age and ability.