



## **SIXTH GRADE CURRICULUM**

Sixth graders are the adults of childhood, just beginning to come into a sense of themselves in the larger world. Therefore, our curriculum focuses on cultivating the attitudes and aptitudes needed to become active, compassionate, and clear-thinking community members. We strive to maintain a safe and supportive environment that encourages and enables students to take risks and become independent learners while also developing their competence in necessary skills – organization, notetaking, outlining, studying, computing, writing, and speaking. We also empower students to engage mindfulness practices as they take on academic and social challenges. We offer students opportunities for solitary thought and for interactive activities in all subject areas, and we attempt to spark their natural curiosity and enthusiasm for the world of ideas. The sixth grade curriculum pursues the concepts of power and freedom throughout the year as we delve into the varied countries of the world. We also explore concepts of space and identity through our integrated STEM and Humanities curricula.

## **OVERVIEW**

Students in sixth-grade world history and geography classrooms learn about the earliest humans, the development of tools, the foraging way of life, agriculture, and the emergence of civilizations in Mesopotamia, Egypt, ancient Israel, the Indus River valley, China, Mesoamerica, and the Mediterranean basin. Although teachers should keep the focus on ancient events and problems, this course gives students the opportunity to grapple with geography, environmental issues, political systems and power structures, and civic engagement with fundamental ideas about citizenship, freedom, morality, and law, which also exist in the modern world. Students practice history as an interpretive discipline. They read written primary sources and secondary sources, investigate visual primary sources, and learn how to analyze multiple points of view, cite evidence from sources, and make claims in writing and speaking based on that evidence.

Although most of the sixth-grade standards are organized regionally, there are patterns that the teacher may use to connect the regional studies to world history. The patterns are as follows:

- The movement of early humans across continents and their adaptations to the geography and climate of new regions.
- The rise of diverse civilizations, characterized by economies of surplus, centralized states, social hierarchies, cities, networks of trade, art and architecture, and systems of writing
- The growth of urban societies and changes in societies (due to social class divisions, slavery, divisions of labor between men and women)
- The development of new political institutions (monarchy, empire, democracy) and new ideas (citizenship, freedom, morality, law)
- The birth and spread of religious and philosophical systems (Judaism, Greek thought, Hinduism, Buddhism, Confucianism), which responded to human needs and supported social norms and power structures
- The development and growth of links between societies through trade, diplomacy, migration, conquest, and the diffusion of goods and ideas

## ENGLISH

In the sixth grade English curriculum, we foster an appreciation for the power of language as a tool for conveying information, communicating ideas, and capturing experiences. We begin with the idea that humanity has a rich and diverse tradition of storytelling. Through this lens, we seek out mentor texts from fiction and nonfiction genres to help us construct an understanding of, and appreciation for, the techniques used by master writers to effectively tell their stories. Drawing on these examples, students build a dynamic knowledge of literary elements, grammatical concepts, and rhetorical devices that inform their engagement with reading as well as their approach to their own writing. Throughout this exploration, students develop their abilities as readers, writers, critical thinkers, collaborators, and oral communicators as they tackle a wide range of projects and challenges.

### READING

The study of literature is at the heart of the English program, which includes poetry, novels, and nonfiction selections. Students develop critical reading, summarizing, and synthesizing skills through text-based writing assignments, class discussion, and creative projects. Their growing body of knowledge about effective writing becomes the keystone in their development as writers. Independent reading is encouraged through a monthly Genre Celebration and end of year “Shelfie” project, in which students acknowledge their achievements as readers over the course of the year by photographing their collection of independent reading choices. The overarching goal of the English curriculum is for students to come to recognize the power of narrative as a tool of self expression and cross cultural understanding.

#### Skills

##### Comprehension

- Identify main idea in fiction and informational texts
- Summarize using main idea and supporting details
- Make inferences based on textual clues
- Identify and analyze characteristics of various genres
- Use active reading strategies to monitor comprehension
- Literary Analysis
- Identify and understand theme and major literary elements (Figurative language; story structure; point of view; foreshadowing; characterization)
- Identify and analyze techniques and efficacy in authors’ styles
- Support analysis with textual evidence
- Identify and articulate personal responses to content and style in a variety of texts

##### Reading Habits

- Select appropriate text for independent reading
- Read wide and varied materials and genres
- Self Monitor for multiple layers of textual comprehension

### WRITING

The sixth grade writing program works hand in hand with our reading program to address the fundamental components of effective writing. As students read and analyze writing from a variety of genres, they identify skills and strategies that further their own writing abilities. Students strengthen their skills through free writing, poetry, creative work, summaries, persuasive essays, and analytical pieces. As writers, they are encouraged to write from their hearts as well as their heads, balancing the passion of their voices with the precision of their ideas. Conventions (i.e. spelling, grammatical conventions, and mechanics) are introduced and reinforced during discussions of mentor texts as well as in discrete skill exercises, and are incorporated into all writing assignments that require a final draft.

#### Skills

## Writing

- Independently use the writing process to brainstorm, draft, revise, and edit effectively
- Develop strong analytical writing skills
  - State information and ideas clearly
  - Organize topic sentences, supporting details, and concluding sentences effectively
- Strengthen creative writing skills
  - Develop setting, tone, character, and plot
  - Use descriptive and figurative language effectively
  - Relate personal experience to ideas and develop ability to express ideas and emotions thoroughly through writing

## Conventions (Grammar and Mechanics in service of stronger writing)

- Apply spelling and punctuation skills
- Identify and correct common grammatical errors, especially in the areas of sentence structure, dialogue, parts of speech, verb-tense agreement, and subject-verb agreement
- Apply knowledge of grammatical structures to improve sentence fluency

## MATHEMATICS

The sixth grade math program creates a solid foundation in computational fluency, problem solving skills, and conceptual understanding. Students focus on developing their ability to understand and apply numeration, quantitative, logic and geometric concepts, with emphasis on problem solving and real life applications. Developing problem solving strategies – and the skills of calculating, performing mental math, constructing visual representations, and manipulating materials to solve problems – are an integral part of the curriculum. Through understanding the characteristics and truly grasping the definition of different concepts, students are able to expand their concrete understanding and apply these concepts more abstractly. Students work individually, in partnerships, and as a full class group on various challenges and projects.

### Topics Include (But Are Not Limited

#### To) The Number System

- Recognizing how negative and positive numbers can be used to indicate quantities in opposite directions
- Understanding the absolute value of rational numbers
- Identifying and showing negative values graphically
- Graphing ordered pairs on the 4 quadrants of the coordinate system
- Finding greatest common factors ( up to 100)
- Finding least common multiples (for numbers to 12)
- Using distributive property to rewrite expressions
- Dividing fractions by fractions to solve word problems
- Dividing multi digit numbers with fluency
- Using the four operations fluently with multi digit decimals

#### Expressions & Equations

- Evaluating numeric expressions that include exponents
- Reading, writing, and evaluating expressions that include numbers and letters
- Generating equivalent expressions by using the properties of operations

- Recognize two equivalent expressions
- Recognizing that equations and inequalities can be solved by finding the value or set of values that make them true
- Writing expressions to solve real world problems using variables in place of unknown numbers
- Writing and solving equations to solve real world problems
- Writing inequalities given specified conditions in real world problems
- Writing equations that include both dependent and independent variables and examining the relationship between these two variables using graphs and tables

#### Geometry

- Finding the area of triangles and other polygons and doing so to solve real world problems
- Finding the volume of a rectangular cuboids
- Drawing polygons by plotting their vertices on the coordinate system and determining the length of horizontal and vertical sides
- Finding the surface area of 3D shapes using nets of rectangles and triangles

#### Ratios & Proportional Relationships

- Using the concept of ratio to show the relationship between two quantities
- Using ratios to determine unit rates
- Solving real world problems using ratio and rate including by the use of equivalent ratios and by understanding and using the concept of percentages

#### Statistics & Probability

- Distinguishing questions that are statistical from those that are not based on whether they anticipate variability
- Recognizing that data gathered in response to a statistical question can be described by its center, its range, and its shape
- Understanding that, for numeric data, a measure of center is a single number that is a summary of all values unlike a measure of variation, which is a single number that describes how the values vary
- Displaying numeric data on histograms, dot plots, and box plots
- Summarizing sets of numeric data including the numbers, nature, units of measurement, appropriate measures of center (mean/median, mode) and of variability

#### Skills

- Create a model
- Guess and check
- Make a table
- Work with a simplified case
- Find a pattern
- Use simpler numbers
- Notetaking skills
- Explaining steps in a sequential and efficient manner

#### Mathematical Practices (from Common Core State Standards)

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others

4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

## SOCIAL STUDIES

Students in sixth-grade world history and geography classrooms learn about the earliest humans, the development of tools, the foraging way of life, agriculture, and the emergence of civilizations in Mesopotamia, Egypt, ancient Israel, the Indus River valley, China, Mesoamerica, and the Mediterranean basin. Although teachers should keep the focus on ancient events and problems, this course gives students the opportunity to grapple with geography, environmental issues, political systems and power structures, and civic engagement with fundamental ideas about citizenship, freedom, morality, and law, which also exist in the modern world. Students practice history as an interpretive discipline. They read written primary sources and secondary sources, investigate visual primary sources, and learn how to analyze multiple points of view, cite evidence from sources, and make claims in writing and speaking based on that evidence

## SCIENCE

Overarching units of study for sixth grade science include space, earth science, oceans, and celestial navigation. The program has two parallel aims: 1) for students to develop an understanding of the material studied through investigation, experimentation, readings, and discussions (with emphasis on the scientific process); 2) to expose students to a variety of topics that engage their interest and curiosity so that they will be scientists both inside and outside the classroom.

The first half of the year uses the 5E constructivist learning cycle to help students build their own understanding from experiences and new ideas. This model sequence is: engage, explore, explain, extend, and evaluation. The engage stage hooks student interest and personally engage them in the lesson, while preassessing prior understanding. The explore stage involves students in the topic, providing them with a chance to build their own understanding. In sixth grade, this happens through student-led kinesthetic labs that are accessible to multiple learning styles through stations where students read, write, watch a concept, research a concept, organize concept

## NCE

Overarching units of study for sixth grade science include space, earth science, oceans, and celestial navigation. The program has two parallel aims: 1) for students to develop an understanding of material studied through investigation, experimentation, readings, and discussions (with emphasis on the scientific process); 2) to expose students to a variety of topics that engage their interest and curiosity so that they will be scientists both inside and outside the classroom.

The first half of the year uses the 5E constructivist learning cycle to help students build their own understanding from experiences and new ideas. This model sequence is: engage, explore, explain, extend, and evaluation. The engage stage hooks student interest and

personally engage them in the lesson, while preassessing prior understanding. The explore stage involves students in the topic, providing them with a chance to build their own understanding. In sixth grade, this happens through student-led kinesthetic labs that are accessible to multiple learning styles through stations where students read, write, watch a concept, research a concept, organize concept cards, assess, and explore with a teacher. The explain stage follows and provides students with an opportunity to communicate what they have learned and figure out what it means. In the extend stage, students use their new knowledge and continue to explore a concept's implications, usually through student choice projects. Finally, in the evaluation stage, both students and teachers determine how much learning and understanding has taken place.

The second half of the year focuses on hands-on engineering

challenges. Engineering is vitally important to the creation of technology used in space, on water, and on land. We will learn about oceans through the lens of plastic pollution, including: plastic pollution sources and solutions, food chains, body systems, waste management, cause and effect, human impact, identifying plastics, watersheds, the water cycle, understanding currents, and packaging engineering solutions. All lessons include a game or hands-on activity, as well as problem-solving questions, math, and graphing. For example, we will collaborate with technology class to investigate how we can design a solution to monitor or minimize the impact of plastic pollution on marine ecosystems and human health. In our final unit on celestial navigation, students learn the very basics of navigation, including the different kinds of navigation and their purposes. The concepts of relative and absolute location, latitude, longitude and cardinal directions are explored, as well as the use and principles of maps and a compass. Students discover the history of navigation, and learn the importance of math and how it ties into navigational techniques. The unit concludes with a full circle to our first unit on space with an overview of orbits and spacecraft trajectories from Earth to other planets.

#### Topics include

- Space: moon phases, tides, planets, seasons, life cycle of a star, HR diagram, electromagnetic spectrum, eclipses, Big Bang Theory, asteroids/meteors/comets, galaxies
- Earth Science: Continental Drift Theory, plate boundaries, rock cycle, erosion and deposition, Earth's layers, earthquakes, volcanoes, fossil records, geologic time scale
- Oceans: oceans intro., plastic ocean, sources and solutions, what happens to trash, water and watersheds, the water cycle, surface ocean currents, perils of plastic, identifying plastics (incorporate density and squid dissection), plastic for dinner
- Plot Your Course: where is here?, how to be a great navigator, navigating by the numbers, topo map mania, navigational techniques by land/sea/air, navigating at the speed of satellites, GPS on the move, not so lost in space

## Skills

- Observe
- Categorize, data collection
- Hypothesize
- Apply scientific method through experimentation
- Analyze
- Extrapolate conclusions/synthesize
- Learn note taking, research, and independent study skills
- Collaboration with small group and large group oral discussions and written presentations

Scientific and engineering practices (from Next Generation Science Standards)

1. Asking questions and defining problems
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations and designing solutions
7. Engaging in argument from evidence
8. Obtaining, evaluating and communicating information

## **WORLD LANGUAGE**

### **FRENCH**

This is the first year of a threeyear program. The goal is to build confidence and comfort in a new language by introducing the students to fundamental French grammar, vocabulary and various aspects of Francophone culture. The emphasis in 6th grade is on how to best learn a language. Students practice a variety of study methods, including online note cards, fourcolumn notes, written exercises, and internetbased games and activities, to hone their reading, writing, speaking and listening skills. The class is conducted primarily in French. Using a wide range of teaching techniques and materials, such as TPR (Total Physical Response), skits, poems, short readings, games, videos and songs, 6th graders complete the first four chapters of the text, Bien Dit!. In class, new topics and vocabulary are taught with a thematic approach – providing the students with a context in which to learn French language and culture. Assessments are in the form of written and oral chapter tests, quizzes, homework, class participation and projects relating to thematic vocabulary. In the spring, focus is on the Canadian province of Québec.

Themes: Introductions, activities and hobbies, family, school

Vocabulary: Greetings, introductions, numbers 0200, classroom objects and expressions, activities and hobbies, physical descriptions and personality traits, family, school subjects and supplies, days of the week, colors

Structures: Subject pronouns, present tense of regular ‘-er’ and ‘re’ verbs, **avoir** and **être**, the negative, indefinite, definite and possessive articles, yes/no questions, adjective agreement, conjunctions

## **SPANISH**

This is the first year of a threeyear program. Students are introduced to the Spanish language and to the culture of the people who speak it. They learn basic vocabulary for everyday application and the rules for gender/number agreement of nouns and adjectives. The tools for written and oral expression in the language are introduced in the concept of verb conjugation in the present tense for ar verbs and subject/verb agreement. The class is conducted largely in Spanish with the emphasis placed on developing strong speaking and listening skills. Cooperative learning and interactive classroom activities are reinforced by daily homework assignments that emphasize the improvement of writing and reading abilities. Videos, computer programs, visual materials, games, and audio tapes complement the learning process. Students experience the cultural richness and diversity of Spanishspeaking countries by participating in activities involving music, dance, and food. Students learn useful and often humorous quotes and songs from a variety of countries.

Themes: School, weekend activities, likes and dislikes, family

Vocabulary: Subjects, classroom, greetings, numbers 030, descriptive adjectives, days of the week, months of the year, seasons, weather, weekend activities, family, question words, body parts, and personality traits

Structures: Gustar, ser, gender of articles and adjectives, subject pronouns, demonstrative adjectives, possessive adjectives, present tense, IR, time Preterit, irregular preterit, negation question formation, direct object pronouns, reflexive verbs.

## **ART**

The sixth grade art program is a sequential curriculum integrating studio work with major classroom themes.

### Shapes Marks and Lines

- Exploring mark making in monoprints
- Drawing animals in a setting
- Self Portrait collage

### Color

- Balancing color in selfportrait collage
- Matching observed colors in a largescale sculpture
- Sequencing colors in a block printing project
- Exploring color and mood in a landscape painting

### Texture and Pattern

- Surface texture in clay canopic jar construction
- Exploring texture and pattern in a monoprint process
- Carving into a block in a printmaking process

### 3D Form

- Building largescale representations of objects

Clay canopic jar construction

## MUSIC

In sixth grade, students expand skills of creative musical participation through singing, playing instruments, and composition. Students explore sound and composition through the use of both original and “junk” instruments. They learn about musical theater, developing their presence and confidence onstage. They continue to practice basic notation and reading skills, and learn about the elements of music. They also use technology to create songs, storylines and class videos.

### Singing

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

### Instrumental

- Play xylophones in two and three parts from notation and by ear
- Play and compose melodies on various instruments
- Play unique, original instruments and “junk” instruments

### Listening

- Listen to, and discuss components of selected compositions, pitch, duration, volume, timbre, texture, form, style
- Recognize various styles and historic periods of music, including orchestral, choral, operatic, Broadway, jazz, and world music

### Composition Individual and Small Group Projects

- Create original compositions with “junk” instruments
- Create original compositions with percussion and other instruments

### Music Theory

- Rhythmic theory to include quarter, eighth, sixteenth and half note values, and rests
- Sight reading 8 and 16 beat patterns in rhythmic language
- Improvising patterns up to 16 beats using discussed rhythmic and melodic and harmonic elements

## 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 selfreflection, 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
- Publishing

In the sixth grade, we focus on taking greater personal responsibility for learning and applying new skills, preparing for the transition to middle school. There is a greater focus on digital citizenship and online publishing, we introduce a 1:1 computer program and school email account, and focus on long term projects that require integrating multiple skills and group collaboration. Examples include coding and electrical wiring for the interactive media project "Evoking Autumn", using digital tools for classwork and homework workflows, video and audio editing clips for world language weather reports, digital photography editing and manipulation techniques, graphic design, and animated superhero trope takedowns.

## **PHYSICAL EDUCATION**

The Physical Education program is developmental and skillbased. 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
- NonLocomotor 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**

The sixth grade students have already learned about the library, its facilities, and how to make use of them. Consequently, the two principal activities in their library time during this school year consist of a review of those skills and a book discussion group called The Critics' Corner. The latter is designed to enable students to share their feelings and opinions about the books they are reading. One result of this, of course, is that they become more articulate about literature and respect their own sense of an author's work.

### Activities

- Review library skills
- Refresh familiarity with the computer catalog as a reader's tool
- Use the card catalog as an established skill
- Implement The Critics' Corner
- Identify various forms (genres) of literature
- Support classroom report writing with research materials

### **ELECTIVES PROGRAM**

Sixth grade students, joined by 7<sup>th</sup> and 8<sup>th</sup> graders, choose an elective class. Electives are held each Friday afternoon and give students the opportunity to learn more about a particular area of interest. Teachers offer a variety of classes including cooking, dark room photography, ceramics, volleyball, sewing, and jewelry making. Each term a list of courses is presented to the sixth, seventh, and eighth grade students, who then choose a topic to explore.

### **SPORTS (Interscholastic Competition)**

The school offers a program of interscholastic competition for students in grades 6-8. Students are encouraged to participate in at least one of the three seasons per year. Offerings include: fall (soccer, field hockey, crosscountry); winter (basketball); spring (lacrosse, tennis for grades 7 & 8, track and field). 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.