



FIFTH “GRADE EXPECTATIONS”

MATH

Integral to our math program is the development of deep conceptual understandings of the number system, place value, addition, subtraction and early algebra. We do this through a variety of ways, but what is critical is that our math work has real-life application and that it is constantly being integrated into all times of day (during morning meeting when they look at how many kids are present in school or when they are making their own graph of what is the most popular playground structure). They also read a variety of books that touch on various mathematical concepts and ideas.

Children learn best through real problem solving experiences and where problems can be solved using a variety of strategies and individual approaches while meeting national mathematics standards. Students at each grade level to explore theories and functions through investigation, to develop a variety of strategies to solve problems and share their solutions, and to see math in the world around them. Students work in depth on a small number of problems, actively using mathematical tools and consulting with peers as they find their own ways to solve the problems. Significant time is allowed for students to think about the problems and to model, draw, write, and talk about their work. Each investigation is divided into several class sessions, approximately one hour long, and grouped together to reflect the continuity and flow of the activities as they actually happen in the classroom. During each investigation students work a number of activities that include pair and small-group work, individual tasks, and whole-class discussions. Math discussions are encouraged, where students can share and explain their strategies and thinking. Children represent their perspectives and findings through numbers, words, and pictures. Assessments occur through observations, studying student work and end of unit assessments.

FOCUS: Fractions & decimals are a major component of fifth grade. Place value & all operations extend to fractions & decimals. In fifth grade, we provide a balance of investigative problem solving, practice and review. We ask our students to revisit and evaluate their work. We encourage them to continue to develop & use more efficient and effective strategies. It is important that students become efficient in their methods & strategies as they use bigger numbers and solve more complex problems.

Fifth Grade Math Units	Goals
Habits of Mind: Becoming a Mathematical Thinker	A unit that helps us develop routines and a mathematical community of discourse
TERC Puzzles, Clusters, & Towers	Students solve multiplication problems with 2-digit numbers. They use arrays, explore factors & multiples and build fluency. Students break apart multiplication problems efficiently. *Students move towards fluently multiplying multi-digit whole numbers using the standard algorithm.
TERC Prisms & Solids	In this unit students determine cubes that will fit into a box. They determine a strategy for determining the volume of rectangular prisms. *Students move towards measuring volume by counting cubes and then finding the volume by multiplying height by length by depth (using formulas & connecting multiplication).
TERC Rectangles, Clocks & Tracks	This unit focuses on finding equivalents and comparing fractions. Students find fractional parts of a whole, identify fraction equivalents, order fractions & compare fractions to landmarks. The unit also focuses on adding & subtracting fractions, using a number line, common denominators, & mixed numbers. *Fractions are a major emphasis in grade 5. Students work towards adding & subtracting with unlike denominators.
TERC How Many People & Teams	Students are involved in solving multiplication problems fluently. They describe strategies, use clear & concise notation (write & record numerical expressions & equations). Students solve division problems efficiently. *It is important that students become efficient in their methods & strategies as they use bigger numbers and solve more complex problems.
TERC Temperature, Height & Growth	In this unit students read & construct coordinate graphs. They model situations with mathematics and analyze & compare mathematical patterns & relationships. *Students

	are moving towards representing & interpreting data using line plots.
TERC Between 0 & 1	Students explore & understand the meaning of decimals. They identify uses of & make connections to fractions & decimals. Students read & write tenths, hundredths, & thousandths, represent decimals on a number line, round decimals & write decimals in expanded form. In this unit students compare decimals to thousandths and use landmarks such as 0, $\frac{1}{2}$, 1. Students add & subtract decimals. *All operations of number and place value understanding, now include decimals (.not just whole numbers)
TERC Races, Arrays, & Grids	This unit continues decimal concepts & operations. Students multiply & divide with decimals. Patterns of place value, such as the powers of 10 & the placement of the decimal point are connected. *Students move towards fluently multiplying multi-digit whole numbers using the standard algorithm.
TERC Properties of Polygons	Students classify two-dimensional figures. They identify attributes of polygons, classify triangles by the sizes of their angles & length of sides, classify quadrilaterals and understand that a polygon can belong to more than one category. *Students are classifying 2-dimensional figures into categories based on properties.

** The Co-op School uses TERC Investigations of Number, Data, and Space along with Math in the City's Contexts for Learning (CFL) Mathematics, programs that embrace individual approaches to problem solving while meeting national mathematic standards, form the foundation of our math program.*

LITERACY

Workshop model:

Students learn to listen, speak, write and read for a variety of purposes. They receive directed instruction to the skills they need to be successful and have opportunities to practice and apply those skills. The reading and writing workshop model is used, supported by *Units of Study for Teaching Writing* and *Units of Study for Teaching Reading*, workshop-based literacy instructional programs that were developed at Teachers College at Columbia University. Teachers begin by modeling one reading or writing strategy in a mini lesson. Students practice the focal strategy independently, with partners, and in small groups while teachers circulate and provide guidance. Selected students share their work to build confidence with sharing ideas and public speaking.

Balanced Literacy:

Beginning in Kindergarten, we use a balanced literacy approach, a researched and proven method which recognizes the need for both the explicit teaching of skills such as sound-symbol correspondence, phonemic awareness, encoding and decoding as well as the opportunity for children to participate in activities that are designed to build comprehension and meaning. Balanced literacy instruction provides students with opportunities for differentiated instruction, including small group work targeting specific needs in comprehension, phonics, grammar, spelling, and vocabulary building. Groups are formed on the basis of common needs and are fluid, recognizing that children may need different tools and supports at different times.

Literacy Assessment:

The literacy development of our students is assessed in a variety of ways and is used to inform instructional decisions for both the class as a whole, and for individuals. Assessment takes many forms. Teachers gather information during daily lessons and through careful examination of student work. Each reading and writing unit includes assessments used to evaluate student understanding of content, and benchmark assessments are used to evaluate reading fluency and comprehension as well as writing skill and development. Assessments are designed to be age-appropriate and individualized. Beginning in 3rd grade we administer the CTP Test, a standardized achievement and reasoning test from the Educational Records Bureau (ERB), to all of our students. This test is designed for each grade level and the results help us assess and make decisions about our curriculum and instruction. For the students, taking the CTP Test provides experience with standardized test taking.

Reading:

Fifth graders work towards greater intellectual independence, learning and practicing tools for comprehending, analyzing and responding to longer and more sophisticated texts. Early in the year Fifth Graders focus on comprehension and analysis of fiction as they develop a repertoire of strategies such as reading closely, noticing how story elements interact, understanding how different authors develop the same theme, and comparing and contrasting texts that develop a similar theme. As interpretive and analytical skills grow students apply them more independently and to a variety of genres, including nonfiction, opinion and fantasy texts. In addition to reading workshop and daily opportunities for independent reading, Fifth Graders read widely as they pursue their learning in inquiry and science.

Writing:

The Fifth Grade writing curriculum is designed to help Fifth Graders consolidate the organizational, craft and writing process skills that were introduced in Fourth Grade, and to apply them to new challenges, such as conducting research using primary sources, writing narratives that are more reflective and theme-based, and writing persuasive essays that use counterargument to clarify a position. Fifth Graders write for a variety of purposes and audiences, increasing the number, length and detail of their published pieces. Fifth Grade writers structure longer pieces of writing and follow detailed student rubrics as they draft, revise and edit their pieces. Editing and revising includes greater self-reflection, more peer editing, and

conferencing with teachers. Fifth Graders' spelling grows through the regular introduction of sight words and tailored word study work exploring spelling patterns.

Reading Units	Goals
Launching the Reading Workshop and beginning literary analysis	Students practice the routines and procedures needed to be successful in the reading workshop. Readers learn how to participate fully and engage in thoughtful discussions with class, in small groups, and with partners. Readers analyze literature using evidence, annotations, and drawing on text annotations to write thoughtful, evidence-based reader responses. Readers begin to record what they notice and wonder, identify patterns and imagery, and compare and contrast to analyze characters, settings and themes. This unit focuses on narrative writing.
Book Clubs	Students apply their growing ability to analyze, discuss and write about literature to the challenge of small-group reading and discussion with peers. Teachers scaffold this independence through thoughtful grouping of children and monitoring of group work.
Nonfiction	Children investigate the ways nonfiction texts are becoming more complex, and they learn strategies to tackle these new challenges. This unit emphasizes the strong foundational skills such as fluency, orienting to texts, and word solving, that are required to read complex nonfiction. Strategies include note taking, paraphrasing, summarizing, inferencing and using context to learn new vocabulary.
Argument and Advocacy	Readers read sophisticated nonfiction texts and conduct research on debatable topics, learn to recognize an author's opinion and purpose, to differentiate between fact and opinion, and distinguish between well-supported and poorly supported claims. Students examine the tools and craft that authors use to strengthen their arguments, and compare and contrast different positions on the same topic. As students develop the skills to evaluate arguments they formulate their own evidence-based, ethical positions on issues.
Fantasy Fiction	Rich with symbolic imagery and language, fantasy fiction offers students a perfect context for exploring and deepening their understanding of thematic text elements. Students are challenged to think metaphorically as well as analytically, and they consider the implications of conflicts, themes, and lessons learned.

Writing Units	Goals
Launching the Writing Workshop	Students practice the routines and procedures needed to be successful in the writing workshop. Within the genre of personal narrative, writers explore techniques of vivid writing and publish a piece using all steps in the writing process, including brainstorming, drafting, revising, and editing. Students identify and expand small moments to include feelings, sensory details, and dialogue, with the goal of expressing a deeper meaning or theme within their personal narratives. Elaborating on important plot elements helps expand the heart of the story and show the reader what the story is really about.
Narrative Fiction	Building on the skills from their personal narrative writing and their inquiry study, students draw on their expert knowledge of a historical time and place to craft fictional narratives.
Biography	Students will research a historical figure from the scope of time included in our Inquiry study and write a biographical piece about him or her. Students will write chronologically, include background information, and add nonfiction text features, such as timelines, to supplement primary text.
Personal Essays/Memoir	Students will reflect on what they believe and identify topics and themes of personal importance, using those ideas to develop personal essays that come alive with the incorporation of personal stories as metaphors. Students will explore alternative narrative structures, such as flashbacks and flashforwards.
Persuasive Writing	Drawing on their understanding of effective argument writing developed through reading of mentor texts, students will learn to write effective, evidence-based pieces of persuasive writing.

	Students will select and research a topic of personal interest and use evidence and analysis write compelling arguments about it.
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SOCIAL STUDIES

We are creating curriculum with and for children in order to help them think and communicate as readers, writers, scientists, mathematicians, artists and social scientists. Our social studies projects are the core of what is happening in our classrooms. This constructivist way of teaching is absorbed into our classrooms through a Reggio Emilia inquiry-based Open Work/Project Work periods. Projects are planned with attention to state standards, teacher goals and individual classroom interests and curiosities. The term "Project" refers to an in-depth look into a particular topic, usually undertaken by a class working on subtopics in small or whole group, occasionally even individually. The key feature is that it is an investigation, research that involves children seeking answers to their questions. This approach to learning emphasizes children's active participation in the planning, development, and assessment of their own learning. Long-term projects provide contexts where innate curiosity can be expressed purposefully. This enables children to experience the joy of self-motivated learning. They read, construct, research, interview and recreate in various mediums. They go on trips, interview experts and have lively debates and conversations. Our teachers are observers and facilitators to the children's interests. They step back and listen. They allow the children to have changes to problem solve. They document their ideas, questions, struggles, connections and insights. Teachers ask provoking questions to gather prior knowledge and learn about curiosities. They present materials that they suspect will engage and elicit even further interest of the study. We are creating curriculum with and for children to help them develop lifelong thinking and communication skills.

Fifth Grade's "Freedom and Cultures" Focus

- Westward migration/Lewis & Clark
- Journey to freedom/slavery/what are you willing to stand up for?
- Civil War
- Complex cultures and civilizations of the past

Essential Questions Anchoring Studies:

- To what degree does geography determine culture?
- How has geography shaped American History?
- How do issues of power, wealth and morality influence exploration and colonization?
- How do key forces and events shape nations?
- Can you own land, people and ideas?

The children will work on some of the following skills and abilities:

- Develop questions about history, geography, economics and government. Notice patterns of change and continuity.
- Recognize, use, and analyze different forms of evidence used to make meaning in social studies (including sources such as art and photographs, artifacts, oral histories, maps, and graphs).
- Identify arguments of others.
- Identify evidence and explain content, authorship, purpose, and format; identify bias; explain the role of bias and potential audience
- Explain how events are related chronologically to one another in time
- Employ mathematical skills to measure time in years and centuries
- Identify causes and effects
- Identify important turning points in history
- Identify how the relationship among geography, economics, and history helps to define a context for events in the study of the Western Hemisphere
- Use location terms and use geographic representations such as maps, photographs, satellite images, and models to describe where places in the Western Hemisphere are in relation to each other
- Describe how human activities alter places and regions
- Provide examples of how currency makes exchange easier by comparing a barter economy to a currency-based economy
- Describe government decisions that impact economies.
- Identify different types of political systems and ideologies used at various times and in various locations
- Describe the roles of people in power
- Identify rights and responsibilities of citizens within societies
- Develop an understanding of the interdependence of individuals and groups in communities

MULTICULTURALISM/ANTI-BIAS WORK

The Co-op School is committed to creating a community of diverse learners, families, and staff members. We believe strongly in embracing and respecting our differences. For us, diversity is about how we connect to each other. As a school we have committed ourselves to further strengthening our anti-bias curriculum through a series of trainings for our families and staff members. To create a foundation for our work, Co-op teachers will share personal histories and investigate their own biases and stereotypes. Our teachers then will thoughtfully create classroom environments and curricula that intentionally reflect the diversity of our school community and beyond. Throughout the school year, teachers and students together will

collaborate in creating an inclusive classroom environment which explores differences, identities, and societal stereotypes. At The Co-op School, our aim is to create a welcoming community that is respectful of differences and to teach our students how to successfully navigate our increasingly global society. We want our Fifth Graders to begin exploring concepts of right and wrong, of morals and ethics. Discussing public goods and identifying when/where things aren't equitable in NYC. We introduce the concept of social- economic status.

Will achieve this by:

- Ensuring that The Co-op School's Core Values of compassion, uniqueness, innovation, community action and joy, guide our school community on what is important to us.
- Teaching Spanish to all our elementary school students.
- Speaking to children in an open way, not shutting down questions.
- Reading books about past experiences and events where people have faced adversity and created change. Additionally books that show examples of the disparity of goods made available to everyone.
- Exploring our government structure and how that contributes to the issues that arise.
- Exploring the concept of a public good.
- Exploring the idea of "fairness"
- Exploring how we can enact change and what we will need to do to make it happen.
- Selecting teaching materials and literature that reflect affirming depictions of a wide range of identities.
- Reading books that include a wide range of individual, cultural, and family identities.