



KINDERGARTEN “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: Making sense of numbers, counting, sequencing, and comparing numbers are a major focus of Kindergarten. We begin the year in Kindergarten by exploring our math manipulatives and tools. We talk about and use math throughout the day, during project work, during choice time and morning meeting. We build in blocks and count how many children are in school today. The children play many games with partners that are appropriate and leveled for each individual child. The classroom has many conversations around the idea of *How Many?* Our Kindergarteners discover ways to identify, compare, and describe two-dimensional shapes. We will investigate the composition and decomposition of numbers, conceptualizing what it means to add and subtract, and work on representational thinking, using images to show math work clearly and delving into the idea that equations express mathematical thinking universally. As the year finishes, we collect and organize data. Work in these areas of conceptual and representational thinking is paired with practice writing numerals, counting (by 1s, 5s, and 10s), and practical organization (tagging while counting objects or grouping like items, for example). This matchup promotes an understanding of not only the symbolic meaning of numbers and automaticity of math, but also an overall number sense that allows a budding first grader to approach mathematical questions with a strong base in both reasoning and memory. They will read various books that focus on counting concepts. Additionally, they use their classroom counting tool, called a Rekenrek, to assist in the development of their computational skills. This tool will help them to generate addition and subtraction strategies, solve contextual story problems by having the visual representation.

Math Units	Goals
TERC Who Is in School today?: Classroom Routines and Materials	This unit introduces the processes, structures, and materials that are important features of the kindergarten math curriculum. It also introduces routines that students will encounter regularly throughout the year. These routines include taking attendance, using the calendar to count/ keep track of time and events, counting sets of objects, and collecting and discussing data about the class reinforce essential number concepts.
TERC Counting and Comparing: Measurement and The Number System	Students explore numbers through a variety of counting activities. They build knowledge of the counting sequence, use numerals to represent quantities, represent equivalent amounts, and develop skills for accurate counting. They also begin to compare quantities. As an introduction to linear measurement, students measure and compare the lengths of objects using direct comparison.
TERC What Comes Next?: Patterns and Functions	In this unit, students investigate what makes a repeating pattern. They focus on attributes of objects and think about which attributes (i.e., size, color, shape, orientation) are important in the patterns they are making. Students work with simple and complex repeating patterns. They have many opportunities to copy, create, and extend repeating patterns using a variety of materials and common objects. They use patterns to

	determine what comes next and focus on the part, or unit, of a pattern that repeats.
TERC Measuring and Counting: Measurement and the Number System	Students gain a deeper understanding of numbers and number relationships as they engage in activities in which they count, combine, and compare amounts. They develop visual images of numbers and solve problems in which they find different combinations of the same number. Students are introduced to addition and subtraction situations through story problem contexts. Work with linear measurement continues as students use nonstandard units to measure the length of objects and paths.
TERC Make a Shape, Build a Block: 2-D and 3-D Geometry	Students explore geometry using a variety of materials, including Geo Blocks, pattern blocks, interlocking cubes and geoboards. They describe, sort, and compose and decompose two- and three-dimensional shapes. They think about shapes in their environment and match two-dimensional shapes to three dimensional objects.
CFL Bunk Beds & Apple Boxes	This unit begins with the story of a sleepover where 8 children play, moving up and down bunk beds. The Rekenrek arithmetic rack tool is used as a model and tool to act out the story. It consists of two rows of ten beads with two sets of fives in each row. It supports the development of part-whole relations in early number sense. Children develop an understanding that a number can be named in many ways. We use quick images (a series of related problems flashed only for seconds) to further develop early number sense. They also explore apple boxes - investigating the number of unique combinations for five apples of two kinds, green and red, and record the combinations.
TERC How Many Do You Have?: Addition, Subtraction, and the Number System	Students continue to work with counting and number composition as they count sets of objects and find multiple combinations of the same number as they decompose numbers to 10. They use numbers and notation to describe arrangements of tiles and number combinations. Students continue to develop an understanding of the operations of addition and subtraction.
TERC Sorting and Surveys: Data Analysis Inventory	This unit develops ideas about sorting and classifying, counting, representing, conducting a data investigation, and using data to solve a problem. In this unit, students sort objects according to common attributes, as well as sort data about their class. They collect, record, and represent categorical and numerical data about their class, and they carry out their own data investigation by collecting responses to their own survey questions.

* 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.

Phonics and Handwriting:

In Kindergarten we introduce letters and letter sounds through a kinesthetic phonemic awareness program called *Sounds in Motion*, which helps children learn and internalize letter/sound relationships. Letter/sound knowledge is reinforced through conversations, songs and games. We use the handwriting program *Handwriting Without Tears* to introduce both uppercase and lowercase letters, though the emphasis will be on recognition and correct formation of uppercase letters. In addition to teaching letter/sound relationships,

Reading:

Reading in Kindergarten focuses on developing a love for books and becoming familiar with book language and features. Students are exposed to many genres and authors. Exploring why authors write books and how they are formatted helps Kindergarteners as they begin to draft their own stories. Students identify connections between the books we read and the

world around them and learn that books can be a tool for investigating new ideas. Shared reading experiences scaffold emergent readers and help them to learn the habits of good readers. Children analyze illustrations and become more aware of facts and information that relate to the structure of a book. Kindergarteners can select their own books and spend time reading independently or with a partner. Guided reading book clubs begin in January and provide an opportunity for teachers to introduce and reinforce needed strategies for comprehension and decoding. At times, children will deepen their comprehension of a text by acting it out.

Writing:

Students begin to build the foundation, interest and ability to become lifelong writers. Listening and speaking is practiced throughout the day. Kindergarteners are encouraged to use language skills to express their opinions and points of view. Through shared and interactive writing opportunities, which are stories dictated to the teachers, along with personal writing times, students learn how to express their thoughts. During individualized personal writing opportunities, writing begins with students drawing pictures and writing labels, short words, and phrases. By the end of the year students write simple sentences that describe their detailed illustrations. Outside of the Writing Workshop there are multiple opportunities and reasons that writing is integrated into other work throughout the day - to write a doctor's prescription in a dramatic play center, to write classroom labels so that we know where supplies go, or to write what the weather is today so we can figure out how many rainy days there are in April. Fine motor skills are developed and refined through writing instruction and related activities.

Literacy Assessment:

The language and literacy development of our Kindergarten students is assessed in a variety of ways and is used to inform instructional decisions for the class and for individual students. Teachers gather information during daily lessons, class discussions and through careful examination of student work. Benchmark assessments are used throughout the year to evaluate student understanding of letter identification, letter sounds, rhyming, concepts of print, reading fluency and comprehension, as well as writing skills and development. Assessments are designed to be age-appropriate and individualized.

Reading Units	Goals
We are all Readers	Students participate in the launch of the reading workshop and learn the routines, procedures, and expectations. Our work with letter recognition and sounds begins with our STAR name study. Each classmate's individual name is deconstructed by letter, letter sounds, and blending the letter sounds together while sharing special facts about what makes each individual person unique. Names are added to the word wall, which provides a reference to consult.
Exploring Predictable and Pattern Books	Predictable and pattern books support children as they begin to read and retell stories. As children read and re-read predictable books, they grow their sight word vocabulary and are introduced to strategies for decoding and word solving, including using picture cues, rhyming patterns, and other strategies. Students begin to make connections within and between books.
Just-right books and print strategies	Students practice the routines and procedures with greater independence, allowing for more independent and partner reading. They are matched to texts based on assessments and will begin reading every day from their leveled books. Children receive support in developing strategies specific to their reading level. Their growing toolkit of strategies and sight word vocabularies allow them to improve their accuracy, fluency and comprehension.
Nonfiction features and genres	Students learn that nonfiction books have unique features for presenting information and are structured to make finding information easy. The pictures and information in nonfiction books help readers learn facts about themselves and the world.
Readers can use Nonfiction books to explore a topic	Kindergarteners use their understanding of how nonfiction books work to explore more information about their inquiry study or an interesting topic.
Becoming Avid Readers	Kindergarteners begin to integrate the reading skills, strategies and concepts they have learned to increase fluency, comprehension and independence. Students read a variety of genres and continue to read both independently and with guided reading groups.
Poetry	Readers explore rhymes and patterns while studying different types of poetry. Learners are exposed to many different poets and styles, finding meaning in words based on patterns, illustrations, and rhyming.
Writing Units	Goals

We are all writers who write for many reasons	Kindergarten students establish routines, procedures, and expectations for writing workshop. Learners express and share information about themselves through pictures and words, creating both classroom and individual books. Students explore writing each other's names during the STAR name study and writing letters and words during the writing workshop.
Books with Patterns	Students use what they've learned about rhyming and patterns in reading workshop to create their own books that feature a pattern or rhyme. Student writing creates a class book for students to revisit in the classroom library. Students practice ways to rehearse their ideas before writing and share more thoughts with their partners.
Personal Narratives	Students are exposed to different types of personal narratives and discuss the story elements through retelling. Learners establish ways to generate ideas for writing and enjoy writing every day. The personal narratives are assembled as a class book for all readers to enjoy.
Writing How-To and Expert Books	Writers know how to use strategies to generate ideas for writing and explore many nonfiction How-To books that model and inspire writing for others. Students write a How-To book connected to the inquiry project or sharing something they know how to do really well.
Poetry	Students explore poetic devices including metaphor, personification, alliteration, onomatopoeia, descriptive language, word imagery. Students' poetry writing is inspired by a variety of experiences that could include going to the park, visiting poets, and reading the work of others, including the work of other children. Poetry writing begins with creative labeling of detailed drawings and shared writing and these lead to individual poems and the creation of a class poetry book.

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.

Kindergarten's "Inside to the Outside Community" Focus (Subject to change!)

- Interesting Things Study
- Food/Related Market or Bread Study
- Shadow Study

Essential Questions Anchoring Studies:

- What is a community?
- What does it mean to be a member of your school/classroom community?
- What rights/responsibilities do we have at home, school and in our classroom/school community?
- How are people and families the same and different?

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

- Asking questions
- Identifying other opinions
- Understanding cause and effect and changes that occur over time
- Identifying similarities and differences between home and school.
- Identifying similarities and/or differences between themselves and others.
- Asking geographic questions about where places are located and why they are located there, using location terms and geographic representations, such as maps, photographs, satellite images, and models.

- Identifying natural events or physical features, such as land, water, air, and wind.

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 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.
- Speaking to children in an open way, not shutting down questions.
- Displaying photographs of students' families to show different family structures and reflect upon each child's identity and experience.
- Inviting families and children to share their own unique cultures and traditions within the classroom.
- Conducting read alouds about diverse families and communities, character studies about people who invented things and affected change.
- Exploring classroom roles and structures - what is fair and not fair, changing/developing rules to fit the needs of each classroom member.
- Selecting teaching materials and literature that reflect affirming depictions of a wide range of identities