



# Needham Public Schools

## GRADE 4 CURRICULUM SUMMARY

September 2023

### Mathematics

The big ideas in grade 4 include: developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry. The content is organized into the following units:

- Factors and Multiples
- Fraction Equivalence and Comparison
- Extending Operations to Fractions
- From Hundredths to Hundred-thousands
- Multiplicative Comparison and Measurement
- Multiplying and Dividing Multi-digit Numbers
- Angles and Angle Measurement
- Properties of Two-Dimensional Shapes

Throughout these units fourth grade students will engage in mathematical practices—making sense of problems, reasoning abstractly and quantitatively, making arguments and critiquing the reasoning of others, modeling with mathematics, making appropriate use of tools, attending to precision in their use of language, looking for and making use of structure, and expressing regularity in repeated reasoning.

### Reading

- Participate in book discussion with partners, small groups, and whole class
- Read and discuss a variety of genres
- Read text with fluency and expression
- Use comprehension strategies to deepen understanding
- Read for insight, information, pleasure
- Interpret relationships of characters and events in stories and texts
- Read to acquire information
- Use multiple strategies to determine word meaning
- Recognize idioms and figurative language
- Gather and organize information
- Increase knowledge of word structure and vocabulary

### Writing

- Use stages of the writing process including drafting, revising, editing, and publishing
- Use graphic organizers
- Use a variety of genres for different writing purposes
- Consider audience and purpose for writing
- Write with voice
- Use research skills to support informational writing
- Write in response to prompts
- Use mentor text to learn crafting techniques
- Use conventional spelling
- Use conventions of punctuation

### Science

We have completed aligning Needham's elementary & science curriculum with the MA science & technology/ engineering framework. New units incorporate aspects of Culturally Responsive Teaching (CRT.)

Grade 4 content topics are:

- Insects (Life Science)
- Sight, Light and Stars (Physical & Earth Science)
- Forces & Energy\* (Physical Science) \*revised for 2023-24

### Social Studies

Students learn about geography and engage in inquiry-based social studies as they study the following units:

- Early Explorers
- Early Colonial Settlers
- Indigenous peoples of North America

### Spanish Language & Culture

#### Novice Range Skill Development

Using a mixture of practiced words, phrases, simple sentences/questions, students can:

- Understand the general topic in conversations and simple texts
- Identify memorized or familiar words, phrases and questions in conversations and simple texts
- Ask high frequency questions
- Provide information by answering a few simple questions on very familiar topics
- Interact at a survival level in some familiar everyday contexts
- Identify products and practices in their own and another's culture to help understand diverse perspectives

#### Topics and Themes:

- Cultural Focus: Life in Ecuador
- "A School Day" in the USA and in Ecuador
- Food and cultural customs
- Pastimes, activities, and healthy lifestyles
- Planning a trip to Ecuador!
- My home (rooms, floors, furniture)

## Art

- Create a work that expresses, evokes, or communicates a directed idea
- Demonstrate an understanding of the Elements and Principles of Art and Design. Be able to apply these principles in artistic work in a developmentally appropriate way.
- Connect with art in other settings
- Uses problem solving to create and refine works of art.
- Use artistic tools appropriately to create works of art that express specific concepts such as value and observational drawing.
- Uses a sequential process in creating works of art and is able to communicate this process to others.
- Use shading to create spatial relationships
- Experiment with qualities of a variety of paints
- Use color and texture to enhance a finished product

## Music

- Uses the elements of music to create and improvise compositions that express feelings, concepts, or ideas.
- Uses a healthy singing voice.
- Listens to orchestral music and accurately identifies instruments being performed. Able to discuss tone and color as related to instruments.
- Individually read moderately complicated rhythms and melodies in standard notation in treble clef
- Identify and sing music of different cultures
- Respond to a musical challenge and hypothesize possible solutions
- Recognize, define, and perform various musical forms such as a canon.
- Compose and perform notation in duple and triple meters
- String Ensemble or Band may be elected in grade 4. Demonstrates continuous growth in performance skill on the chosen instrument.

## Physical Education

- Experience the joy of movement with self and others
- Practice and apply movement concepts and skills that will lead to enjoyable participation in activities/games/sports
- Exhibit etiquette and adherence to rules in a variety of physical activities
- Apply simple offensive strategies & tactics in chasing & fleeing activities
- Perform a variety of jump rope skills with a self-turned short rope
- Demonstrate the ability to transition between dribbling and kicking towards a target with consistency
- Demonstrate the ability to dribble with alternating hands to avoid a defender
- Consistently strike a moving ball (from wall or partner) with a racket or paddle using a forehand strike

## Media & Digital Learning

- Master the use of the library catalog for materials searching
- Locate information using appropriate searching strategies
- Write an electronic citation
- Understand the Dewey Decimal System
- Use word processing tools to author work
- Develop keyboarding fluency
- Save and retrieve work appropriately and responsibly
- Program computer and robots using a variety of coding tools
- Manipulate images from the web or mobile device to add to creative works
- Develop more detailed descriptions of cyberbullying, and of their impact upon children
- Understand basics of Digital Citizenship
- Use cloud-based systems to access and complete assignments, save and organize documents, access work, and collaborate online

## Social & Emotional Learning

Social and emotional learning (SEL) is the process through which children acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions. SEL is more than just a program or lesson. It is about how teaching and learning happens, as well as what you teach and where you learn. There are a variety of approaches used to teach SEL including:

- Free-standing lessons designed to enhance students' social and emotional competence explicitly.
- Teaching practices such as cooperative learning and project-based learning, which promote SEL.
- Integration of SEL and academic curriculum such as language arts, math, social studies, or health.
- Organizational strategies that promote SEL as a schoolwide initiative that creates a climate and culture conducive to learning.

At the elementary level, the Responsive Classroom Approach is used to promote well-designed practices intended to create safe, joyful, and engaging classroom and school communities. The emphasis is on helping students develop their academic, social, and emotional skills in a learning environment that is developmentally responsive to their strengths and needs.

Students develop their SEL skills across five competencies:

- Self Awareness
- Self Management
- Social Awareness
- Relationship Skills
- Responsible Decision Making

## Grade 4 Racial Literacy

### Stories of Activism: How One Voice Can Change a Community

Students investigate themes of fairness, courage, friendship, and empowerment by reading the stories of "everyday" heroes and famous figures who responded to discrimination and racism. When learning about inequality, students will also explore the counter concept of building and bridging diverse communities.