

**BABYLON UNION FREE SCHOOL DISTRICT**

***BABYLON MEMORIAL GRADE SCHOOL***

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**Curriculum Guide**

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**Grade 5**

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This guide is intended to address the continuum of learning as it continues through fifth grade. The New York State learning standards are delineated in this guide. Instruction is provided in a team teaching program and is individualized, specific, and differentiated to meet the individual needs of the child. Although what is represented here are benchmarks for the fifth grade level, it must be remembered that children progress at paces specific to their abilities and interests.

In addition to the rigors of the K-12 curriculum articulated by NYSED, the Grade School prides itself on educating for character as a priority. When students attend to *respect, responsibility, honesty and empathy*, they likely address their schoolwork and collaborative interactions with others successfully.

### **English Language Arts**

The New York State Learning Standards in the English Language Arts state that children will read, write, listen, and speak for:

- Information and understanding
- Literary response and expression
- Critical analysis and understanding
- Social interaction

The expectation is that students will “read a minimum of 25 books or the equivalent per year across all content areas and standards” and will “write an average of 1000 words per month across all content areas and standards.”

According to the New York State Education Department throughout grades 5 and 6, students demonstrate the following core performance indicators in the key ideas of reading, writing, listening, and speaking.

<p><b>Reading</b></p> <ul style="list-style-type: none"> <li>• Identify purpose of reading</li> <li>• Adjust reading rate according to purpose for reading</li> <li>• Use word recognition and context clues to read fluently</li> <li>• Determine the meaning of unfamiliar words by using context clues, a dictionary, or a glossary</li> <li>• Identify signal words, such as finally or in addition, that provide clues to organizational formats such as time order</li> <li>• Use knowledge of punctuation to assist in comprehension</li> </ul>	<p><b>Writing</b></p> <ul style="list-style-type: none"> <li>• Understand the purpose for writing; the purpose may be to explain, describe, narrate, persuade, or express feelings</li> <li>• Determine the intended audience before writing</li> <li>• Use tone and language appropriate for audience and purpose</li> <li>• Use prewriting activities (e.g., brainstorming, note taking, free writing, outlining, and paragraphing)</li> <li>• Use the writing process (e.g., prewriting, drafting, revising, proofreading, and editing)</li> <li>• Use teacher conferences and peer</li> </ul>
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<ul style="list-style-type: none"> <li>• Apply corrective strategies (e.g., rereading and discussion with teachers, peers, or parents/caregivers) to assist in comprehension</li> <li>• Read aloud, using inflection and intonation appropriate to text read and to audience</li> <li>• Maintain a personal reading list to reflect reading goals and accomplishments</li> </ul> <p><b>Listening</b></p> <ul style="list-style-type: none"> <li>• Listen respectfully and responsively</li> <li>• Identify own purpose for listening</li> <li>• Recognize content-specific vocabulary or terminology</li> <li>• Listen for unfamiliar words and learn their meaning</li> </ul> <p><b>Speaking</b></p> <ul style="list-style-type: none"> <li>• Respond respectfully</li> <li>• Initiate communication with peers, teachers, and others in the school community</li> <li>• Use language and grammar appropriate to purpose for speaking</li> <li>• Use facial expressions and gestures that enhance communication</li> <li>• Establish eye contact during presentations and group discussions</li> <li>• Use audible voice and pacing appropriate to content and audience</li> <li>• Use visual aids to support the presentation</li> </ul>	<p>review to revise written work</p> <ul style="list-style-type: none"> <li>• Observe the rules of punctuation, capitalization, and spelling, such as <ul style="list-style-type: none"> <li>- punctuation of compound sentences, friendly/business letters, simple dialogue, and exact words from sources (quotations); use italics/underlining for titles</li> <li>- capitalization of proper nouns such as key words in literary and/or book titles, languages, and historical events</li> <li>- spelling of commonly misspelled words, homonyms, and content-area vocabulary</li> </ul> </li> <li>• Use correct grammatical construction in <ul style="list-style-type: none"> <li>- parts of speech such as nouns; adjectives and adverbs (comparative/superlative); pronouns (indefinite/nominative/objective); conjunctions (coordinating/subordinating); prepositions and prepositional phrases; and interjections</li> <li>- simple/compound/complex sentences, using, correct subject-verb agreement, verb tense, punctuation, and pronouns with clear antecedents</li> </ul> </li> <li>• Use signal/transitional words (e.g., in addition, for example, finally, as a result, similarly, and on the other hand) to provide clues to organizational format</li> <li>• Use dictionaries, thesauruses, and style manuals</li> <li>• Use word processing skills</li> </ul>
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The English Language Arts Standards are further explained in terms of literacy competencies and grade-specific performance indicators which are descriptions of student achievement: what students should know and be able to as a result of skilled instruction.

## Grade 5 Reading

<p style="text-align: center;"><b>LITERACY COMPETENCIES</b></p> <p>The reading competencies common to all four ELA standards that students demonstrate during grade 5 are:</p>	<p style="text-align: center;"><b>GRADE-SPECIFIC PERFORMANCE INDICATORS</b></p> <p>The grade-specific performance indicators that grade 5 students demonstrate as they learn to read include:</p>
<p><b>Word Recognition</b></p> <ul style="list-style-type: none"> <li>• Use knowledge of a variety of decoding strategies, such as letter-sound correspondence, syllable patterns, decoding by analogy, word structure, use of syntactic (grammar) cues, and use of semantic (meaning) cues, to read unfamiliar words</li> <li>• Integrate sources of information to decode unfamiliar words and to cross-check, self-correcting when appropriate</li> <li>• Use word recognition skills and strategies, accurately and automatically, when decoding unfamiliar words</li> <li>• Recognize at sight a large body of high-frequency words and irregularly spelled content vocabulary</li> </ul> <p><b>Background Knowledge and Vocabulary Development</b></p> <ul style="list-style-type: none"> <li>• Learn grade-level vocabulary through both direct and indirect means</li> <li>• Use word structure knowledge, such as roots, prefixes, and suffixes, to determine meaning</li> <li>• Use prior knowledge and experience in order to understand ideas and vocabulary found in books</li> <li>• Acquire new vocabulary by reading a variety of texts</li> <li>• Use self-monitoring strategies to identify specific vocabulary that</li> </ul>	<p><b>Standard 1:</b> Students will read, write, listen, and speak for <b>information and understanding.</b></p> <ul style="list-style-type: none"> <li>• Locate and use school and public library resources, with some direction, to acquire information</li> <li>• Use the table of contents and indexes to locate information</li> <li>• Read to collect and interpret data, facts, and ideas from multiple sources</li> <li>• Read the steps in a procedure in order to accomplish a task such as completing a science experiment</li> <li>• Skim material to gain an overview of content or locate specific information</li> <li>• Use text features, such as headings, captions, and titles, to understand and interpret informational texts</li> <li>• Recognize organizational formats to assist in comprehension of informational texts</li> <li>• Identify missing information and irrelevant information</li> <li>• Distinguish between fact and opinion</li> <li>• Identify information that is implied rather than stated</li> <li>• Compare and contrast information on one topic from multiple sources</li> <li>• Recognize how new information is related to prior knowledge or experience</li> <li>• Identify main ideas and supporting details in informational texts to distinguish relevant and irrelevant information</li> <li>• Make inferences and draw conclusions, on the basis of information from the text, with assistance</li> <li>• Identify information that is implied rather than stated, with assistance</li> </ul> <p><b>Standard 2:</b> Students will read, write, listen,</p>

<p>causes comprehension difficulties</p> <ul style="list-style-type: none"> <li>• Determine the meaning of unfamiliar words by using context clues, dictionaries, glossaries, and other resources</li> <li>• Use a thesaurus to identify synonyms and antonyms</li> </ul> <p>Comprehension Strategies</p> <ul style="list-style-type: none"> <li>• Read a variety of grade-level texts, for a variety of purposes, with understanding</li> <li>• Use self-monitoring strategies, such as cross-checking, summarizing, and self-questioning, to construct meaning of text</li> <li>• Recognize when comprehension has been disrupted and initiate self-correction strategies, such as rereading, adjusting rate of reading, and attending to specific vocabulary</li> <li>• Use knowledge of text structures to recognize and discriminate differences among a variety of texts and to support understanding</li> <li>• Ask questions to clarify understanding and to focus reading</li> <li>• Make connections between text being read and own lives, the lives of others, and other texts read in the past</li> <li>• Use prior knowledge in concert with text information to support comprehension, from forming predictions to making inferences and drawing conclusions</li> <li>• Read grade-level texts and answer literal, inferential, and evaluative questions</li> <li>• State or summarize a main idea and support/elaborate with relevant details</li> <li>• Present a point of view or interpretation of a text, such as its theme, and support it with significant details from the text</li> <li>• Participate cooperatively and collaboratively in group discussions</li> </ul>	<p>and speak for <b>literary response and expression.</b></p> <ul style="list-style-type: none"> <li>• Read, view, and interpret literary texts from a variety of genres</li> <li>• Define characteristics of different genres</li> <li>• Select literary texts on the basis of personal needs and interests and read silently for enjoyment for extended periods</li> <li>• Read aloud from a variety of genres; for example, read the lines of a play or recite a poem <ul style="list-style-type: none"> <li>- use inflection and intonation appropriate to text read and audience</li> </ul> </li> <li>• Recognize that the same story can be told in different genres, such as novels, poems, or plays, with assistance</li> <li>• Identify literary elements, such as setting, plot, and character, of different genres</li> <li>• Recognize how the author uses literary devices, such as simile, metaphor, and personification, to create meaning</li> <li>• Recognize how different authors treat similar themes</li> <li>• Identify the ways in which characters change and develop throughout a story</li> <li>• Compare characters in literature to people in own lives</li> </ul> <p><b>Standard 3:</b> Students will read, write, listen, and speak for <b>critical analysis and evaluation.</b></p> <ul style="list-style-type: none"> <li>• Evaluate information, ideas, opinions, and themes in texts by identifying <ul style="list-style-type: none"> <li>- a central idea and supporting details</li> <li>- details that are primary and those that are less important</li> <li>- statements of fact, opinion, and exaggeration</li> <li>- missing or unclear information</li> </ul> </li> <li>• Use established criteria to analyze the quality of information in text</li> <li>• Identify different perspectives, such as social, cultural, ethnic, and historical, on an issue presented in one or more than one text</li> </ul> <p><b>Standard 4:</b> Students will read, write, listen, and speak for <b>social interaction.</b></p>
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<p>of texts</p> <ul style="list-style-type: none"> <li>• Note and describe aspects of the writer’s craft</li> <li>• Read aloud, accurately and fluently, with appropriate rate of reading, intonation, and inflection</li> <li>• Demonstrate comprehension of grade-level texts through a range of responses, such as writing, drama, and oral presentations</li> </ul> <p><b>Motivation to Read</b></p> <ul style="list-style-type: none"> <li>• Show interest in a wide range of texts, topics, and genres for reading</li> <li>• Read voluntarily for a variety of purposes</li> <li>• Be familiar with titles and authors of a wide range of literature</li> <li>• Engage in independent silent reading for extended periods of time</li> </ul>	<ul style="list-style-type: none"> <li>• Share reading experiences to build a relationship with peers or adults; for example, read together silently or aloud with a partner or in small groups</li> <li>• Respect the age, gender, position, and cultural traditions of the writer</li> <li>• Recognize conversational tone in friendly communication</li> <li>• Recognize the types of language (e.g., jargon, informal vocabulary, and email conventions) that are appropriate to social communication</li> </ul>
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## Grade 5 Writing

<p style="text-align: center;"><b>LITERACY COMPETENCIES</b></p> <p>The writing competencies common to all four ELA standards that students demonstrate during grade 5 are:</p>	<p style="text-align: center;"><b>GRADE-SPECIFIC PERFORMANCE INDICATORS</b></p> <p>The grade-specific performance indicators that grade 5 students demonstrate as they learn to write include:</p>
<p><b>Spelling</b></p> <ul style="list-style-type: none"> <li>• Correctly spell words within own writing that have been previously studied and/or frequently used</li> <li>• Correctly spell words within own writing that follow the spelling patterns of words that have been previously studied</li> <li>• Spell a large body of words accurately and quickly when writing</li> <li>• Use a variety of spelling resources, such as spelling dictionaries and spell-check tools, to support correct spelling</li> </ul> <p><b>Handwriting</b></p> <ul style="list-style-type: none"> <li>• Use legible print and/or cursive</li> </ul>	<p><b>Standard 1:</b> Students will read, write, listen, and speak for <b>information and understanding</b>.</p> <ul style="list-style-type: none"> <li>• Use at least three sources of information in writing a report, with assistance</li> <li>• Take notes to record and organize relevant data, facts, and ideas, with assistance, and use notes as part of prewriting activities</li> <li>• State a main idea and support it with details and examples</li> <li>• Compare and contrast ideas and information from two sources</li> <li>• Write labels or captions for graphics, such as charts, graphs, and diagrams, to convey information</li> <li>• Adopt an organizational format, such as chronological order, that is appropriate for informational writing</li> </ul>

<p>writing</p> <p><b>Composition</b></p> <ul style="list-style-type: none"> <li>• Respond in writing to prompts that follow the reading of literary and informational texts</li> <li>• Respond to writing prompts that follow listening to literary and informational texts</li> <li>• Write on a wide range of topics</li> <li>• Understand and use writing for a variety of purposes</li> <li>• Use a variety of different organizational patterns for writing, such as chronological order, cause/effect, compare/contrast</li> <li>• Use a variety of media, such as print and electronic, when writing</li> <li>• Use the writing process (e.g., prewriting, drafting, revising, proofreading, and editing)</li> <li>• Use a variety of prewriting strategies, such as brainstorming, free writing, note taking, and webbing</li> <li>• Review writing independently in order to revise for focus, development of ideas, and organization</li> <li>• Review writing independently in order to edit for correct spelling, grammar, capitalization, punctuation, and paragraphing</li> <li>• Understand and write for a variety of audiences</li> <li>• Adjust style of writing, voice, and language used according to purpose and intended audience</li> <li>• Incorporate aspects of the writer’s craft, such as literary devices and specific voice, into own writing</li> <li>• Use multiple sources of information when writing a report</li> <li>• Review writing with teachers and peers</li> </ul> <p><b>Motivation to Write</b></p>	<ul style="list-style-type: none"> <li>• Use paragraphing to organize ideas and information, with assistance</li> <li>• Maintain a portfolio that includes informational writing</li> </ul> <p><b>Standard 2:</b> Students will read, write, listen, and speak for <b>literary response and expression.</b></p> <ul style="list-style-type: none"> <li>• Develop original literary texts that <ul style="list-style-type: none"> <li>- use organizing structures such as stanzas and chapters</li> <li>- create a lead that attracts the reader’s interest</li> <li>- provide a title that interests the reader</li> <li>- develop characters and establish a plot</li> <li>- use examples of literary devices, such as rhyme, rhythm, and simile</li> <li>- establish consistent point of view (e.g., first or third person) with assistance</li> </ul> </li> <li>• Write interpretive essays that <ul style="list-style-type: none"> <li>- summarize the plot</li> <li>- describe the characters and how they change</li> <li>- describe the setting and recognize its importance to the story</li> <li>- draw a conclusion about the work</li> <li>- interpret the impact of literary devices, such as simile and personification</li> <li>- recognize the impact of rhythm and rhyme in poems</li> </ul> </li> <li>• Respond to literature, connecting the response to personal experience</li> <li>• Use resources, such as personal experiences and themes from other texts and performances, to plan and create literary texts</li> <li>• Maintain a writing portfolio that includes literary, interpretive, and responsive writing</li> </ul> <p><b>Standard 3:</b> Students will read, write, listen, and speak for <b>critical analysis and evaluation.</b></p> <ul style="list-style-type: none"> <li>• Use strategies, such as note taking, semantic webbing, or mapping, to plan and organize writing</li> <li>• Use supporting evidence from text to evaluate ideas, information, themes, or experiences</li> <li>• Analyze the impact of an event or issue from personal and peer group perspectives</li> <li>• Analyze literary elements in order to evaluate</li> </ul>
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<ul style="list-style-type: none"> <li>• Write voluntarily to communicate ideas and emotions to a variety of audiences, from self to unknown</li> <li>• Write voluntarily for different purposes</li> <li>• Write on a variety of topics</li> <li>• Publish writing in a variety of presentation or display mediums, for a variety of audiences</li> </ul>	<p>the quality of ideas and information in text</p> <ul style="list-style-type: none"> <li>• Use information and ideas from other subject areas and personal experiences to form and express opinions</li> <li>• Adapt an organizational format, such as compare/contrast, appropriate for critical analysis and evaluation, with assistance</li> <li>• Use precise vocabulary in writing analysis and evaluation, with assistance</li> <li>• Maintain a writing portfolio that includes writing for critical analysis and evaluation</li> </ul> <p><b>Standard 4:</b> Students will read, write, listen, and speak for <b>social interaction</b>.</p> <ul style="list-style-type: none"> <li>• Share the process of writing with peers and adults; for example, write a condolence note, get-well card, or thank-you letter with a writing partner or in small groups</li> <li>• Respect the age, gender, position, and cultural traditions of the recipient</li> <li>• Develop a personal voice that enables the reader to get to know the writer</li> <li>• Write personal reactions to experiences and events, using a form of social communication</li> <li>• Maintain a portfolio that includes writing for social communication</li> </ul>
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### Grade 5 Listening

<p><b>LITERACY COMPETENCIES</b> The listening competencies common to all four ELA standards that students demonstrate during grade 5 are:</p>	<p><b>GRADE-SPECIFIC PERFORMANCE INDICATORS</b> The grade-specific performance indicators that grade 5 students demonstrate as they learn to listen include:</p>
<p><b>Listening</b></p> <ul style="list-style-type: none"> <li>• Listen attentively to a variety of texts read aloud</li> <li>• Listen attentively for different purposes and for an extended period of time</li> <li>• Identify own purpose(s) for listening</li> <li>• Respond appropriately to what is heard</li> </ul>	<p><b>Standard 1:</b> Students will read, write, listen, and speak for <b>information and understanding</b>.</p> <ul style="list-style-type: none"> <li>• Follow instructions that provide information about a task or assignment</li> <li>• Identify essential details for note taking</li> <li>• Distinguish between fact and opinion</li> <li>• Identify information that is implicit rather than stated</li> <li>• Connect new information to prior knowledge or experience</li> </ul>

<ul style="list-style-type: none"> <li>• Listen respectfully, and without interrupting, when others speak</li> </ul>	<p><b>Standard 2:</b> Students will read, write, listen, and speak for <b>literary response and expression.</b></p> <ul style="list-style-type: none"> <li>• Distinguish different genres, such as story, biography, poem, or play, with assistance</li> <li>• Identify a character’s motivation</li> <li>• Recognize the use of literary devices, such as simile, personification, rhythm, and rhyme, in presentation of literary texts</li> <li>• Use personal experience and prior knowledge to interpret and respond to literary texts and performances</li> <li>• Identify cultural and historical influences in texts and performances, with assistance</li> </ul> <p><b>Standard 3:</b> Students will read, write, listen, and speak for <b>critical analysis and evaluation.</b></p> <ul style="list-style-type: none"> <li>• Form an opinion on a subject on the basis of information, ideas, and themes expressed in presentations</li> <li>• Recognize and use the perspective of others to analyze presentations</li> <li>• Use prior knowledge and experiences to analyze the content of presentations</li> <li>• Recognize persuasive presentations and identify the techniques used to accomplish that purpose, with assistance</li> <li>• Evaluate the quality of the speaker’s presentation style by using criteria such as volume, tone of voice, and rate</li> </ul> <p><b>Standard 4:</b> Students will read, write, listen, and speak for <b>social interaction.</b></p> <ul style="list-style-type: none"> <li>• Respect the age, gender, position, and cultural traditions of the speaker</li> <li>• Recognize friendly communication on the basis of volume and tone of the speaker’s voice</li> <li>• Recognize that social communication may include informal language such as jargon</li> <li>• Recognize the meaning of the speaker’s nonverbal cues</li> </ul>
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### Grade 5 Speaking

<p style="text-align: center;"><b>LITERACY COMPETENCIES</b></p> <p>The speaking competencies common to all four ELA standards that students demonstrate during grade 5 are:</p>	<p style="text-align: center;"><b>GRADE-SPECIFIC PERFORMANCE INDICATORS</b></p> <p>The grade-specific performance indicators that grade 5 students demonstrate as they learn to</p>
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	speak include:
<p><b>Speaking</b></p> <ul style="list-style-type: none"> <li>• Speak in response to the reading of a variety of texts</li> <li>• Use appropriate and specific vocabulary to communicate ideas</li> <li>• Use grammatically correct sentences when speaking</li> <li>• Include details that are relevant for the audience</li> <li>• Communicate ideas in an organized and coherent manner</li> <li>• Vary the formality of language according to the audience and purpose for speaking</li> <li>• Speak with expression, volume, pace, and gestures appropriate for the topic, audience, and purpose of communication</li> <li>• Respond respectfully to others</li> <li>• Participate in group discussions on a variety of topics</li> <li>• Offer feedback to others in a respectful and responsive manner</li> </ul>	<p><b>Standard 1:</b> Students will read, write, listen, and speak for <b>information and understanding.</b></p> <ul style="list-style-type: none"> <li>• Ask probing questions</li> <li>• Interview peers</li> <li>• Share information from personal experience</li> <li>• Share information from a variety of texts</li> <li>• State a main idea and support it with facts, details, and examples</li> <li>• Compare and contrast information</li> <li>• Present reports of approximately five minutes for teachers and peers</li> <li>• Summarize main points</li> <li>• Use notes, outlines, and visual aids appropriate to the presentation</li> </ul> <p><b>Standard 2:</b> Students will read, write, listen, and speak for <b>literary response and expression.</b></p> <ul style="list-style-type: none"> <li>• Present original works, such as stories, poems, and plays, to adults and peers, using audible voice and pacing appropriate to content and audience</li> <li>• Share book reviews</li> <li>• Summarize the plot and describe the motivation of characters</li> <li>• Connect a personal response to literature to prior experience or knowledge</li> <li>• Recognize the importance of cultural and historical characteristics in texts and performances</li> <li>• Ask questions and respond to questions for clarification</li> <li>• Use notes or outlines appropriately in presentations</li> </ul> <p><b>Standard 3:</b> Students will read, write, listen, and speak for <b>critical analysis and evaluation.</b></p> <ul style="list-style-type: none"> <li>• Ask questions and respond to questions for clarification</li> <li>• Express an opinion about information, ideas, opinions, themes, and experiences in books, essays, articles, and advertisements</li> <li>• Analyze an event or issue by using role play as a strategy</li> <li>• Use information and ideas from personal experiences to form and express opinions and judgments</li> </ul>

	<ul style="list-style-type: none"> <li>• Use notes or outlines appropriately in presentations</li> </ul> <p><b>Standard 4:</b> Students will read, write, listen, and speak for <b>social interaction</b>.</p> <ul style="list-style-type: none"> <li>• Discuss the content of friendly notes, cards, and letters with a teacher or classmate in order to get to know the writer and each other</li> <li>• Use the informal language of social communication</li> <li>• Respect the age, gender, position, culture, and interests of the listener</li> <li>• Use the rules of conversation, such as avoid interrupting and respond respectfully</li> </ul>
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## **Mathematics**

Our goal in the beginning intermediate years is to ensure that all students become problem-solvers who are able to investigate mathematical content, who demonstrate positive attitudes toward and confidence in their abilities as active participants in mathematics, and realize that representing, discussing, reading, writing, and listening to mathematics are vital components of learning and using mathematics.

The New York State Mathematics Curriculum is into two sets of strands. The process strands include Problem Solving, Reasoning and Proof, Communication, Connections, and Representation and help students realize that mathematics is not a set of isolated skills. It is through the process strands that students engage in mathematical content. Students will gain a better understanding of mathematics and have longer retention of mathematical knowledge as they solve problems, reason mathematically, prove mathematical relationships, participate in mathematical discourse, make mathematical connections, and model and represent mathematical ideas in a variety of ways.

The content strands include Number Sense and Operations, Algebra, Geometry, Measurement, and Statistics and Probability and describe the content that students should learn. Instruction is intended to allow students to see how mathematics knowledge is related to the real world. The performance indicators are listed under each band within a strand and represent the outcomes of instruction.

### **Problem Solving Strand**

***Students will build new mathematical knowledge through problem solving.***

- Know the difference between relevant and irrelevant information when solving problems
- Understand that some ways of representing a problem are more efficient than others
- Interpret information correctly, identify the problem, and generate possible strategies and solutions

***Students will solve problems that arise in mathematics and in other contexts.***

- Act out or model with manipulatives activities involving mathematical content from literature
- Formulate problems and solutions from everyday situations
- Translate from a picture/diagram to a numeric expression
- Represent problem situations verbally, numerically, algebraically, and/or graphically
- Select an appropriate representation of a problem
- Understand the basic language of logic in mathematical situations (and, or, not)

***Students will apply and adapt a variety of appropriate strategies to solve problems.***

- Work in collaboration with others to solve problems
- Translate from a picture/diagram to a number or symbolic expression
- Use trial and error and the process of elimination to solve problems
- Model problems with pictures/diagrams or physical objects
- Analyze problems by observing patterns
- Make organized lists or charts to solve numerical problems

***Students will monitor and reflect on the process of mathematical problem solving.***

- Discuss with peers to understand a problem situation
- Determine what information is needed to solve problem
- Determine the efficiency of different representations of a problem
- Differentiate between valid and invalid approaches
- Understand valid counter examples
- Explain the methods and reasoning behind the problem solving strategies used
- Discuss whether a solution is reasonable in the context of the original problem
- Verify results of a problem

## **Reasoning and Proof Strand**

***Students will recognize reasoning and proof as fundamental aspects of mathematics.***

- Recognize that mathematical ideas can be supported using a variety of strategies
- Understand that mathematical statements can be supported, using models, facts, and relationships to explain their thinking

***Students will make and investigate mathematical conjectures.***

- Investigate conjectures, using arguments and appropriate mathematical terms
- Make and evaluate conjectures, using a variety of strategies

***Students will develop and evaluate mathematical arguments and proofs.***

- Justify general claims or conjectures, using manipulatives, models, expressions, and mathematical relationships
- Develop and explain an argument verbally, numerically, and/or graphically

- Verify claims other students make, using examples and counter examples when appropriate

*Students will select and use various types of reasoning and methods of proof.*

- Support an argument through examples/counterexamples and special cases

## **Communication Strand**

*Students will organize and consolidate their mathematical thinking through communication.*

- Provide an organized thought process that is correct, complete, coherent, and clear
- Explain a rationale for strategy selection
- Organize and accurately label work

*Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.*

- Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models, and symbols in written and verbal form
- Answer clarifying questions from others

*Students will analyze and evaluate the mathematical thinking and strategies of others.*

- Understand mathematical solutions shared by other students
- Raise questions that elicit, extend, or challenge others' thinking
- Consider strategies used and solutions found by others in relation to their own work

*Students will use the language of mathematics to express mathematical ideas precisely.*

- Increase their use of mathematical vocabulary and language when communicating with others
- Use appropriate vocabulary when describing objects, relationships, mathematical solutions, and rationale
- Decode and comprehend mathematical visuals and symbols to construct meaning

## **Connections Strand**

*Students will recognize and use connections among mathematical ideas.*

- Understand and make connections and conjectures in their everyday experiences to mathematical ideas
- Explore and explain the relationship between mathematical ideas
- Connect and apply mathematical information to solve problems

*Students will understand how mathematical ideas interconnect and build on one another to produce a coherent whole.*

- Understand multiple representations and how they are related
- Model situations with objects and representations and be able to draw conclusions

*Students will recognize and apply mathematics in contexts outside of mathematics.*

- Recognize and provide examples of the presence of mathematics in their daily lives
- Apply mathematics to problem situations that develop outside of mathematics
- Investigate the presence of mathematics in careers and areas of interest
- Recognize and apply mathematics to other disciplines and areas of interest

## **Representation Strand**

*Students will create and use representations to organize, record, and communicate mathematical ideas.*

- Use physical objects, drawings, charts, tables, graphs, symbols, equations, or objects created using technology as representations
- Explain, describe, and defend mathematical ideas using representations
- Read, interpret, and extend external models
- Use standard and nonstandard representations with accuracy and detail

*Students will select, apply, and translate among mathematical representations to solve problems.*

- Use representations to explore problem situations
- Investigate relationships between different representations and their impact on a given problem

*Students will use representations to model and interpret physical, social, and mathematical phenomena.*

- Use mathematics to show and understand physical phenomena (e.g., determine the perimeter of a bulletin board)
- Use mathematics to show and understand social phenomena (e.g., construct tables to organize data showing book sales)
- Use mathematics to show and understand mathematical phenomena (e.g., find the missing value that makes the equation true:  $(3 + 4) + 5 = 3 + (4 + \underline{\quad})$ )

## **Number Sense and Operations Strand**

*Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.*

- Read and write whole numbers to millions
- Compare and order numbers to millions
- Understand the place value structure of the base ten number system
  - 10 ones = 1 ten
  - 10 tens = 1 hundred

10 hundreds = 1 thousand

10 thousands = 1 ten thousand

10 ten thousands = 1 hundred thousand

10 hundred thousands = 1 million

- Create equivalent fractions, given a fraction
- Compare and order fractions including unlike denominators (with and without the use of a number line) Note: Commonly used fractions such as those that might be indicated on ruler, measuring cup, etc.
- Understand the concept of ratio
- Express ratios in different forms
- Read, write, and order decimals to thousandths
- Compare fractions using  $<$ ,  $>$ , or  $=$
- Compare decimals using  $<$ ,  $>$ , or  $=$
- Understand that percent means part of 100, and write percents as fractions and decimals
- Recognize that some numbers are only divisible by one and themselves (prime) and others have multiple divisors (composite)
- Calculate multiples of a whole number and the least common multiple of two numbers
- Identify the factors of a given number
- Find the common factors and the greatest common factor of two numbers

***Students will understand meanings of operations and procedures, and how they relate to one another.***

- Use a variety of strategies to multiply three-digit by three-digit numbers Note: Multiplication by anything greater than a three-digit multiplier/ multiplicand should be done using technology.
- Use a variety of strategies to divide three-digit numbers by one- and two-digit numbers Note: Division by anything greater than a two-digit divisor should be done using technology.
- Evaluate an arithmetic expression using order of operations including multiplication, division, addition, subtraction and parentheses
- Simplify fractions to lowest terms
- Convert improper fractions to mixed numbers, and mixed numbers to improper fractions
- Use a variety of strategies to add and subtract fractions with like denominators
- Add and subtract mixed numbers with like denominators
- Use a variety of strategies to add, subtract, multiply, and divide decimals to thousandths

***Students will compute accurately and make reasonable estimates.***

- Round numbers to the nearest hundredth and up to 10,000
- Estimate sums and differences of fractions with like denominators
- Estimate sums, differences, products, and quotients of decimals
- Justify the reasonableness of answers using estimation

## Algebra Strand

*Students will represent and analyze algebraically a wide variety of problem solving situations.*

- Define and use appropriate terminology when referring to Expressions constants, variables, and algebraic expressions
- Translate simple verbal expressions into algebraic expressions

*Students will perform algebraic procedures accurately.*

- Substitute assigned values into variable expressions and evaluate using order of operations
- Solve simple one-step equations using basic whole-number facts
- Solve and explain simple one-step equations using inverse operations involving whole numbers
- Evaluate the perimeter formula for given input values

*Students will recognize, use, and represent algebraically patterns, relations, and functions.*

- Create and explain patterns and algebraic relationships (e.g., 2, 4, 6, 8...) algebraically:  $2n$  (doubling)
- Create algebraic or geometric patterns using concrete objects or visual drawings (e.g., rotate and shade geometric shapes)

## Geometry Strand

*Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes.*

- Calculate the perimeter of regular and irregular polygons

*Students will identify and justify geometric relationships, formally and informally.*

- Identify pairs of similar triangles
- Identify the ratio of corresponding sides of similar triangles
- Classify quadrilaterals by properties of their angles and sides
- Know that the sum of the interior angles of a quadrilateral is 360 degrees
- Classify triangles by properties of their angles and sides
- Know that the sum of the interior angles of a triangle is 180 degrees
- Find a missing angle when given two angles of a triangle
- Identify pairs of congruent triangles
- Identify corresponding parts of congruent triangles

*Students will apply transformations and symmetry to analyze problem solving situations.*

- Identify and draw lines of symmetry of basic geometric shapes

***Students will apply coordinate geometry to analyze problem solving situations.***

- Identify and plot points in the first quadrant
- Plot points to form basic geometric shapes (identify and classify)
- Calculate perimeter of basic geometric shapes drawn on a coordinate plane (rectangles and shapes composed of rectangles having sides with integer lengths and parallel to the axes)

## **Measurement Strand**

***Students will determine what can be measured and how, using appropriate methods and formulas.***

- Use a ruler to measure to the nearest inch  $\frac{1}{2}$ ,  $\frac{1}{4}$ , and  $\frac{1}{8}$  inch
- Identify customary equivalent units of length
- Measure to the nearest centimeter
- Identify equivalent metric units of length
- Convert measurement within a given system
- Determine the tool and technique to measure with an appropriate level of precision: lengths and angles

***Students will use units to give meaning to measurements.***

- Calculate elapsed time in hours and minutes
- Measure and draw angles using a protractor

***Students will develop strategies for estimating measurements.***

- Determine personal references for customary units of length (e.g., your pace is approximately 3 feet, your height is approximately 5 feet, etc.)
- Determine personal references for metric units of length
- Justify the reasonableness of estimates

## **Statistics and Probability Strand**

***Students will collect, organize, display, and analyze data.***

- Collect and record data from a variety of sources (e.g., newspapers, magazines, polls, charts, and surveys)
- Display data in a line graph to show an increase or decrease over time
- Calculate the mean for a given set of data and use to describe a set of data

***Students will make predictions that are based upon data analysis.***

- Formulate conclusions and make predictions from graphs

***Students will understand and apply concepts of probability.***

- List the possible outcomes for a single-event experiment

- Record experiment results using fractions/ratios
- Create a sample space and determine the probability of a single event, given a simple experiment (e.g., rolling a number cube)

## Science

The broad objectives of the intermediate science program involve thinking logically and creatively, learning methods of inquiry, acquiring knowledge in the natural sciences and various investigative attitudes necessary to function effectively in society. The students will be able to demonstrate scientific literacy by their ability to use skills, science attitudes and science content to identify and solve science related problems.

The core understandings addressed in the third and fourth grade science curriculum are:

Living Environment (Natural world):

- different kinds of plants and animals may be **dependent** upon each other for food and other needs
- living things are affected by and **affect** the environment
- **environmental conditions** in an area determine the types and sizes of populations of plants and animals

Physical Setting (Objects and events):

- within systems the **interactions** of **materials** and energy change their forms and properties; a group of interacting objects is called a **system**
- energy may exist within a material or in the **position** or **motion** of objects
- **material** and **energy** can be transferred several times within a complex system through a series of **interactions**
- energy and materials can be transferred in an **ecosystem**

Units studied

Grade 5

- Scientific method
- Plants
- Oceanography
- Weather

Grade 6

- Plant and animal cells
- Human body
- Ecology
- Geology

## Social Studies

The goal of the New York State Social Studies curriculum is to provide instruction that will help students assume their role as responsible citizens in America's constitutional democracy and as active contributors to a society that is increasingly diverse and interdependent with other nations of the world. The grade 5 program stresses geographic, economic, and social/cultural understandings related to the United States, Canada, and Latin America today. The grade 6 program emphasizes the interdependence of all

people, keying on the Eastern Hemisphere, and lessons compare and contrast the nations and regions with those of the United States, Canada, and Latin America.

#### Grade 5

- family structure varies from place to place and over time
- through migration and immigration, people of different cultural backgrounds influence one another
- people in democratic nations share some beliefs that govern their rules, laws and governmental structures
- citizenship includes an awareness of the patriotic celebrations of our nations
- availability of resources is important to a nation's economic growth
- science and technology have influenced the standard of living of people
- climatic patterns are influenced by the interaction of various geographic factors
- people are affected by their physical environment as they attempt to fulfill basic needs
- the effect of geography has been moderated by humans through the use of technology
- individuals have historic roots which contribute to the diversity of culture in countries of the Western Hemisphere

#### Grade 6

- people throughout the world must solve basic economic problems
- nations have joined with one another in organizations which promote economic development and growth
- the use of various grids, symbols, and notations makes it possible to locate specific places and indicate distance and direction
- geographic features and climatic conditions influence land usage
- the environment is affected by people as they interact with it
- as civilizations flourished and spread, their power and influence grew
- the family as a social unit takes many different forms in Western Europe, Eastern Europe and the Middle East
- different groups of people have made lasting contributions to the arts and sciences
- as settlement patterns changed, new forms of political order developed to meet the more complex needs of societies
- in modern political states, formalized governmental structures play a major role in maintaining social order and control

### **Technology**

The district's technology plan states the assumption that "instructional applications of technology will enable students to acquire skills that increase their employability and potential to attend college". The goals that have been established to see that belief realized are outlined for fifth and sixth graders are as follows:

Students will use technology to communicate effectively and creatively through software applications to create documents using word processing skills and publishing programs to apply writing process skills, use edit functions, and utilize presentation software to manage and present information and create reports.

- Students will communicate through networks communication systems.
- Students will use technology to access, retrieve, evaluate, and interpret visual and auditory information using electronic resources and search strategies.
- Students will use technology to facilitate learning in all content areas.
- Students will use technology to enhance and maximize productivity using software to strengthen skill development and develop strategies for problem-solving and critical thinking.
- Students will develop basic technology skills:
  - Select and use technology appropriate to their needs
  - Use an expanded technology vocabulary
  - Develop keyboarding skills at an acceptable level
  - Care for technology equipment and use it safely.
  - Follow rules, regulations, and District Acceptable Use Policy as well as copyright laws when using the Internet.

## **Health**

Health education enables students to maintain and promote physical well-being in a continually changing world, through the acquisition of understandings, attitudes and skills. It is an applied multidisciplinary field that draws upon knowledge obtained from the biological, environmental, psychological, social, physical, and medical science and is addressed by our guidance counselor, health, classroom, and physical education teachers.

The instructional curriculum includes:

- adolescence - issues dealing with personal hygiene, physical development, self-esteem
- nutrition - current thinking on food groups, vitamins, correlation to general good health
- substance abuse - factual information regarding content of illegal drugs; legal, physical and social effects of misuse of drugs, various strategies which promote resistance to peer pressure
- interpersonal skills - various communication skills, both verbal and non-verbal, which can be applied in decision making and conflict resolution

New York State also mandates that we provide AIDS instruction to intermediate students. For this to be effective, information about AIDS and transmission and prevention must be repeated, in depth, over a span of time. Our age appropriate AIDS education is integrated with our health curriculum and includes communicable diseases, skills to practice a healthy lifestyle, community resources for information, help, and counseling, and methods of prevention. We not only seek to teach children about prevention, but hope they see AIDS as a serious aspect of their complex world, one to which they can respond rationally and conscientiously.

## **Music**

Music education is combined with speech, movement, instrumentation, and drama which integrate the arts to free the child's creative expression. The fifth and sixth grade instructional program reinforces the concepts taught in third and fourth grades and additionally focuses on:

The instrumental program is a progressive method designed to provide students with a strong fundamental basis for growth and development of the physical and technical aspects of playing an instrument, as well as the understanding and interpretation of written music.

## **Art**

Emphasis is placed on the elements of design consisting of line, shape, color, texture and composition in grade three and four. The media forms that are used include:

Markers	Paint markers	Fabrics	Paper mache
Crayons	Tempura paints	Paper bags	Clay
Colored pencils	Specialty papers	Magazines	Plaster
Watercolor	Yarn	Tissue paper	Construction paper

## **Physical Education**

The goals of the Physical Education program are to give each student experiences which foster a respect for rules, offers opportunities for students to cooperate, develop trust and respect, assume responsibility, and work to accomplish a task. We strive to provide a foundation of knowledge, skills, and experiences that will encourage students to select from a diverse repertoire of activities which can be practiced and enjoyed for a lifetime.

Activities include:

- Locomotor and non-locomotor
- Manipulative skills
- Perceptual motor skills
- Rhythms and dance
- Gymnastics introduction
- Games and sport lead-ups
- Introduction to physical conditioning concepts
- Presidential Physical Fitness Test

In grade four there is also a focus on activities that require score keeping, averaging and statistic as well as basic gymnastic maneuvers which translate to more complex sequences on mats and apparatus.

## **Library**

In our fifth and sixth grade Library program, many of the skills introduced in the third and fourth grades are reinforced with the expectation that they will begin to be put into practice. Fifth and sixth graders are expected to be able to understand and apply their knowledge to:

- The organization of materials
- The use of the card catalogue and the Dewey Decimal system
- Where fiction, non-fiction, reference materials, and biographical sources are located
- How to access audiovisual materials and non-print technology
- Appreciate literature through a familiarity with various forms and an increased knowledge of authors and illustrators
- Evaluation and selection techniques
- Listening and viewing skills
- Research and reporting techniques